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Hydrology and Earth System Sciences Discussions

Interactive comment on "Assessing water resources in China using PRECIS projections and VIC model" *by* G. Q. Wang et al.

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All authors do appreciate anonymous referee #3 for her/his great efforts on the manuscript reviewing. All comments from anonymous referee #1 are very valuable and helpful for us to improve the manuscript. We improved the manuscript based on fully consideration of these comments. Sorry for my late reply as I was busy with technical aid for Thailand flood forecasting during the last months. Responses to each comment are given as follow:

(1) Response to comment #1 and #2: As VIC model is a well developed hydrological model, there are more detailed mathematical description on runoff calculation and evapotranspiration on some previous literature

(Zhang et al, 2007, 2009; Lu et al, 2010) and the website of VIC model (http://www.hydro.washington.edu/Lettenmaier/Models/VIC/) For the purpose of model calibration, only mathematical background related to sensitive parameters of VIC model were briefly described in the revised manuscript. We added one more table to illustrate physical interpretation of hydrological parameters and its statistical features based on calibration results for 135 catchment. Moreover, we put our focus on illustrating parameters transferring to ungauged areas.

(2) Response to comment #3: There do be many arguments on application of climate models. Just as referee #3 mentioned, some scientists claim that climate models are not suitable for assessing water resources due to large uncertainty, and it's not realistic to expect the required level of accuracy for adaptation-type analysis (Kiem et al, 2011; Kundzewicz et al, 2010), while other scientists argue that climate model is a streaming way to project future climate change although it still has a large uncertainty in its projections, and there have been many studies available in literature for assessing water resources using climate projection forcing from climate model +hydrological model, as reviewed in the section of introduction in the manuscript. I do agree with referee that we should stress on uncertainty of climate models. In the revised manuscript, we improved literature review in the section of introduction by adding two more opposite references regarding to climate models, and analysis on uncertain issues was enhanced as well in the section of results and discussion.

(3) Response to other comments on technical corrections: We do highly appreciate the referee's careful reviewing. We double checked whole manuscript including references, figures, and tables in the manuscript, in case typing errors appeared again.

For a more clear version,please find the supplement below

Please also note the supplement to this comment:
http://www.hydrol-earth-syst-sci-discuss.net/8/C4728/2011/hessd-8-C4728-2011-supplement.pdf

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 7293, 2011.