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Climate change projections of maximum temperature in the pre-monsoon season in Bangladesh using statistical downscaling of global climate models

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1 Observational stations

Table S1 contains information about the observations stations from Bangladesh Meteorological Department (BMD) that were used in this study.

2 Global climate models

Table S2 displays all the global climate model (GCM) simulations from the fifth Coupled Model Intercomarison Projection (CMIP5) that were used in this study. Three emission scenarios were considered: representative concentration pathways RCP2.6, RCP4.5, and RCP8.5.

Table S1: Information on the stations in Bangladesh where the daily maximum temperature observations used in this study were taken. The table includes the station id number, geographical information (longitude, latitude and elevation) and the mean and trend of the maximum temperature in the pre-monsoon season based on observations from 1981-2016.

Region	Station name	WMO ID	Latitude (°N)	Longitude (°E)	Elevation (m)	tmax (°C) Mar-May	tmax trend (°C/dec.) Mar-May 1981-2017
Dhaka	Dhaka	41923	23.783	90.38333	8.45	33.27	0.25
	Tangail	41909	24.25	89.93333	10.2	33.12	0.35
	Faridpur	41929	23.6	89.85	8.1	33.62	0.33
	Madaripur	41939	23.16667	90.18333	7	33.61	0.09
Mymensingh	Mymensingh	41886	24.733	90.4166	18	31.46	0.04
Chattogram	Chattogram	41978	22.216	91.8	5.5	31.72	0.21
	Cox's Bazar	41992	21.45	91.96667	2.1	32.43	0.53
	Chandpur	41941	23.2333	90.7	4.88	32.81	0.5
	Comilla	41933	23.43333	91.18333	7.5	32.05	0.35
	Feni	41943	23.0333	91.41667	6.4	32.1	0.28
	Hatiya	41963	22.45	91.1	2.44	31.9	0.33
	Kutubdia	41989	21.81667	91.85	2.74	31.47	0.33
	Maijdi Court	41953	22.86667	91.1	4.87	32.58	0.65
	Rangamati	41966	22.6333	92.15	68.89	33	0.58
	Sandwip	41964	22.48333	91.43333	2.1	31.4	0.67
	Sitakunda	41965	22.6333	91.7	7.3	32.16	0.68
	Teknaf	41998	20.86667	92.3	5	31.87	0.18
Khulna	Khulna	41947	22.78333	89.5333	2.1	34.2	0.35
	Jessore	41936	23.2	89.3333	6.1	34.94	0.35
	Satkhira	41946	22.7166	89.08333	3.96	34.42	0.01
Barishal	Barishal	41950	22.7166	90.36667	2.1	33.18	0.31
	Patuakhali	41960	22.33333	90.33333	1.5	33.21	0.67
	Bhola	41951	22.68333	90.65	4.3	32.68	0.23
	Khepupara	41984	21.98333	90.23333	1.83	32.66	0.53
Rajshahi	Rajshahi	41895	24.36667	88.7	19.5	34.83	0.08
	Bogra	41883	24.85	89.36667	17.9	32.84	0.08
	Ishurdi	41907	24.15	89.0333	12.9	34.39	0.17
Rangpur	Rangpur	41859	25.73333	89.2666	32.61	31.32	0.04
	Dinajpur	41863	25.65	88.68333	37.58	32.17	0.09
Sylhet	Sylhet	41891	24.9	91.88333	33.53	31.13	0.58
	Srimangal	41915	24.3	91.73333	21.95	32.3	0.18
	Average					32.8	0.3

Table S2: GCM simulations used in this study (rip = realization, initialization, physics version).

Model ID	Simulations (realization, initialization method, physics version)		
	RCP2.6	**RCP4.5**	**RCP8.5**
ACCESS1-0	---	r1i1p1	r1i1p1
ACCESS1.3	---	r1i1p1	r1i1p1
bcc-csm1-1	r1i1p1	r1i1p1	r1i1p1
bcc-csm1-1-m	r1i1p1	r1i1p1	---
BNU-ESM	r1i1p1	r1i1p1	r1i1p1
CanESM2	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1
CCSM4	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1
CESM1-BGC	---	r1i1p1	r1i1p1
CESM1-CAM5	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1
CMCC-CM	---	r1i1p1	r1i1p1
CMCC-CMS	---	r1i1p1	r1i1p1
CNRM-CM5	r1i1p1	r1i1p1	r1i1p1 r2i1p1 r4i1p1 r6i1p1 r10i1p1
CSIRO-Mk3-6-0	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1 r7i1p1 r8i1p1 r9i1p1 r10i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1 r7i1p1 r8i1p1 r9i1p1 r10i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1 r7i1p1 r8i1p1 r9i1p1 r10i1p1
EC-EARTH	r1i1p1 r8i1p1	r1i1p1 r2i1p1 r6i1p1 r8i1p1 r9i1p1 r12i1p1	r1i1p1 r1i1p1 r8i1p1
FGOALS_g2	r1i1p1	r1i1p1	r1i1p1
FIO-ESM	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1
GFDL-CM3	r1i1p1	r1i1p1	r1i1p1
GFDL-ESM2G	r1i1p1	r1i1p1	r1i1p1
GFDL-ESM2M	r1i1p1	r1i1p1	r1i1p1
GISS-E2-H	r1i1p1 r1i1p2 r1i1p3	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r1i1p2 r2i1p2 r3i1p2 r4i1p2 r5i1p2 r1i1p3 r2i1p3 r3i1p3 r4i1p3 r5i1p3	r1i1p1 r1i1p2 r1i1p3
GISS-E2-H-CC	---	r1i1p1	----
GISS-E2-R	r1i1p1 r1i1p2 r1i1p3	r1i1p1 r2i1p1 r3i1p1 r4i1p1 r5i1p1 r6i1p1 r1i1p2 r2i1p2 r3i1p2 r4i1p2 r5i1p2 r1i1p3 r2i1p3 r3i1p3 r4i1p3 r5i1p3 r6i1p3	r1i1p1 r1i1p2 r1i1p3
GISS-E2-R-CC	---	r1i1p1	---
HadGEM2-AO	r1i1p1	r1i1p1	r1i1p1
HadGEM2-CC	---	r1i1p1	r1i1p1
HadGEM2-ES	r1i1p1 r2i1p1 r3i1p1 r4i1p1	r2i1p1 r3i1p1 r4i1p1	r2i1p1 r3i1p1 r4i1p1
inmcm4	---	r1i1p1	r1i1p1
IPSL-CM5A-LR	r1i1p1 r2i1p1 r3i1p1 r4i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1	r1i1p1 r2i1p1 r3i1p1 r4i1p1
IPSL-CM5A-MR	r1i1p1	r1i1p1	r1i1p1
IPSL-CM5B-LR	---	r1i1p1	r1i1p1
MIROC5	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1
MIROC-ESM	r1i1p1	r1i1p1	r1i1p1
MIROC-ESM-CHEM	r1i1p1	r1i1p1	r1i1p1
MPI-ESM-LR	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1	r1i1p1 r2i1p1 r3i1p1
MPI-ESM-MR	r1i1p1	r1i1p1 r2i1p1 r3i1p1	r1i1p1
MRI-CGCM3	r1i1p1	r1i1p1	r1i1p1
NorESM1-M	r1i1p1	r1i1p1	r1i1p1