

Table 1: The 31 CMIP6 models used in this study (historical and SSP5-8.5). Atmosphere and ocean columns give the native horizontal grid (longitude×latitude) and number of vertical levels.

#	Model	Institution (Country)	Atmosphere	Ocean	Variant
1	ACCESS-CM2	CSIRO-ARCCSS (AU)	192×144 L85	360×300 L50	r1i1p1f1
2	CAMS-CSM1-0	CAMS (CN)	320×160 L31	360×200 L50	r1i1p1f1
3	CESM2	NCAR (US)	288×192 L32	320×384 L60	r4i1p1f1
4	CESM2-WACCM	NCAR (US)	288×192 L70	320×384 L60	r1i1p1f1
5	CIESM	THU (CN)	~1° L30	320×384 L60	r1i1p1f1
6	CMCC-CM2-SR5	CMCC (IT)	288×192 L30	362×292 L50	r1i1p1f1
7	CMCC-ESM2	CMCC (IT)	288×192 L30	362×292 L50	r1i1p1f1
8	CNRM-CM6-1	CNRM-CERFACS (FR)	TL127 (~1.4°) L91	eORCA1 (~1°) L75	r1i1p1f2
9	CNRM-CM6-1-HR	CNRM-CERFACS (FR)	TL359 (~0.5°) L91	eORCA025 (0.25°) L75	r1i1p1f2
10	CNRM-ESM2-1	CNRM-CERFACS (FR)	TL127 (~1.4°) L91	eORCA1 (~1°) L75	r1i1p1f2
11	E3SM-1-0	E3SM-Project (US)	~1° L72	100 km L60	r1i1p1f1
12	EC-Earth3	EC-Earth-Consortium (EU)	512×256 L91	362×292 L75	r1i1p1f1
13	EC-Earth3-CC	EC-Earth-Consortium (EU)	512×256 L91	362×292 L75	r1i1p1f1
14	EC-Earth3-Veg	EC-Earth-Consortium (EU)	512×256 L91	362×292 L75	r1i1p1f1
15	EC-Earth3-Veg-LR	EC-Earth-Consortium (EU)	320×160 L62	362×292 L75	r1i1p1f1
16	FGOALS-f3-L	CAS (CN)	360×180 L32	360×218 L30	r1i1p1f1
17	FGOALS-g3	CAS (CN)	180×90 L26	360×218 L30	r1i1p1f1
18	FIO-ESM-2-0	FIO-QLNM (CN)	192×288 L26	320×384 L60	r1i1p1f1
19	GFDL-ESM4	NOAA-GFDL (US)	360×180 L49	720×576 L75	r1i1p1f1
20	HadGEM3-GC31-LL	MOHC (UK)	192×144 L85	360×330 L75	r1i1p1f3
21	HadGEM3-GC31-MM	MOHC (UK)	432×324 L85	1440×1205 L75	r1i1p1f3
22	KACE-1-0-G	NIMS-KMA (KR)	192×144 L85	360×200 L50	r1i1p1f1
23	KIOST-ESM	KIOST (KR)	192×96 L32	360×200 L52	r1i1p1f1
24	MIROC-ES2L	MIROC (JP)	128×64 L40	360×256 L63	r1i1p1f2
25	MIROC6	MIROC (JP)	256×128 L81	360×256 L63	r1i1p1f1
26	MPI-ESM1-2-HR	MPI-M (DE)	384×192 L95	802×404 L40	r1i1p1f1
27	MRI-ESM2-0	MRI (JP)	320×160 L80	360×364 L61	r1i1p1f1
28	NESM3	NUIST (CN)	192×96 L47	384×362 L46	r1i1p1f1
29	NorESM2-LM	NCC (NO)	144×96 L32	360×384 L70	r1i1p1f1
30	NorESM2-MM	NCC (NO)	288×192 L32	360×384 L70	r1i1p1f1
31	UKESM1-0-LL	MOHC (UK)	192×144 L85	360×330 L75	r1i1p1f2