

Interactive comment on “Factors influencing stream water transit times in tropical montane watersheds” by L. E. Muñoz-Villers et al.

Anonymous Referee #1

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The paper presents a comparison of mean transit time (MTT) between multiple watersheds in a tropical montane region aiming to evaluate factors controlling stream transit time. The issue addressed in the paper is one of the main concern in understanding hydrological process including sources, flow paths and storages. The paper shows that slope and permeability observed soil-bedrock interface other than land cover are the key factors controlling MTT in the tropical montane area. The paper is well written with significantly new knowledge. I recommend its publication on the Hydrology and Earth System Sciences after properly addressing the following issues: (1) P10989L4, the authors state that short MTT were most strongly related to depth to soil-rock interface particularly for slopes dominated by depth > 2m. The result is derived by a series of divide-points including 0.5m, 1m, 2m. Is there any reason for such classifica-

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tion? (2) In the paper, three functions ($g(\tau)$) have been used to estimate transit time model including Gamma, Exponential and Dispersion. Although model parameters have been listed in Table4, it is perhaps not clear to the readers without specific formulas displayed. (3) Conclusion part, the influencing factors for MTT in variable-area watersheds should be further justified. (4) P10995L16ijjNtowards a better understanding “on” the hydrology...

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