

## ***Interactive comment on “Tailoring seasonal climate forecasts for hydropower operations in Ethiopia’s upper Blue Nile basin” by P. Block***

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This paper is interesting and deals with an important issue, although I think that the paper would be more suitable for a management or engineering focused journal than a science focused journal like HESS. I have following specific comments: (1) The paper lacks discussion on calibration, validation and uncertainty of the rainfall-runoff (r-r) model. As the model uses very course grid size (0.5 x 0.5 degree) and quite simplified process representation, I wonder how reliable is it in using with an operational system for making decisions involving very high stakes (billions of dollars)? It is therefore important that the paper includes discussion on the level of accuracy and reliability of the model. (2) The paper does include some discussion on the uncertainty of the forecast model (climatic variables) using 500 ensemble members (pg. 3771), but apparently this uncertainty estimate was not used in other components of the system, i.e. r-r model

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and the hydropower model. The final result on benefits should either include that uncertainty based on these ensembles or should be provided with a number of scenarios based on selected ensemble members. (3) In the perfect forecast case (pg. 3774, lines 10-14) it is not quite clear whether the observed stream flow or the flow estimated by the r-r model with the observed temperature and precipitation input was used. (4) In section 3.3, the three cases (perfect, actual and monitoring) should be illustrated with a schematic diagram showing what inputs are used in the three cases. (5) In Eq. (2) and (4), symbol/style used does not seem to be coherent with other equations. (6) In Eq. (3), is there something missing? (7) Fig. 5: both x- and y-axes should be presented in the same scale. (8) The appendix should be removed (I suppose the algorithm is also presented in Block and Strzepek (2010), which is also cited in this manuscript).

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