

Multi-Model Assessment of Streamflow Simulations under Climate and Anthropogenic Changes Exemplified in Two Indian River Basins

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SUPPLEMENTARY MATERIAL

Table S1. Ensemble median (25 member and 3 member) of relative change (%) in high flow (Q10) and low flow (Q90) during historical period due to human action (refer equation 2) and during future timeslices due to climate change (refer equation 1) under RCP2.6 and RCP8.5. for the Ganges basin.

Ganga River Flow index	Seasons	Ensemble Median	Hist.	RCP2.6 Scenario			RCP8.5 Scenario		
				NF	MF	FF	NF	MF	FF
Q10	Pre-Monsoon	25 members of [GCM-GHM]	31.45	12.10	16.38	6.82	10.51	8.90	13.98
	Monsoon		2.95	13.63	13.93	20.70	15.81	19.05	24.45
	Postmonsoon		4.40	6.149	9.09	9.02	7.94	10.53	22.84
	Pre-Monsoon	3 members WaterGAP-NorESM1-M, WaterGAP-MIROC-ESM-Chem, and WaterGAP-HADGEM2-ES	25.78	12.10	8.44	5.39	14.22	10.40	8.15
	Monsoon		7.63	13.24	13.61	27.75	12.85	39.91	41.12
	Postmonsoon		18.94	6.95	12.22	15.00	13.16	12.05	26.69
Q90	Pre-Monsoon	25 members of [GCM-GHM]	51.25	13.40	11.73	9.01	11.72	11.06	15.09
	Monsoon		7.83	22.29	13.93	19.64	11.37	25.35	23.56
	Postmonsoon		9.00	16.60	21.29	26.02	27.84	27.54	34.43
	Pre-Monsoon	3 members WaterGAP-NorESM1-M, WaterGAP-MIROC-ESM-Chem, and WaterGAP-HADGEM2-ES	46.05	15.28	3.56	13.71	10.047	8.54	3.85
	Monsoon		7.83	8.70	17.23	17.38	10.18	26.41	27.91
	Postmonsoon		32.39	7.55	6.55	16.48	19.25	23.60	27.82

Footnote: Hist.: Historical period [1971-2000], NF: Near Future period [2010-39], MF: Mid Future period (2040-69), FF: Far Future period (2070-99).

Table S2. Ensemble median (25 member and 3 member) of relative change (%) in high flow (Q10) and low flow (Q90) during historical period due to human action (refer equation 2) and during future time slices due to climate change (refer equation 1) under RCP2.6 and RCP8.5 for the Godavari basin.

Godavari River Flow index	Seasons	Ensemble Median	Hist.	RCP2.6 Scenario			RCP8.5 Scenario		
				NF	MF	FF	NF	MF	FF
Q10	Pre-Monsoon	25 members of [GCM- GHM]	19.91	21.64	21.25	15.21	18.44	20.29	32.14
	Monsoon		3.16	13.86	10.73	16.34	15.09	27.92	50.18
	Postmonsoon		3.14	17.26	17.62	7.36	11.44	26.58	22.44
	Pre-Monsoon	3 members WaterGAP - IPSL- CM5A-LR, WaterGAP - MIROC- ESM-Chem, and WaterGAP - NorESM1- M	24.24	4.81	2.37	1.98	7.504	7.29	3.47
	Monsoon		3.84	14.169	10.73	3.50	7.98	9.00	3.98
	Postmonsoon		13.84	10.87	4.19	3.85	7.06	19.94	4.61
Q90	Pre-Monsoon	25 members of [GCM- GHM]	36.82	20.78	21.42	28.80	15.31	20.91	31.35
	Monsoon		7.00	12.010	16.72	22.25	11.88	17.66	18.58
	Postmonsoon		11.93	22.05	14.54	10.18	10.71	14.15	24.31
	Pre-Monsoon	3 members WaterGAP - IPSL- CM5A-LR, WaterGAP - MIROC- ESM-Chem, and WaterGAP - NorESM1- M	25.03	16.51	7.22	15.04	6.81	5.28	6.49
	Monsoon		7.38	5.97	10.80	20.88	3.86	15.83	12.86
	Postmonsoon		24.84	22.66	11.24	11.03	1.73	6.359	10.32

Footnote: Hist.: Historical period [1971-2000], NF: Near Future period [2010-39], MF: Mid Future period (2040-69), FF: Far Future period (2070-99).