

## ***Interactive comment on “The era of Infiltration” by Keith Beven***

### **Anonymous Referee #3**

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This is an interesting manuscript with a number of valuable references and thoughtful remarks. While I tend to agree with much that is being said, my feeling is that the text could have a larger impact if it would be better structured. As it is now, I am frankly not seeing such a structure. My suggestion would be to start with a description of the formulations for infiltration in the ‘era of infiltration’, followed by a discussion of what is wrong with this approach and how it has been misused (and still is?).

A question is how baseflow separation could/should be included. To me, this aspect is somewhat away from the main focus, but one could make that it is related to infiltration, just from the other side of things (ie., the effect of infiltration on outflow composition). However, this link should be made clearer.

Table 1 is useful, also the description of the different formulae in the text. I especially found discussions such as the origin of the 0.2 in the CN approach interesting and valu-

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able. Would a graphical comparison of the approaches be possible/useful? To which degree does the shape of infiltration over time differ? How flexible are the approaches? The table could be extended by some more information on the observational basis of each formula. Also in table 1 (and in the text), there are parameters that occur in different places. Sometimes these refer to the same thing (Ksat) but sometimes the same letter refers to very different parameters even with different units (e.g., 'alpha', 'n'). This should be clarified.

One issue that did not become fully clear to me is the scale of the infiltration equations. Often these have been derived from plot scale experiments but were then used at the catchment scale. I feel it would be valuable to discuss this aspect more.

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Interactive comment on Hydrol. Earth Syst. Sci. Discuss., <https://doi.org/10.5194/hess-2020-308>, 2020.

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