

Interactive comment on “Technical Note: Water flow routing on irregular meshes” by D. Bänninger

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I think the scope of application is fairly explicit described in the manuscript: This approach can be used for any lateral distribution problem where the gradients of the mesh topology points into direction of the driving force for the mass movement. In case that the sub-surface flow problem can be understood as lateral flow problem, this approach can be used. Of course we know that sub-surface flow is not a pure lateral problem: There is water input (e.g. rain) and water output (e.g. percolation into subsoil layers). If these processes are important for sub-surface flow, this approach can not be used as it is describe here. But I am convinced that it needs only few adaptations to make this approach working for multi-layer problems.

I agree with the comment of the referee that the approach might be limited in case the time step is very small. But keep in mind: In many cases we require more nodes to discretise a given situation with a regular grid compared to a discretisation with an

irregular grid. Thus, with the irregular grid fewer nodes have to be processed. Consequently, an increased computational demand caused by a reduction of time step is more significantly for regular than for irregular grids which means that – from a computationally point of view – in every case it is a better choice when using irregular grids.

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