

Interactive comment on “An intercomparison of approaches for improving predictability in operational seasonal streamflow forecasting” by Pablo A. Mendoza et al.

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The manuscript compares different methods for seasonal water supply forecasts in several catchments in the Pacific Northwest region of the US. A large variety of different models was applied: purely statistical methods, methods based on watershed modelling as well as hybrid approaches using initial hydrologic conditions and / or climate information as input. Additionally different post-processing and merging methods are tested. The snow-dominated test catchments cover a wide range of hydro-meteorological conditions and different atmospheric teleconnection signals.

The literature review of the most commonly used methods in seasonal streamflow forecasting is exhaustive and the results are nicely presented and compared. The real

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value of this study is the comparison of a large variety of methods based on a common hindcast/verification framework using rigorous three years out cross validation. Using such a common framework an objective comparison of the performance of the different methods is possible. The paper is well written and should be foreseen for publication in HESS after minor revisions.

- You should probably use SI units instead of KCFS (Thousands of Cubic Feet Per Second) and MAF (Million acre Feet) (Standard in HESS)

P 5 line 155: missing first three year period in the brackets could be confusing why it is missing, add period: “... (e.g., 1981-1983, 1984-1986, 1987-1989, 1990-1992,etc.),...”

P 5 line 171: “...predictant data are normalized before ...” what do you mean by normalizing in this context? I assume z-scores are calculated or do you apply a normalization method such as box-cox? Please specify! Explain why you have used log-transformation of the predictant data and no other transformation method (e.g. Box-Cox, ...).

P 6 line 201: If the predictant was normalized (subtracting its expected value and dividing the difference by its standard deviation) before as stated above, the predictant has to be multiplied with the standard deviation and the mean has to be added before exponentiation. Is this correct? In this case the explanation of this procedure should be added.

P 7 line 210: Replace MRL with MLR

P 7 line 213: “... preceding seasonal predictor average and seasonal streamflow volume...” Is the MLR applied to log-transformed streamflow? Do you normalize the climate indices? Please specify!

P 8 line 246: Re-transformation of predicted streamflow should be added as additional step

P 9 line 284: Please explain shortly how the weighted resampling using the weights

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1/RMSE works.

P 24 Table 1: In the table and in the main section the abbreviation RE (runoff efficiency) is used, in the table caption runoff ratio RR is used, please harmonize

P 34 and p 36: Please add explanation of red line (observation?) to figure caption

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