Interactive comment on “Exploratory data analysis and clustering of multivariate spatial hydrogeological data by means of GEO3DSOM, a variant of Kohonen’s Self-Organizing Map” by L. Peeters et al.

Anonymous Referee #1

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1) Does the paper address relevant scientific questions within the scope of HESS? Yes, the paper address relevant scientific questions within the scope of HESS

2) Does the paper present novel concepts, ideas, tools, or data? No, paper presents only an application and some minor modification of a well-known Kohonen maps

3) Are substantial conclusions reached? No. Conclusions are quite common and can be derived from the common sense reasoning about approaches applied. An important contribution of the authors deals with the justification of the conclusions by
using quantitative measures.

4) Are the scientific methods and assumptions valid and clearly outlined? Yes

5) Are the results sufficient to support the interpretations and conclusions? Yes

6) Is the description of experiments and calculations sufficiently complete and precise to allow their reproduction by fellow scientists (traceability of results)? In principle, yes. But the reproducibility of the results demands also complete description of software tools, data, parameters and methodology.

7) Do the authors give proper credit to related work and clearly indicate their own new/original contribution? No. See 14) below.

8) Does the title clearly reflect the contents of the paper? Yes

9) Does the abstract provide a concise and complete summary? Yes

10) Is the overall presentation well structured and clear? Yes

11) Is the language fluent and precise? More or less

12) Are mathematical formulae, symbols, abbreviations, and units correctly defined and used? Yes

13) Should any parts of the paper (text, formulae, figures, tables) be clarified, reduced, combined, or eliminated? No

14) Are the number and quality of references appropriate? The list of references should be completed by other publications on SOMs applications in geosciences: geography, environment, geophysics, etc. where spatial aspect of data is very important. In these fields some interesting results on exploratory data analysis and modelling were achieved with Kohonen maps.

15) Is the amount and quality of supplementary material appropriate? Yes.