

Interactive comment on “Multi-model climate impact assessment and intercomparison for three large-scale river basins on three continents” by T. Vetter et al.

Anonymous Referee #2

Received and published: 23 September 2014

This is a very thorough, comprehensive assessment of the climate impacts on three river basins: the Rhine, the Upper Niger and the Upper Yellow river. The paper analyses the impacts of three sources of uncertainty: a) in the hydrological models used, b) in the climate model scenarios, and c) in the assumed future greenhouse gas emission scenarios.

The paper begins with an exhaustive summary of past work by other authors, before describing the authors' own analysis approach based on ANOVA (ANalysis Of VAriance). The impacts of the three sources of uncertainty and their interaction are presented in considerable detail in numerous graphs and tables. The level of detail is sometimes overwhelming for the non-expert in this particular field (such as the present

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reviewer), but is presumably unavoidable in view of the many combinations of alternatives the authors take into account. These consist of three hydrological models, five climate models and four "representative concentration pathways". Nevertheless, the authors have made a laudable effort to summarize their principal findings in their concluding section.

The paper will undoubtedly be well received in the hydrological modelling community and can be published with only minor technical revisions.

Some technical comments: 1)p.863, line 4: "But in two three cases..." ? Should it be "two or three cases"? 2)p.863, line 5: "In case of no ..." should read "In the case of no.." 3)p.863, Sentence following eq. (5): "The token ? indicates". I could not reproduce the "token" shown on my computer and could not discover where it was in the paper. 4)p. 868. last sentence: Figs ??-8 5)p. 869, first sentenc: Fig ?? for the Upper Niger 6)p. 870, first sentence, should read: "summarizes the results of the evaluation of the direction" 7) p.897: The number on the figure axes are too small to read.

Interactive comment on Earth Syst. Dynam. Discuss., 5, 849, 2014.