

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 'counter-clockwise' 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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