

# Supporting Information for: Sahel rainfall projections constrained by past sensitivity to global warming

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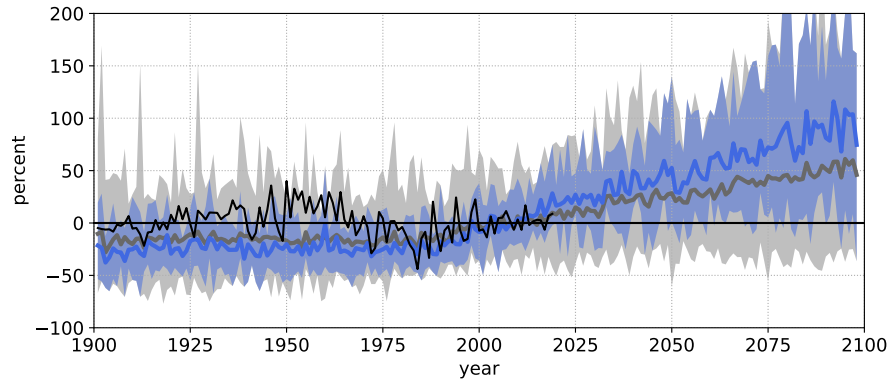
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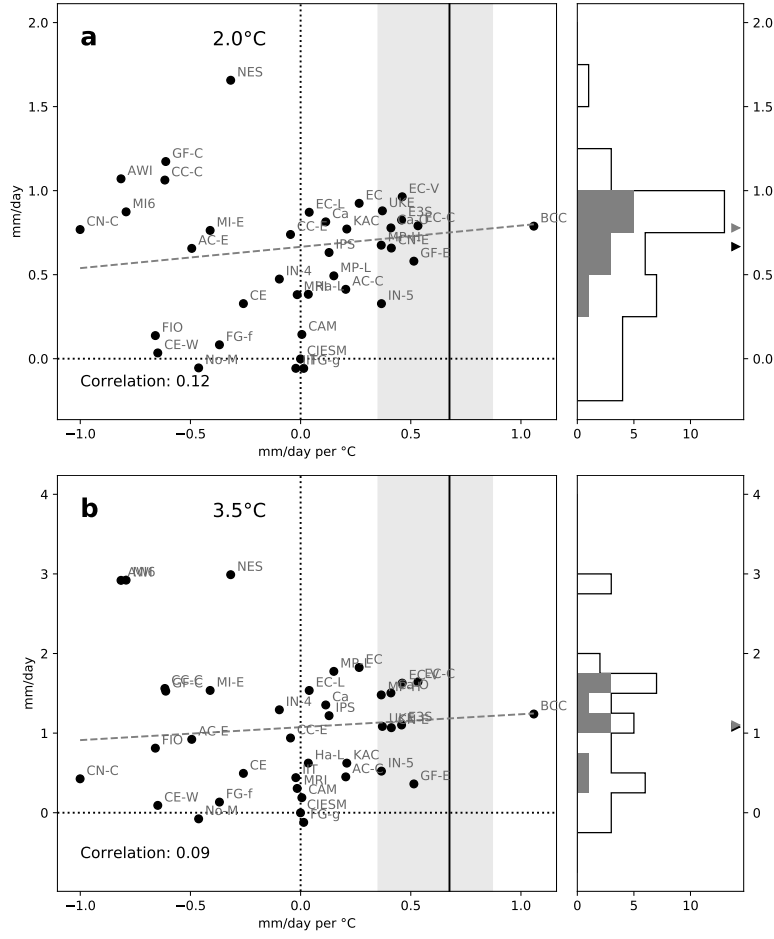


**Figure S1.** As Fig. 1(a) in the main paper but extending until 2100.

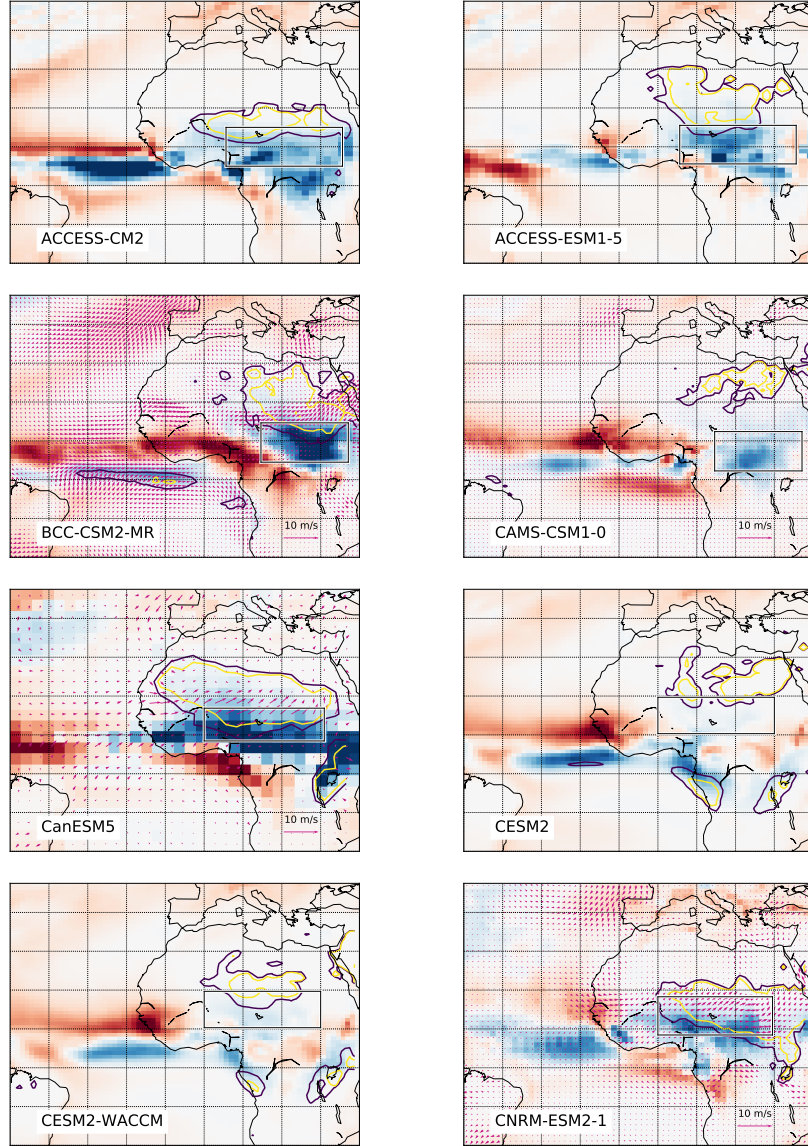
**Table S1.** CMIP6 models analyzed, with acronyms used in this study.

Acronym	Name	Institution(s) <sup>a</sup>
AC-C	ACCESS-CM2	CSIRO-ARCCSS
AC-E	ACCESS-ESM1-5	CSIRO
AWI	AWI-CM-1-1-MR	AWI
BCC	BCC-CSM2-MR	BCC
CAM	CAMS-CSM1-0	CAMS
Ca	CanESM5	CCCma
Ca-O	CanESM5-CanOE	CCCma
CE	CESM2	NCAR
CE-W	CESM2-WACCM	NCAR
CIESM	CIESM	THU
CC-C	CMCC-CM2-SR5	CMCC
CC-E	CMCC-ESM2	CMCC
CN-E	CNRM-CM6-1	CNRM-CERFACS
CN-C	CNRM-ESM2-1	CNRM-CERFACS
E3S	E3SM-1-1	E3SM-Project RUBISCO
EC	EC-Earth3	EC-Earth-Consortium
EC-C	EC-Earth3-CC	EC-Earth-Consortium
EC-V	EC-Earth3-Veg	EC-Earth-Consortium
EC-L	EC-Earth3-Veg-LR	EC-Earth-Consortium
FG-f	FGOALS-f3-L	CAS
FG-g	FGOALS-g3	CAS
FIO	FIO-ESM-2-0	FIO-QLNM
GF-C	GFDL-CM4	NOAA-GFDL
GF-E	GFDL-ESM4	NOAA-GFDL
Ha-L	HadGEM3-GC31-LL	MOHC NERC
IIT	IITM-ESM	CCCR-IITM
IN-4	INM-CM4-8	INM
IN-5	INM-CM5-0	INM
IPS	IPSL-CM6A-LR	IPSL
KAC	KACE-1-0-G	NIMS-KMA
MI6	MIROC-ES2L	MIROC
MI-E	MIROC6	MIROC
MP-H	MPI-ESM1-2-HR	MPI-M DWD DKRZ
MP-L	MPI-ESM1-2-LR	MPI-M AWI DKRZ DWD
MRI	MRI-ESM2-0	MRI
NES	NESM3	NUIST
No-M	NorESM2-MM	NCC
Tai	TaiESM1	AS-RCEC
UKE	UKESM1-0-LL	MOHC NERC NIMS-KMA NIWA

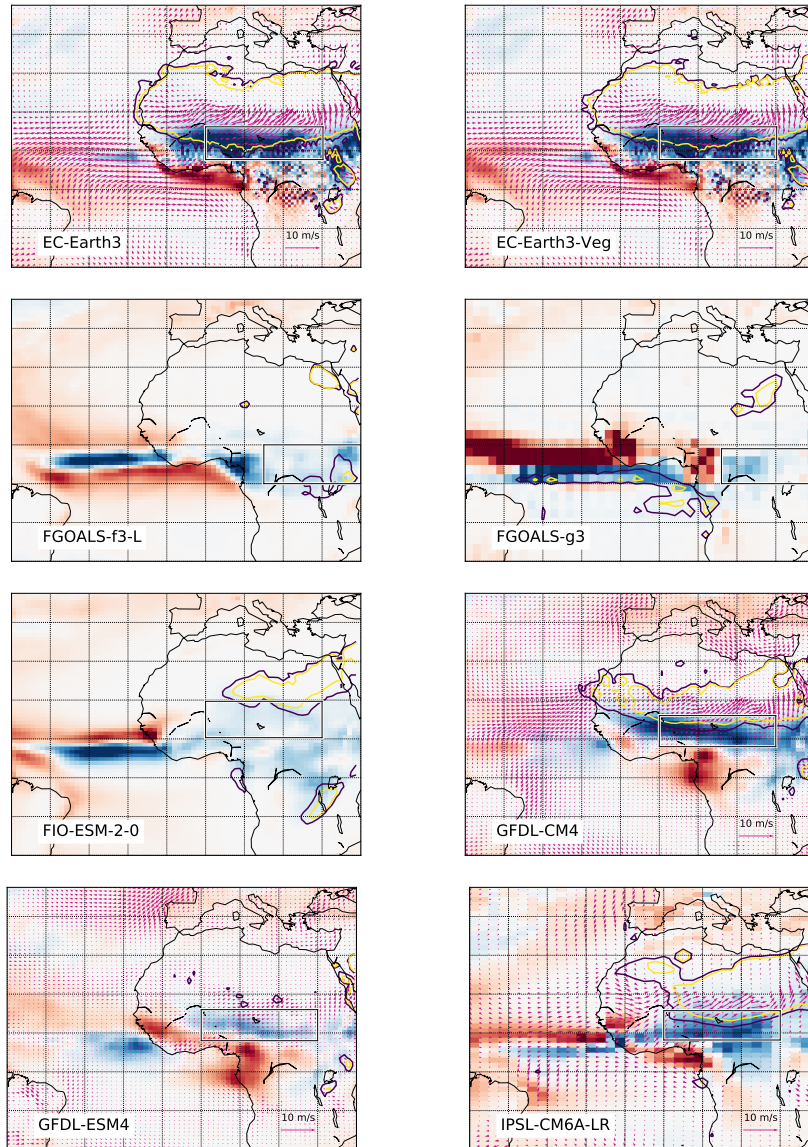
<sup>a</sup>Details at <https://wcrp-cmip.github.io/CMIP6.CVs/docs/CMIP6.institution.id.html>.



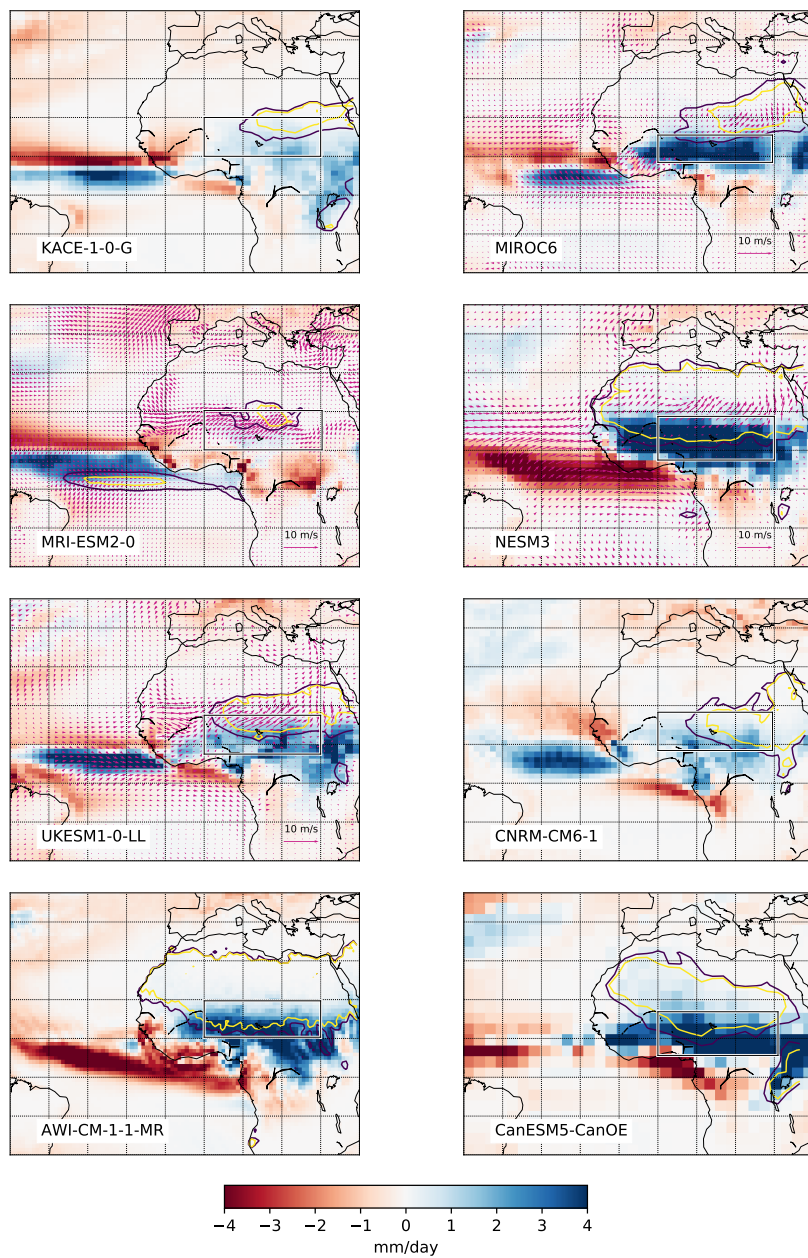
**Figure S2.** As Fig. 3 in the main paper but for rainfall sensitivity during the PRE period.



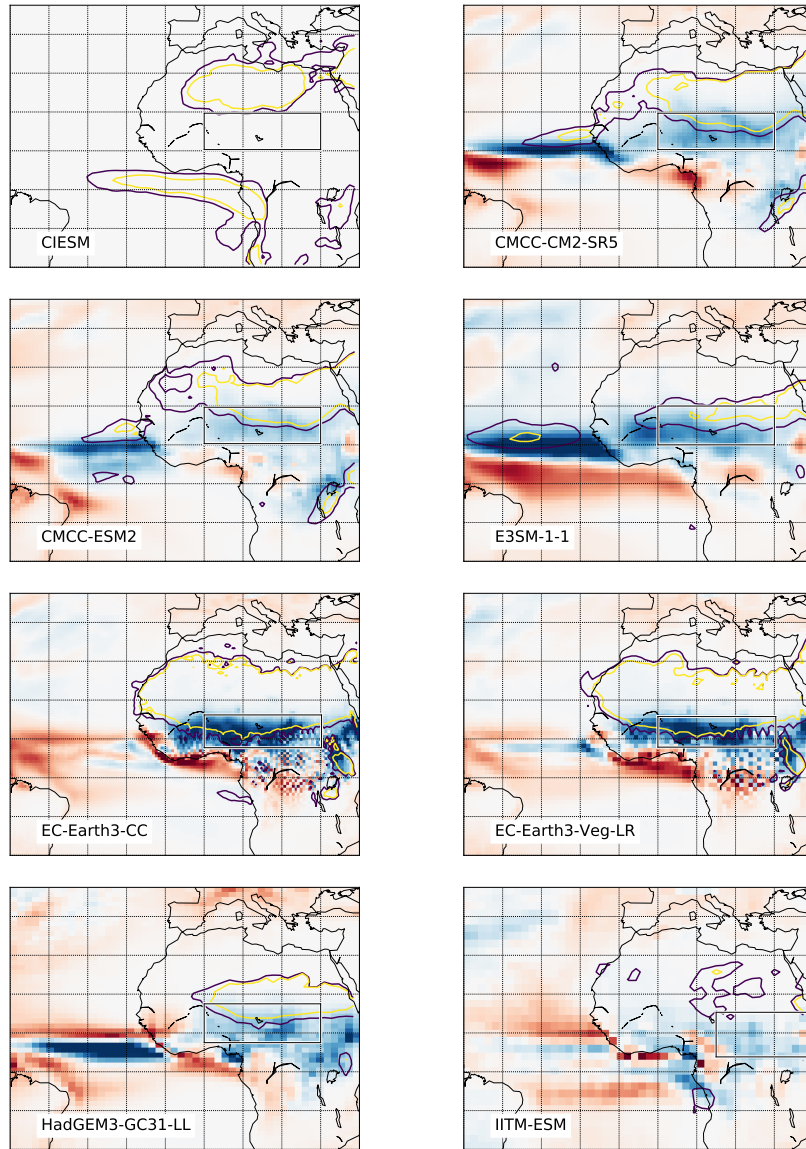
**Figure S3.** Simulated changes in Sahel summer climate under SSP5-8.5 in CMIP6 models. For each model the differences in July–September rainfall (colours) and near-surface wind speed (arrows) are shown between the 20<sup>th</sup> century (1900–1999) and the end of the 21<sup>st</sup> century (2070–2099). Contours indicate a doubling (blue) or tripling (yellow) of rainfall at the end of the 21<sup>st</sup> century, relative to the 20<sup>th</sup> century. Rectangles delineate model-specific regions of analysis used in subsequent Figures.



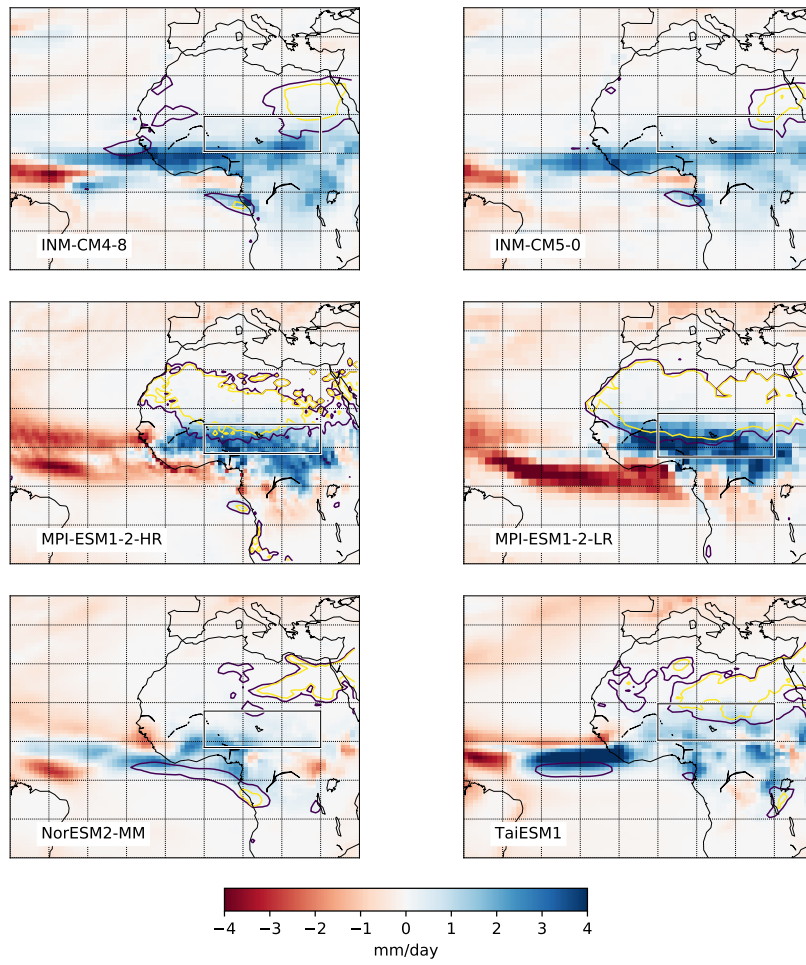
**Figure S3.** continued.



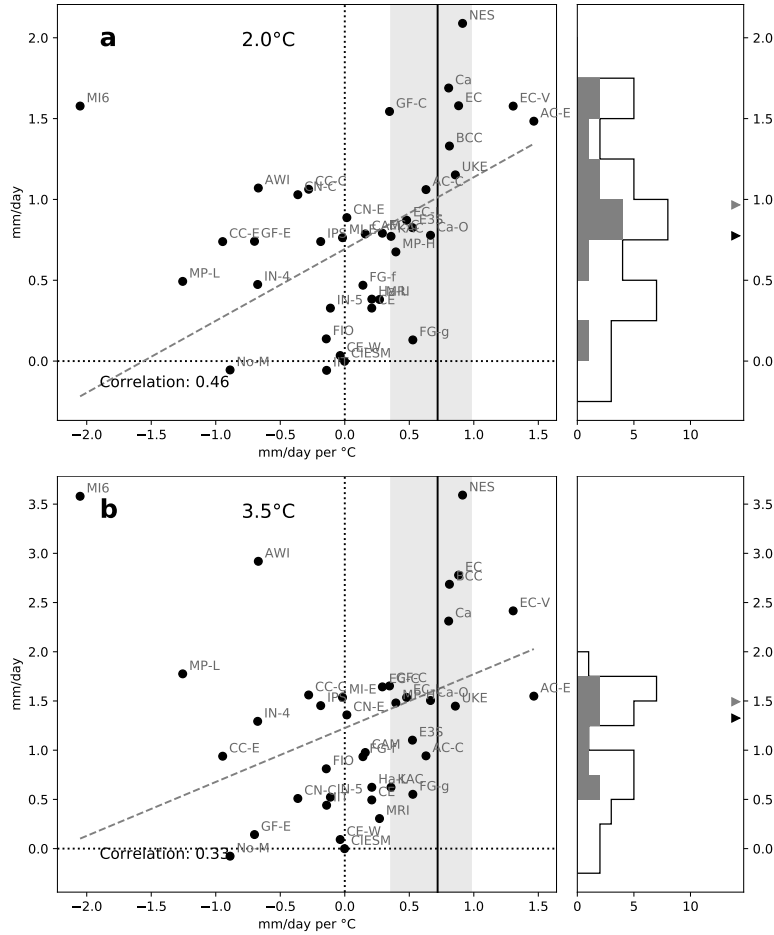
**Figure S3.** continued.



**Figure S3.** continued.



**Figure S3.** continued.



**Figure S4.** As Fig. 3 in the main paper but with simulated precipitation averaged for each model separately over a rectangular region of particularly strong precipitation change, outlined in Figure S3.