

Authors would like to thank the reviewer for his comments. The clarifications required have been included. Hopefully he will be satisfied with the numerous changes implemented.

“Interactive comment on “Fractal analysis of urban catchments and their representation in semi-distributed models: imperviousness and sewer system” by Auguste Gires et al.

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The article is well written and provides a very comprehensive fractal analysis framework of urban catchments and their representation in semi-distributed models. The idea to use a simple scaling analysis in this hydrological field is very interesting, also for the use of a fixed size algorithm procedure to find the fractal dimension as a geometric descriptor. In any case, I invite, the authors also to provide some additional items about the choice of a simple scaling analysis respect to a multifractal (or multi-scaling) analysis. Many recent studies show a multifractal behavior of river networks at large and small scales. Authors can motivate this choice? I suppose that, in the framework of this investigation, the data set type used is very important for the definition, for example, of the fractal dimension of buildings and also for other sub-catchment partitions of the hydrological measures. Overall, I think that the manuscript is worthy of being published in *Hess*.”

We chose to rely on the use of simple scaling for the analysis of river networks because it enabled to use the same formalism on both river networks and also maps of distributed imperviousness. The reviewer is correct that multifractals have been used to characterize river networks and additional references are now discussed in the introduction. We also would like to stress that multifractals (computation of Universal Multifractals parameters, co-dimension function) were used in the analysis of the representation of imperviousness in semi-distributed models.