

Interactive comment on “Global patterns of change in discharge regimes for 2100” by F. C. Sperna Weiland et al.

F. C. Sperna Weiland et al.

frederiek.sperna@deltares.nl

Received and published: 3 March 2012

We would like to refer here to our previous paper where we analyzed the usability of a GCM-forced hydrological model to reproduce global discharge patterns. In this study we analyzed the performance of the global hydrological model PCR-GLOBWB forced with datasets from the 12 GCMs included in this analysis for the historical period (1961–1999) often referred to as the reference climate. In a comparison with discharge observations from the Global Runoff Data Centre and a model run forced with ERA-40 re-analysis bias-corrected with CRU measured data, we showed the deviation of the GCM derived discharges for multiple discharge statistics (mean, Q90, Q10, inter-annual variability and regime timing).

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Within this study we are interested in the spread between the individual. By evaluating the consistency in changes derived from different the GCMs we indirectly evaluate the value of GCMs for hydrological change assessment, without directly evaluating the internal weaknesses of the GCMs.

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 8, 10973, 2011.