

Interactive comment on “Legitimising neural network river forecasting models: a new data-driven mechanistic modelling framework” by N. J. Mount et al.

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I commend the authors for writing a fine paper on an, in my eyes, important subject. I’ve read it with great interest.

However, line 16 on page 147 reads: "Consequently, it has been suggested that NNRFs can deliver forecasts with reduced error, and can be used to extend the horizon over which forecasts can reliably be made (de Vos, 2013)."

This is a somewhat misleading sentence, and I’d like to see it revised. I do make some statements to this extent in my paper, but they explicitly refer to the benefits of Echo State Networks over traditional ANNs. Without that context, the above sentence is

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easily misinterpreted as: "de Vos (2013) suggests NNRFs can be better models than current hydrological/statistical models". I wouldn't dare suggest that.

Within the context of what the authors are trying to express, I suggest further elaboration on WHY ANNs offer potential performance benefits (e.g., nonlinearity, model structure). It would then make sense to mention (recent advances in) recurrent ANN modeling, after which a reference to the findings in my paper could be made.

Reference: de Vos, N. J.: Reservoir computing as an alternative to traditional artificial neural networks in rainfall-runoff modelling, Hydrol. Earth Syst. Sci. Discuss., 9, 6101-6134, doi:10.5194/hessd-9-6101-2012, 2012.

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