

Supplementary material

Table S1. *LoggReff* values of initial simulation results using a 9-day window, 61-day window or the whole time series respectively for QM bias correction of precipitation input. Simulation results were used for determining window size for QM downscaling in the present study.

Window size	Mpanga Catchment		Kiburubutu Catchment	
	ERA-i	TRMM	ERA-i	TRMM
9	0.01	0.09	0.32	0.30
61	0.17	0.19	0.49	0.45
All	0.01	0.21	0.32	0.03

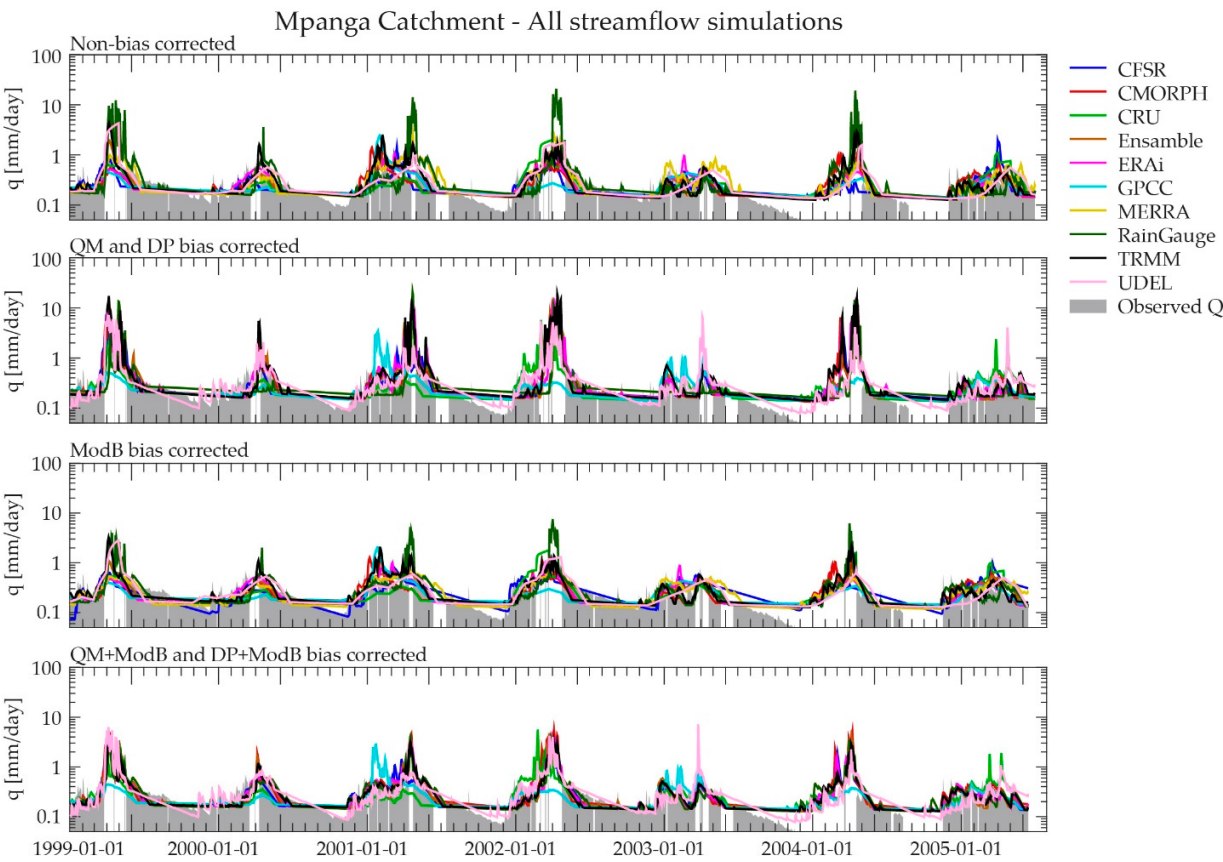


Figure S1. Semilog plots showing MC hydrographs of simulated (colored lines) and observed (grey filled area) specific discharge. Panels show observed and simulated discharge from calibrations using the non-bias corrected data (top), quantile mapped (QM) and daily percentages (DP) bias corrected data (second), model based bias correction (ModB) bias corrected data (third) and combined QM+ModB and DP+ModB bias corrected data (bottom).

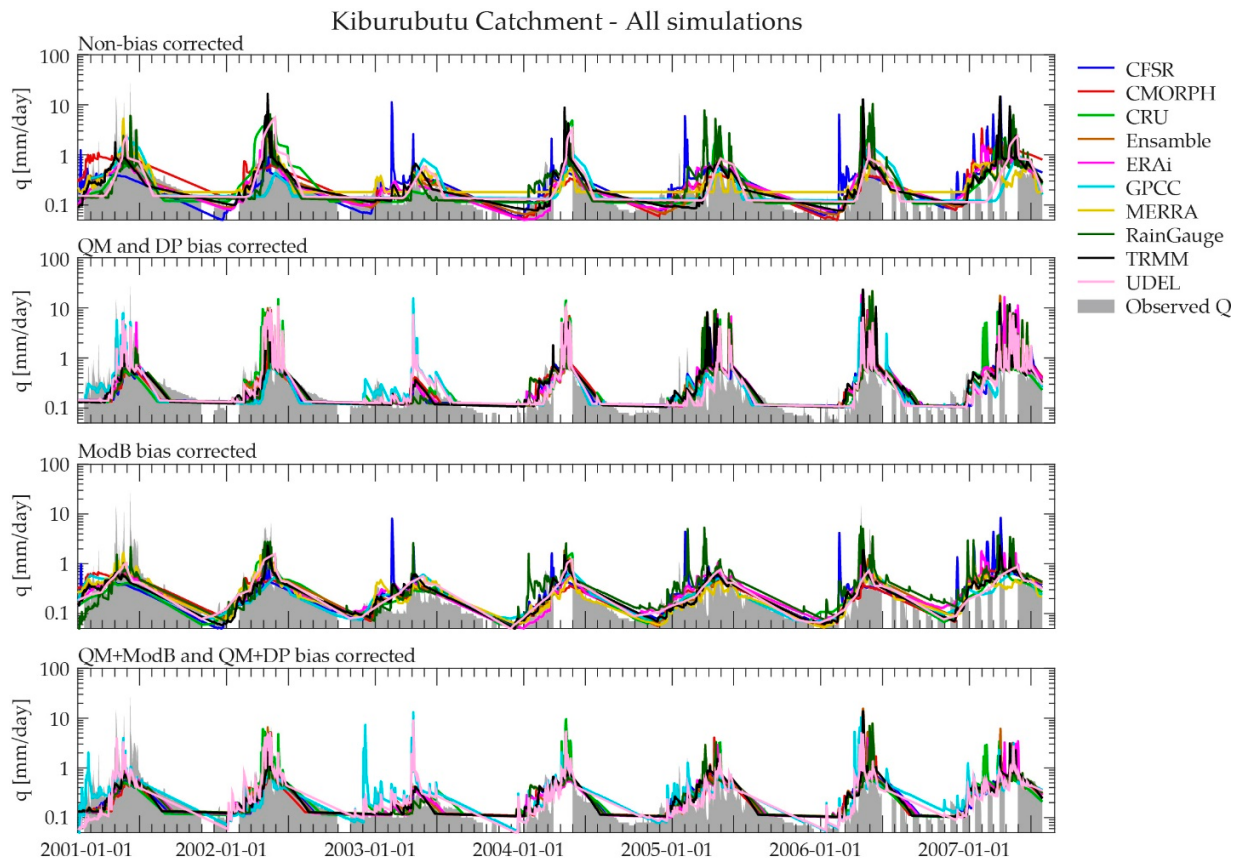


Figure S1. Semilog plots showing KC hydrographs of simulated (colored lines) and observed (grey filled area) specific discharge. Panels show observed and simulated discharge from calibrations using the non-bias corrected data (top), quantile mapped (QM) and daily percentages (DP) bias corrected data (second), model based bias correction (ModB) bias corrected data (third) and combined QM+ModB and DP+ModB bias corrected data (bottom).