

*Normally I would like authors to respond to the review comments individually, to help in the discussions (HESS is a discussion journal). However, in this case all three reviewers point out difficulties in following the arguments in the paper. The real problem with the paper is with the organization and presentation of the paper. Consequently, more discussion is not going to be of great use. I suggest that the author revise the paper significantly, and then we will go through a second of reviews where the reviewers focus much more on the substance of the paper, and not the presentation. I look forward to a revised manuscript. However, perhaps the author can upload a brief author comment and abstract that presents in summary form (or in bullet points) how they are going to restructure the paper, what are the main questions or themes, and what conclusions are reached, and get that commented on. This may be helpful for the eventual revision of the paper.*

Thank you very much for your kind editor comment. I have already made a revised manuscript and sent it to an English check. Certainly it may be difficult for the reviewers to follow the connection between the three components in this paper: a review of stormflow process in Section 2, a similarity analysis in Sections 3 and 4, and a discussion on the soil evolution effect in Section 5. I will explain the interrelation in the abstract and the introduction as well as the connection passages between the sections in my revised manuscript. As suggested by all the reviewers, I will move the method of sensitivity analysis and similarity framework to the appendices.

I believe the revised manuscript has been enough responded to the reviewers' comments and that detailed explanations related to the response to each of the comments can be understood by the reviewers. These points may be belonging to 'the organization and presentation' that you mentioned though I believe the substance is also improved. I wish you could check the total of the revised manuscript. Here my revised abstract is quoted below for this task. I will submit the revised manuscript soon after the English check is completed. Thank you.

## Abstract

Stormflow responses do not simply follow the prediction results by distributed runoff models in an active tectonic region with large magnitude storms covered with forest. Observational studies in small catchments were reviewed first to improve the prediction. The results when the stormflow-contribution area was extended to the whole catchment and temporally invariable due to the enough amount of rainfall supply showed that vertical unsaturated flow in the soil matrix and the downslope saturated flow through the preferential paths played a role in the stormflow responses, which were well simulated by a single tank with a drainage hole. Such a simple characteristic of the stormflow responses were represented by a inflow/outflow waveform transmission produced from a hydraulic continuum under a quasi-steady state.

Because this commonly functioned for an idealized domain, a sensitivity analysis for a sloping soil layer using the Richards equation was examined to specify the hydraulic conditions for the stormflow responses. A new similarity framework was developed for the purpose of generalization. The results showed that the combination of unsaturated and saturated flows was needed for the creation of hydraulic continuum, and that saturation-excess overland flow contributed to the transmission for a homogeneous soil layer, whereas the vertical unsaturated flow mainly controlled it for a layer with a large macropore effect. Findings from the observation review and the similarity analysis suggested that the confinement of the hydraulic continuum inside of the soil layer by a large drainage capacity played a key role in the stormflow responses because the inhibition of overland-flow was necessary for the soil-evolution process against strong erosional forces in the geographical conditions. Therefore, stormflow responses do not have a direct causal relationship to the heterogeneous stormflow mechanisms, but a long history of the soil-evolution process may involve it. A paradigm shift by taking it into consideration is needed for developing distributed runoff models.