Hydrology and Earth System Sciences Discussions

Interactive comment on "*HESS Opinions* "Should we apply bias correction to global and regional climate model data?"" *by* U. Ehret et al.

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This paper presents an interesting discussion and the authors raise many key points. I would suggest that it is important to be clear about which errors we seek to correct with statistical correction methods. In our recent paper (Eden et al., J. Climate, current issue) we make a clear distinction between the sources of error in GCM-simulated precipitation. We suggest that a strict assessment of the skill of simulated precipitation (or a subsequent bias correction) requires an isolation of the error associated with parameterisation deficiencies and topographical representation. This assessment enables us to identify regions where simulated future precipitation changes are likely to be meaningful. In such regions, we also show that a very simple bias correction performs

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strongly and can provide useful estimates of local-scale precipitation when included in a downscaling approach.

In short, I would argue that bias correction should not be completely disregarded in a situation where we are able to show that its application is worthwhile. Additionally, I agree that the requirement for statistical corrections to exhibit stationarity in a changing climate is a very important issue. This requirement is often overlooked and should be given greater focus in all applications of bias correction

Interactive comment on Hydrol. Earth Syst. Sci. Discuss., 9, 5355, 2012.

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