

## ***Interactive comment on “Assessing the operation rules of a reservoir system based on a detailed modelling-chain” by M. Bruwier et al.***

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The authors gratefully acknowledge Prof. P. Willems for his valuable comments concerning the CCI-HYDR perturbation tool. We provide hereafter a new version of the description of the CCI-HYDR perturbation tool, in line with the Discussor's comments.

pag. 5802 line 25 to pag. 5803 line 5:

For prospective analysis, the measured time series of temperature and precipitation were perturbed to reflect possible changes in climate. This was performed using the CCI-HYDR perturbation tool developed by Ntegeka et al. (2014) and previously used by Bauwens et al. (2011). Based on the results of Regional Climate Models (RCM) and Global Circulation Models (GCM), it applies an advanced perturbation method

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to perturb the measured time series of temperature and precipitation. In the advanced perturbation method, perturbations are applied to the historical time series in two steps: first the number of wet and dry days are perturbed in the time series, followed by rainfall intensity changes for the wet days in a quantile (or exceedance probability) dependent way (Ntegeka et al. 2014). This is currently the most advanced tool readily available for impacts studies in Belgian catchment.

References:

Bauwens, A., Sohier, C. and Degré A.: Hydrological response to climate change in the Lesse and the Vesdre catchments: Contribution of a physically based model (Wallonia, Belgium), *Hydrol. Earth Syst. Sci.*, 15(6), 1745-1756, 2011.

Ntegeka, V., Baguis, P., Roulin, E., and Willems, P.: Developing tailored climate change scenarios for hydrological impact assessments, *J. Hydrol.*, 508, 307–321, 2014.

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