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Hydrology and Earth System Sciences
Discussions

Interactive comment on "Mekong River flow and hydrological extremes under climate change" *by* L. P. Hoang et al.

Anonymous Referee #2

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This article discussed the climate change impacts on river flow and hydrological extremes in Mekong river basin. The topic is important and has been studied by many researchers. Compared to previous studies, this work attempted to reduce the uncertainty involved in climate projection using the CMIP5 data, and also highlighted the influences on extreme events. In general, its organization is straightforward, the methodology looks reasonable, and results were clearly explained. A few limitations: 1. This study was motivated to reduce the uncertainty involved in previous studies. However, was this goal achieved in this paper? I'd say very limited. The authors used the most recent climate projection data, ran them with established models, and then performed analysis. The only advance s compared to previous studies is the climate data, which results the paper less innovative. 2. The authors also mentioned the miss-

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ing human part in the discussion. Anthropogenic factors such as land use change and hydropower operation affect the results significantly. It would greatly improve the value of the study if some of the effects can be integrated with the model.

Specific comments: Page 11654, line 13: suggest revising the sentence Page 11658, line 3: do you consider land use change for the two calibration periods and how? Page 11659, line 21: It is biased to assume that GCMs perform well in producing historical data would also do great in projection. If that is true, you don't need to select 5 GCMs. Line 11660, line 9: what do you mean by "high climate change scenario"? Suggest revision Figures: I'd suggest adding a spatial map showing discharge changes like figure 4 so as to better illustrate the results Land use is an important factor in hydrological modeling and expects to change with time. Do you include this in your model?

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 12, 11651, 2015.