

Interactive comment on “Verification of ECMWF System4 for seasonal hydrological forecasting in a northern climate” by Rachel Bazile et al.

Anonymous Referee #3

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General comments

The paper is well written, and technically and scientifically sound. Applied methods and data used are well described, and results are presented in a concise and clear way. The paper uses methodologies and results from previous research. The main contribution is the verification of bias-corrected ECMWF System 4 forecasts for hydrological forecasting in Quebec, Canada. This supplements, and to a large degree confirms, previous verification studies in other regions.

Detailed comments

1. Page 7, line 28-30. The procedure for deriving catchment average precipitation and temperature is not that clear. Why is it necessary to first downscale ECMWF forecasts

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and then aggregate over a catchment?

2. Page 9, line 18-20. Repetition. Described earlier.

3. Page 10, line 12-13. Both precipitation and temperature are bias-corrected.

4. Page 13, line 16. General performance of watersheds 5 and 7 described is not clear from Fig. 5.

5. Page 14, Figure 6. Reliability diagrams are shown, I expect.

6. Page 15, Figure 7. PIT histograms and not rank histograms, I expect.

7. Page 16, line 1-2. The problem of underdispersion of the bias-corrected ensemble could be elaborated. There is a general overestimation of precipitation cf. Fig. 2. In this case, linear scaling will produce a bias-corrected ensemble with smaller dispersion than the raw ensemble.

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