

## Response to Reviewer #1:

General comment: I think this paper has merit for publication but needs a little more work before acceptance. Most notable is the grammar and syntax which makes the paper difficult to read. Moreover, there are lots of different combinations of forecast times and forecast skill evaluations for different models. I found that following the different periods was confusing. Perhaps add a table with the appropriate information or structure the workflow differently. I think that the results and discussion are in line with what the paper aims to show. I did not find any methodological fault, although I must admit that the subject matter is not my main expertise.

*RESPONSE: Thank you very much for your time and your insightful review. We have improved the grammar and syntax throughout the manuscript. We added tables with appropriate information to clarify the description of data and method. We have carefully revised the manuscript in order to include your comments. We believe that this manuscript is substantially improved as a result of the revision.*

### Other comments and suggestions:

Abstract: I think the first sentence is either too vague or too direct. Perhaps start with something like: “This paper explores the possibility of exploiting forecasts from global seasonal climate forecast models for sub-seasonal forecasts of precipitation and 2-m temperature”. The current wording seems like a statement: “... forecast models can be...”, but it is a vague statement because of the word “potentially”.

*RESPONSE: This sentence has been revised as suggested.*

Page2, line 12: References are not ordered properly; please revise (all text).

*RESPONSE: The orders of all the references have been adjusted throughout the text.*

Page 2, line 12-15: This sentence is not clear, please revise.

*RESPONSE: This sentence has been clarified as requested:*

*“Precipitation and 2-m temperature (hereafter temperature) are considered to be two of the most important climate variables that significantly influence irrigation scheduling, urban water supply, cooling water related to thermal power generation, and hydropower operations, etc.”*

Page 2, line 20: “... there have has been”

*RESPONSE: It has been revised as requested.*

Page 2, line 23-25: Please explain how GCM outputs can be used for daily or short-term forecasts seeing as they are uncorrelated to current meteorological conditions.

*RESPONSE: Thanks for pointing this out. This is an overstatement. We have changed the sentence to “Coupled Atmosphere-Ocean General Circulation Models (GCMs) are used to make forecasts at multiple timescales.”*

Page 2, line 28: The link between GCMs and the CFSv2 is not clear. Is the CFSv2 a GCM? Please indicate that it is a reforecast product based on reanalysis (If i understood correctly).

*RESPONSE: The CFSv2 is a GCM in that it is a fully coupled ocean-land-atmospheric model, developed by NOAA for dynamical seasonal forecasting, and has archived a retrospective forecast product. It has been clarified in the revised manuscript.*

Page 3, line 2: "... demonstrated the high performance...": delete "the".

*RESPONSE: It has been deleted as suggested.*

Page 3 lines 18-19: This sentence is not clear and does not add much to the paper. I suggest modifying it by giving it more substance. "Leverage forecasting efforts" and "contribute to sectorial management decision making" are both very vague objectives.

*RESPONSE: We agree that this sentence is redundant and does not add much to the paper. We have deleted it in the revised manuscript.*

Page 3, line 22: "... forecast model components of the climate system... ".not clear what this means. Of all existing models?

*RESPONSE: This sentence has been changed to: "The CFSv2 has the most updated data assimilation and modeling system. It became operational at NCEP since March 2011."*

Page 3, lines 29-33: Check grammar here (everywhere, but particularly here). It is difficult to read.

*RESPONSE: These sentences have been changed to: "The one season and 45-day reforecasts are initialized each day so that relatively new initial conditions can be incorporated into a large ensemble for making a potentially skillful forecast over this shorter forecast period. Nevertheless, we chose to use the 9-month reforecast. This is because the 9-month reforecast covered much longer period (1982-2009) than the one season and 45-day reforecasts (1999-2010), which ensures a larger sample size for a more robust evaluation."*

*We have also proofed all the grammars throughout the text.*

Page 4, line 14: Replace the sentence with something like: "Comparing those two forecasts will help understand..."

*RESPONSE: We have changed the sentence to: "Comparing those two forecasts will help understand the usefulness of the CFSv2 daily precipitation or temperature forecasts for hydrological applications compared to the monthly disaggregated forecasts."*

Page 4, line 30-31: This should refer to a figure or a table somehow. We cannot follow the given example because of the lack of a reference.

*RESPONSE: We have added a table to explain this example.*

Page 5, line 15: Merge to make a more fluid sentence? (e.g. All forecasts... and all observations...)

*RESPONSE: This sentence has been changed to “All ensemble forecasts were converted into probabilistic forecasts in terciles with all observations converted into dichotomous values of 1 or 0. ”*

Page 6, lines 14-19: This section is suspiciously similar to the text in L’heureux and Higgins. Please reword or cite directly.

*RESPONSE: We reduced this section and made a more direct reference to L’Heureux and Higgins (2008).*

Figure 6-7: It is not clear to me why the score is higher for the 14-day (week 1-2) than for weeks 1 and 2 taken individually.

*RESPONSE: We have clarified this in the revised manuscript and added these sentences: “It is worth noting that the skill is higher for the 14-day forecast at the first lead than for 7-day forecast in weeks 1 and 2 taken individually. The improved forecast skill indicates that the temporal noise in predictions can be reduced through averaging, as noted by Roundy et al. (2015).”*

Page 10, line 25: Reference to nonexistent figure 13.

*RESPONSE: It should be Figure 9 (Figure 12 in the revised manuscript) instead of 13. We have revised that in the manuscript.*