

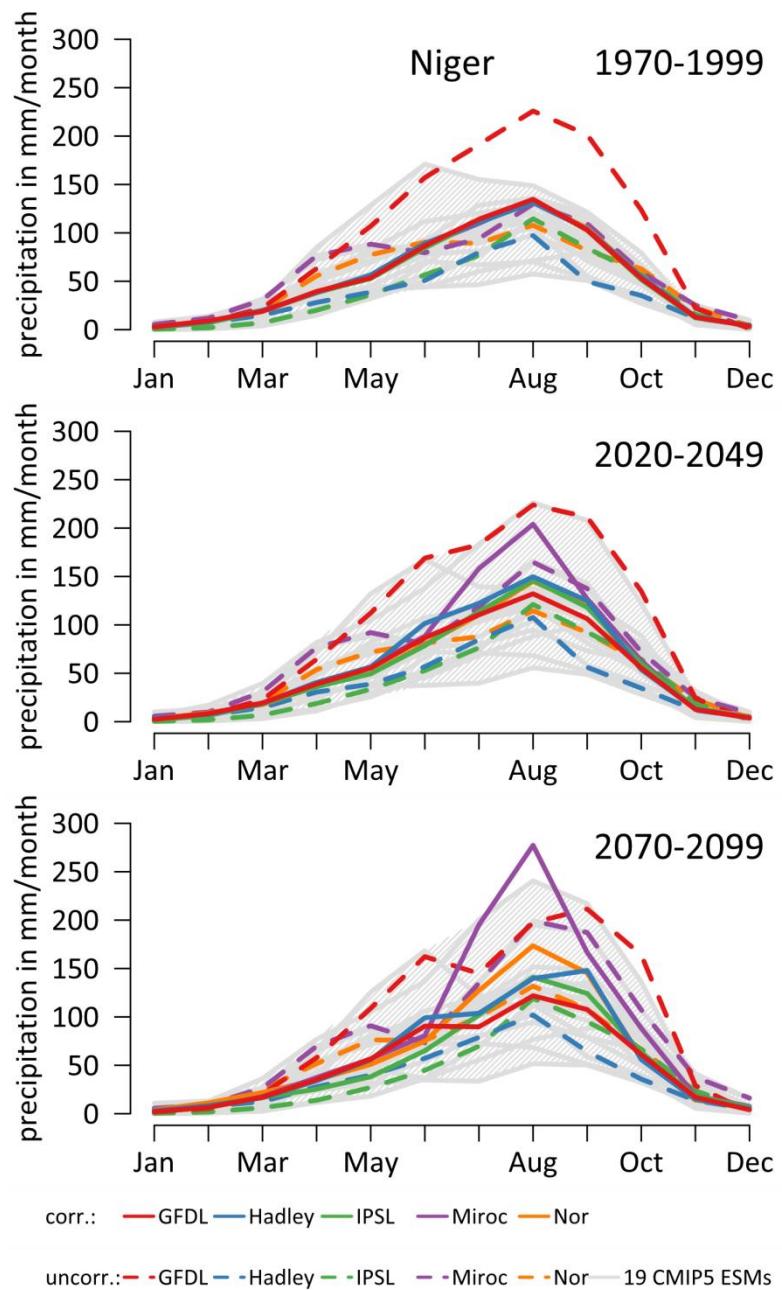
Table S1: Calibration results for additional stations in the Niger basin model

Gauging station	Kouroussa	Selingué	Koulikoro	Douna (Bani River)	Kirango Aval	Akka	Diré	Koryoume	Tossaye
Calibration period	1965-1974	1965-1974	1964-1974	1964-1974	1975-1981	1987-1990	1964-1974	1979-1986	1968-1979
NSE/ PBIAS <sup>a,b</sup>	0.85/ 3.3	0.78/ 6.1	0.92/ 5.8	0.87/ 9.9	0.79/ 29.3	0.48/ -42.6	0.81/ -2.2	0.75/ -4.8	0.82/ 0.2
Gauging station	Ansongo	Kandadjji	Niamey	Malanville	Yidere Bode	Shiroro (Kaduna River) <sup>c</sup>	Riao (Benue River) <sup>c</sup>	Ibi (Benue River)	
Calibration period	1968-1979	1976-1986	1976-1986	1976-1986	1985-1995	1982-1990	1971-1980	1970-1981	
NSE/ PBIAS <sup>a,b</sup>	0.81/ 7.5	0.84/ 9.6	0.76/ 16.2	0.4/ 32.3	0.61/ 27.3	0.52/ 35.4	0.7/ 59.4	0.9/ 14.8	

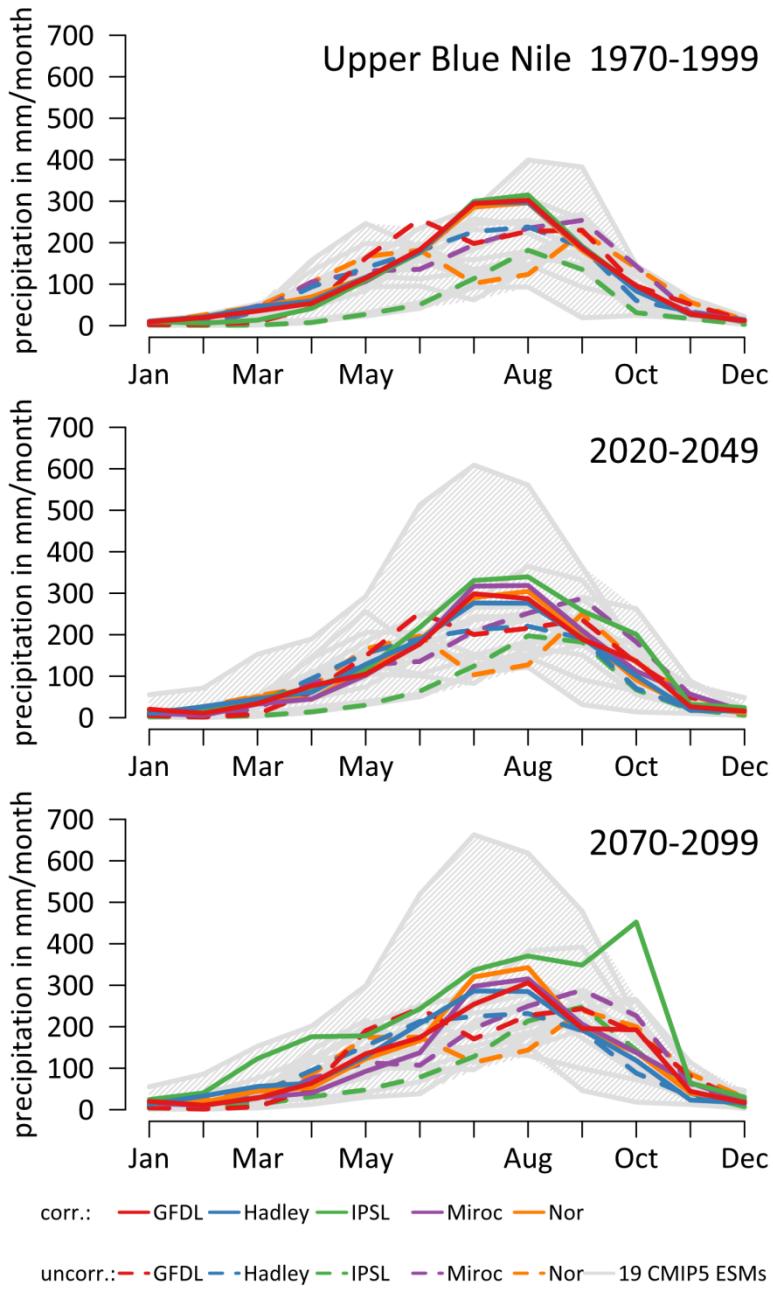
<sup>a</sup> Nash-Sutcliffe Efficiency of daily model output.

<sup>b</sup> Percent bias of monthly average.

<sup>c</sup> At the stations Riao and Shiroro only monthly data has been available and used for calibration and calculation of NSE and PBIAS.

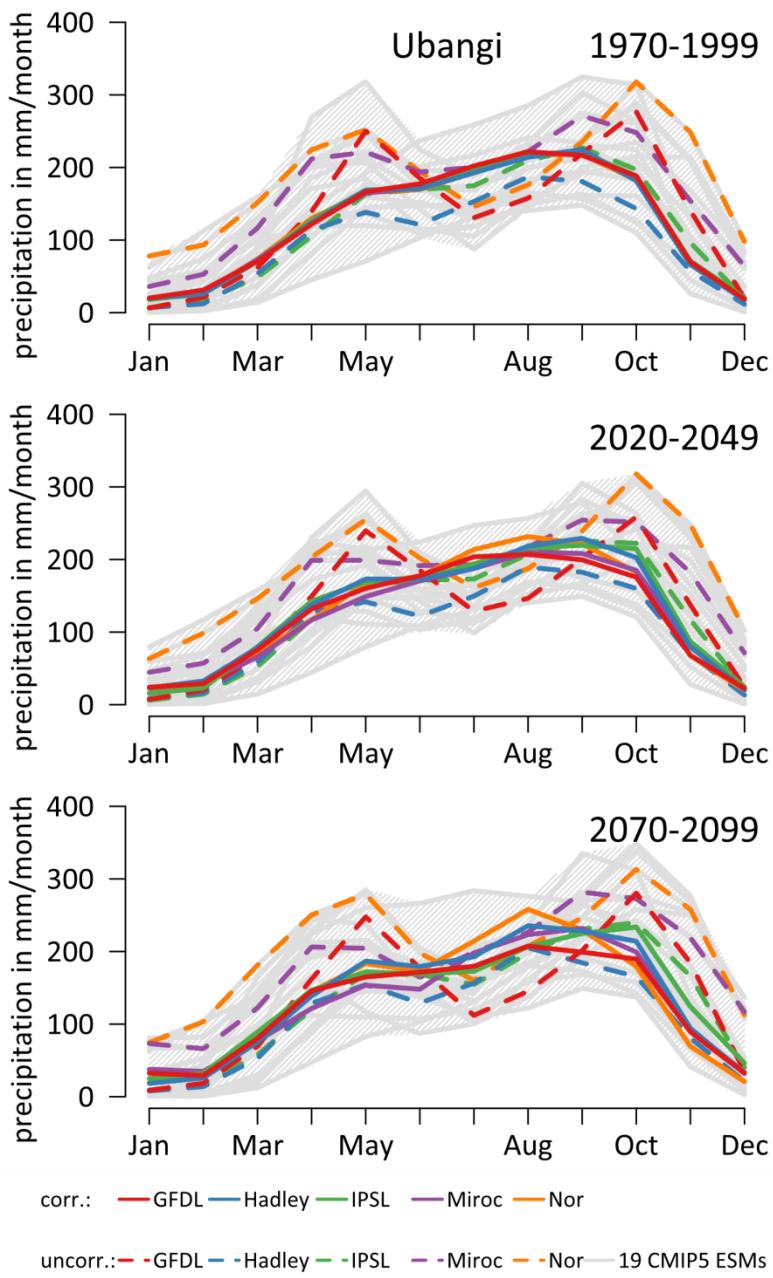


**Figure S1** Mean monthly precipitation of corrected and uncorrected ISI-MIP climate models and 19 other CMIP-5 ESMs for the Niger basin during the periods 1970-1999, 2020-2049 and 2070-2099.



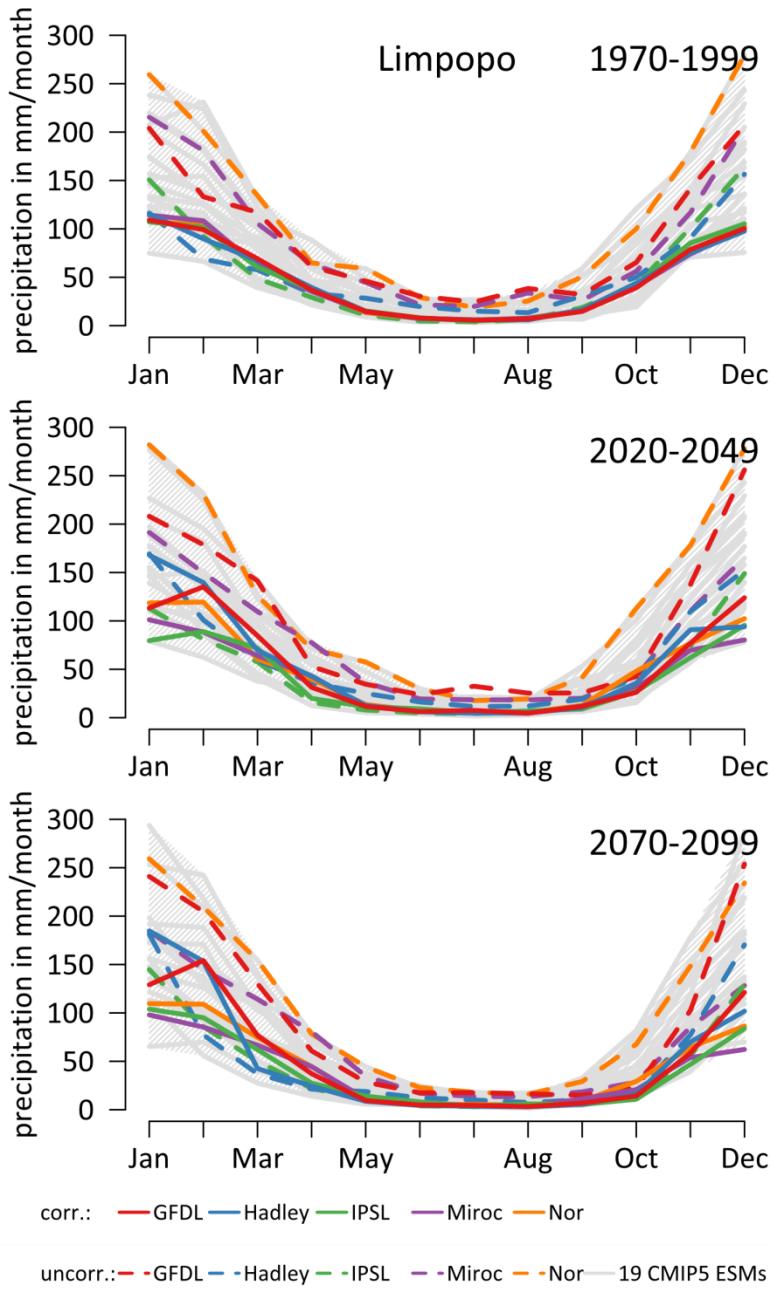
**Figure S2 Mean monthly precipitation of corrected and uncorrected ISI-MIP climate models and 19 other CMIP-5 ESMs for the Upper Blue Nile basin during the periods 1970-1999, 2020-2049 and 2070-2099.**





**Figure S3 Mean monthly precipitation of corrected and uncorrected ISI-MIP climate models and 19 other CMIP-5 ESMs for the Ubangi basin during the periods 1970-1999, 2020-2049 and 2070-2099.**





**Figure S4 Mean monthly precipitation of corrected and uncorrected ISI-MIP climate models and 19 other CMIP-5 ESMs for the Limpopo basin during the periods 1970-1999, 2020-2049 and 2070-2099.**