Hydrology and Earth System Sciences Discussions

Interactive comment on "River Flow Forecasting: a Hybrid Model of Self Organizing Maps and Least Square Support Vector Machine" *by* S. Ismail et al.

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Response to Reviewer 1,

We are very grateful for the helpful, suggestion and useful information made by the reviews in order to improving the writing of this manuscript. The revised version has been adapted to their comments and suggestions.

Comments from Reviewer 1.

Reviewer 1 considers that the paper contains imprecise statements, the way the comparison of the individual methods is carried out, and an improvement in some methodical points.

C4999

In the revise version of the paper, we have modified and improved the sentences that were confusing and less meaning. We also added some more reference and information as per suggested by reviewer.

The other comments are: 1. p.8188, l.22 contains a very imprecise statement: What could be the reasons for the improvement of LSSVM when the input data domain is subjected to cluster prior to training? - From the experiment, we found out that the result from proposed model outperformed that other single models. This findings are compatible with the conclusion by Tay et. al(2001) and Hsu et al(2009).

2. I have serious reservations with regard to Eq. 16. This equation requires some explanation, apart from the fact that it constrains the data in a range [0.1+Xmin/1.2Xmax 0.9333], i.e. [0.1 0.9333] assuming that min. discharge would be zero. - Equation 16 was a mistake and already replace with another equation for data normalization. Please see the new equation 16 in the revise version of the paper.

3. p. 8191: Three approaches input determination are mentioned in a way that could be more intelligible. In which way are approaches two and three different (l. 8)? Why the lengthy review on input determination methods in Sect. 4. - In section 4, we explain a details about input determination used in this experiment. As per mention in the paper, there are three approach are used for input determination referred as model input data. Model input data M1 to M6 is a common input used based on lags. The second approach (which is model input data M7) based on stepwise multiple regression analysis method where the column of data with less interaction will be eliminated. The third approach (which is model input data M8) is obtained using ARIMA model.

Please feel free to see the paper (in attachment below) after we made the correction. Thanks in advance

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 7, 8179, 2010.