

Interactive comment on “Short-to-medium range hydrologic forecast to manage water and agricultural resources in India” by Reepal Shah et al.

Anonymous Referee #2

Received and published: 14 November 2016

The analysis contributes to a very important problem in Hydro climatology of Indian subcontinent and provides very useful information towards creating an operational sub-seasonal hydro-meteorological forecasts. The results show a distinct improvement by the IITM forecasts over the NCEP version of CFS 2.0. I have few minor comments, which the authors may address:

1. The authors may highlight, what are the reasons behind such improvements by the IITM model over NCEP CFS v2.0. This should come with some bullet points clearly highlighting the need for any model to be successfully applied for monsoon forecasts.
2. Please, provide some details on the lead-time dependant bias correction. Can this be applied to the CFS2.0 forecasts of precipitation?

3. I could not understand the sources of the observed soil moisture and runoff data. The authors may mention the same or they may provide a table on the details of the data used with their sources. This will help others to reproduce the results and validate the same.

4. During the low rainfall periods, the human intervention is quite high in terms of irrigation. To the best of my knowledge, VIC does not have the capability of doing the same in a way that is applicable to Indian condition. I do not really blame the authors for the same as there is as such no way out, given the status of latest version of VIC. But this should be explicitly mentioned as limitation.

5. Similarly, the crop parameters, which are used in VIC are mostly based on Maize and Soyabean and this is different from Indian crop conditions. The authors may correct me if I am wrong. If I am correct, this should also be mentioned as a limitation. VIC also have limitation of not having a good ground water model. This should also come as a limitation.

6. Is the model calibrated or does it consider the recommended values of parameters of VIC from global data set? The authors may also publish the sensitive parameter values for VIC as supplementary dataset so that the readers will be able to reproduce and apply the work.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., doi:10.5194/hess-2016-504, 2016.

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Discussion paper

