

Interactive comment on “A Synthesis of Space-time Variability in Multi-Component Flood Response” by Yiwen Mei et al.

Anonymous Referee #1

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The paper provides a generalization of the analytical framework provided by Viglione et al. (2010), which in turns refers to Woods and Sivapalan (1999). With respect to Viglione et al. (2010) the authors introduce a multicomponents analysis of the flood streamflow but, on the other hand, in trating travel time-related issues they do not distinguish between hillslope and channel flow routing.

While the theoretical arguments and developments are interesting and well posed, I believe the paper should be reinforced with more attention to congruency with the hydrographs observed in real events.

In particular, in my opinion, more emphasys and major discussion should be provided about the comparison of the analytical results with the observed values of time to peak and hydrograph spreadness of the two observed events.

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The weight and consequences of their assumption discarding the difference between hillslope and channel flow velocity should more deeply analyzed and discussed.

Results presented in Tables, if I correctly understood, are mean values referred to different observed events. Why not to show values referred to both the pilot events that look quite different for their distribution in time ?

Obviously, the analytical framework requires data from a model for its application, nevertheless results and comments would be more acceptable if they were used also for a diagnostic analysis of the model itself.

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