

Table 1: CMIP6 models used in study

Model	Country	Horizontal Resolution (lon and lat)	Model Vertical Levels (km)
CANESM5	Canda	128x64	45
CESM2	USA	360x180	70
CMCC-ESM2	Italy	288x192	30
CNRM-CM6-1	France	362x294	75
EC-Earth3	Europe	360x180	75
GFDL-ESM4	USA	360x180	49
HadGEM3-GC31-LL	UK	192x144	85
INM-CM5-0	Russia	180x120	73
KACE-1-0-G	South Korea	192x144	85
MIROC6	Japan	256x128	81
NorESM2-MM	Norway	192x96	47
UKESM1-0-LL	UK	192x144	85

Table 2: Extreme precipitation indices definitions calculated using CDO (Schulzweida et al. 2021)

Extremely wet days with reference to the 99 th percentile of the reference period	Precipitation percent due to R95p days	Number of consecutive wet days with more than 5 days per time period	Wet days index per time period
The percentage of wet days where the amount of daily precipitation > 99 th percentile of the daily precipitation during the historical period.	The percentage where daily precipitation amount > the 95 th percentile of daily precipitation during the historical period when compared to the sum of the total precipitation.	The number of consecutive wet days with ≥ 1 mm of daily precipitation that lasts for 5 or more days per JJAS.	The number of days where daily precipitation amount is ≥ 1 mm.

Table 3: Precipitation increase (%) per region compared to historical period (1984-2014)

	CNE	HR	NE	NW	PR	WC
NF_SSP126	9.40	6.53	5.52	18.2	11.6	12.9
NF_SSP245	6.58	5.59	5.33	10.8	10.1	8.94
NF_SSP585	10.6	8.39	8.84	20.9	12.4	12.4
FF_SSP126	9.00	6.94	6.35	10.4	9.77	11.0
FF_SSP245	11.9	10.3	8.59	25.8	13.6	16.9
FF_SSP585	21.4	21.9	25.5	44.6	23.8	27.5

Table 4: Extreme wet days difference (%) per region compared to historical period (1984-2014)

	CNE	HR	NE	NW	PR	WC
NF_SSP126	4.47	4.48	4.67	4.16	5.80	4.72
NF_SSP245	4.23	4.52	4.65	3.86	5.89	4.19
NF_SSP585	4.71	5.13	5.63	4.50	6.75	4.68
FF_SSP126	4.35	4.47	4.63	3.87	5.68	4.68
FF_SSP245	5.21	5.29	5.62	5.14	7.13	5.77
FF_SSP585	7.91	9.40	12.2	7.52	11.6	8.81

Table 5: Consecutive dry days difference (%) per region compared to historical period (1984-2014)

	CNE	HR	NE	NW	PR	WC
NF_SSP126	-1.24	-0.814	-55.7	-8.84	-5.99	7.03
NF_SSP245	-2.20	-3.38	57.6	-6.41	35.7	4.56
NF_SSP585	-15.9	-9.32	-3.32	-14.6	-20.0	-5.96
FF_SSP126	8.75	3.81	-47.2	-6.63	4.55	8.24
FF_SSP245	-4.51	6.55	-9.96	-14.3	55.0	12.1
FF_SSP585	-18.6	-17.0	-41.0	-19.8	31.2	13.9

Table 6: Consecutive wet days difference (%) per region compared to historical period (1984-2014)

	CNE	HR	NE	NW	PR	WC
NF_SSP126	-2.97	-8.45	9.97	-3.31	-15.0	-8.73
NF_SSP245	11.5	-5.11	26.4	1.16	-2.69	-2.29
NF_SSP585	7.03	-13.2	12.6	4.17	-8.56	-7.11
FF_SSP126	0.876	-9.80	6.71	-1.46	-9.34	-6.04
FF_SSP245	0.750	-10.2	6.05	1.23	-8.93	-10.4
FF_SSP585	4.32	-18.4	1.65	6.45	-12.6	-10.3