

Interactive comment on “Land use change effects on runoff generation in a humid tropical montane cloud forest region” by L. E. Muñoz-Villers and J. J. McDonnell

Anonymous Referee #1

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This paper is very interesting and important for evaluating runoff processes of montane cloud forest region and effects of vegetation covers on them.

One point I was concerned about, however, was the topographic effects because the study catchment with heavily grazed pasture was much gentler the other two catchments. A discussion was made in the text by citing Sayama's paper (L. 12-17 in P. 5292), I suppose the evolution process of soil mantle may also affect the runoff mechanism: the soil mantle on hillslopes in MAT and SEC sometimes failed and evolved after the failure again because of the steep slope angles > 30 degree, whereas that in PAS was much stable (=18 degree) against a lower erosion force by storm rainfall. I

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hope that some more discussion can be added to Sayama's suggestion due to a large differences of topography if possible.

Some points I have noticed are: 1) L19 in P 5275: 'calibrated with field-derived rating curves generated via volumetric- and salt dilution measurements of discharge' I have not understood to the calibration method. I suppose the relationship of water level in the weir to discharge was calibrated by the manual-measuring value of water discharge from the weir by a bucket. Does the volumetric measurement mean this method? I have no experience of the calibration using 'salt dilution measurement'.

2) L23 in P 5283: I am not familiar to the 'quickflow event ratio'. The description of meaning is expected in the text.

3) L23 in P 5286: I hope that the meaning of 'the average uncertainty' and the method of its calculation are explained in the text.

4) L1- in P5288: I can understand the differences in relationship between EC and discharge in the text and Fig. 7. However, are the words 'clockwise' and 'counterclockwise' suitable for the differences? These words can be used when illustrating the relationships on an X-Y figure, but no figure is found. Hopefully some improvement of description will be needed for an easier understanding of your discussion.

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