

***Interactive comment on “Expansion and contraction of the flowing stream network changes hillslope flowpath lengths and the shape of the travel time distribution” by H. J. Ilja van Meerveld et al.***

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Thank you very much for pointing us to this very interesting paper. We were not aware of it and agree that it is very relevant. We find it indeed very interesting that, although this is a very different system, the results are similar (and even the optimized velocities match the ones used in our study). Figure 7 in your manuscript clearly shows the importance of using a dynamic network for simulating the hydrograph. The difference in the optimized interfluve velocities for the conservative and non-conservative networks is exactly what we eluded to in the discussion of our manuscript (P6L25), where we

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describe the importance of using dynamic stream networks for solute transport modeling because the use of a static network (as shown on maps) would lead to "slower modeled transport of pollutants, unless compensated otherwise (e.g. via velocities that are unrealistically high or large areas with surface runoff)".

Thank you for pointing us to this interesting paper. We will certainly reference it in our revised manuscript.

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