

This manuscript generalizes the analytical framework of V2010 to represent multi-component flood responses. To achieve this, the authors convert the catchment rainfall forcing into more than one rainfall excess component, according to various land cover types. These rainfall excess components are then subjected to different routing schemes associated with the different land cover classes. The output hydrograph is a combination of hydrographs from all components.

Major comments

- The introduction of the paper is complete and frames the problem interestingly. I have not additional comments there.
- The manuscript requires additional editorial work. Below I indicate some edits that I was able to identify, but the authors need to make sure that typos and grammatical mistakes are completely resolved.
- I'm confused about the number and the basis for choosing the multi-components of the flood response. In the introduction section, it seems the components are chosen based on different land use classes (see, e.g., lines 35-37, P2). Then, in lines 18-20, P5, it appears that only two components are considered and on the basis of flowpaths, namely surface or subsurface, rather than land cover classes. This requires clarification.
- In some instances, the manuscript refers the reader to equations in another published paper, i.e. V2010. This should be avoided to make the manuscript readable and self-contained. For example, this occurs in lines 3-5, P8, but in other places as well.
- The conclusion section could be organized using bullet points. Additionally, it should make clear (e.g., line 28. P16) that they are based on the selected study basins.

Minor comments

L36, P2: Should read "... excess component by the various ..."

L42, P2: Should read "... the most dominant for a component ..."

L16-17, P3: "The readers are encouraged to read Mei & Anagnostou (2015) for details on the hydrology of the study area", consider rephrasing to, e.g., "The reader is refer to Mei & Anagnostou (2015) for further details on the hydrology of the study area."

L24-25, P3: Rephase "Another meteorology data is the potential 25 evapotranspiration (PET) data available ..."

L28-29, P3: Should read "... record available from the United States Geological Survey (USGS) ..."

L32, P3: Should read "...are its parsimonious data requirement ..."

L11, P4: It would help to include here the spatial resolution of the CREST model used in this study.

L23, P4: Should read "... parameter optimization algorithm adopted in CREST ..."

L19-20, P6: Rephrase.

L32, P6: Remove or replace "... using the parsimonious rainfall-runoff equation ..."

L18, P7: Rephrase "...in the mature and decade phase of the event ..."

L20, P7: Rephrase "...the differences start at negative ..."

L26, P7: Should read "... aggregated maps for terms in Eq. (8) ..."

L9, P8: Should read "...The magnitudes of terms in Eq.(9) ..."

L18, P8: Rephrase "...diminishing in magnitude with increase in scale is a result ...". In the present form, this sentence is difficult to understand.

L21, P8: Should read "...the subsurface component generally outperforms the surface one ..."

L3-4, P9: Not sure what the authors mean by "... a convex combination ...", please explain or modify.

L10, P9: Should read "...where $|T_P|$ is the duration of the rainfall event."

L2, P10: Should this be "... by rendering negative the mean $E2$..."? Otherwise, this needs further clarification.

L3-4, P11: Rephrase this sentence, in present form is confusing.

L5, P12: This is not needed and it is actually distracting.

L6, P12: Should read "... The major source of ..."

L20, P12: Not needed.

L16, P15: Should read "The middle panel of Figure 10 ..."