Hydrology and Earth System Sciences Discussions

Interactive comment on "Catchment classification by runoff behaviour with self-organizing maps (SOM)" *by* R. Ley et al.

R. Ley et al.

leyrita@uni-trier.de

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The authors would like to thank the referee for the analysis and comments helps to improve the paper.

-Pag. 3054, the description of the three steps in which the methodology is divided, reported in the section 2.3, is redundant because already stated in the introduction; The three steps are removed for the revised version.

-Pag. 3061, the authors should clarify why only 18 of 53 basins are reported in the Fig.2; The report of 53 boxplots in one figure is not possible for space reasons. Therefore we report 18 randomly selected catchments covering a wide range of catchment

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behaviour to show the seasonality and great differences of ERC between catchments. We will add following Text on page 3061, line 2: ". . . analysis. The 18 selected catchments cover a wide range of catchment behaviour and show differences in ERC between studied catchments. The report of all 53 boxplots in this figure is not is not possible for space reasons."

-Pag. 3063, line 1, a reference regarding the general quantisation error equal to 1.64, should be introduced; There are no universal references regarding the general quantization error of the SOM. It depends on input data and the number of neurons and should be as small as possible. In this study we use it as a reference to evaluate quantization errors of catchment data to their best matching units.

-Pag. 3065, More attention should be devoted to the description of the definition of clusters related to catchment properties; We will add a description and a new figure to the revised version, describing the clusters related to physiographic and climatic catchment properties. The properties of the cluster are listed in section 3.4 (comparison).

The remaining points to improve will be corrected in the revised version of the paper.

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