

Interactive comment on “Spatial organisation of catchments – assessment and usage for impartial sub-basin ascertainment and classification” by H. Oppel and A. Schumann

Anonymous Referee #2

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The Authors propose a network-based classification analysis for dividing hydrologic catchments into more homogeneous sub-catchments.

I agree with S. Gharari on the fact that the idea seems interesting but the paper would be much more convincing if hydrological “validation” would have been performed, i.e., showing that using a semidistributed model accounting for the separations obtained here outperforms other separation schemes. I understand from the Authors replies that this will be not investigated here but rather in following papers. Since this paper essentially is the explanation of an algorithm and the demonstration of its applicability rather than its usefulness, I would suggest to submit the paper as a technical note rather than having it as a research article. This is the reason why I recommend rejec-

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Also, the paper, in its present form, is quite hard to read. In the explanation of the algorithm, the flow of thoughts is, for me, quite confusing. For instance, the “method of characteristic structures” is never really defined (e.g., at page 5, line 5, the Authors state that the method is an obvious choice for their target but it is unclear of what method they are talking about). Also, the amount of details given in some parts of methodology section 2 is sometimes overwhelming and it is easy for the reader to miss the big picture. I would suggest to have a bullet point section (or a diagram) just at the beginning of Section 2, e.g., after the Data subsection, that explains what the following sections will present in detail.

Detailed comments:

Page 2, line 5: please define what the physiographic system is. And what does “more critical” mean?

Page 5, line 5: the “method of characteristic structures” has not been defined yet, therefore I do not see how obvious it is to use it.

Page 5, line 13: again, where is the “method of characteristic structures” defined?

Page 7, line 3: do you mean Figure 8? (see also following references to figures, which seem in many cases wrong)

Page 9, lines 5-10: I would suggest to add here an equation that explains how the sigma after separation is calculated, instead of using just words

Page 10, line 12: do you mean “...has been performed aiming...”?

Page 10, lines 17-22: I cannot understand exactly how the resampling has been done. I would suggest to explain it better.

Page 10, line 27: this sentence is confusing? What do you mean by “geomorphologic structure and the individual values”?

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Page 11, line 21: do you mean “spatial extent”? If so, correct also the following occurrences of the wording “spatial extend”

Page 12, bottom and page 13 top: the final separation in types A, B, C and D is actually very interesting but, if I understand it well, seems a rather subjective choice. Since one of the reasons why the Authors propose this method is because of its repeatability/objectivity, the fact that the “objective” algorithm is used here to help the user to take a final subjective choice should be discussed.

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