Hydrology and
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Supplement of

Model study of the impacts of future climate change on the hydrology of Ganges–Brahmaputra–Meghna basin

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Supplement Information

Supplement Information S1: Comparison of WFD and APHRODITE dataset

The WATCH forcing dataset (WFD) provides seven forcing variables: precipitation, specific humidity, air temperature, surface pressure, wind speed, downward shortwave radiation and downward long-wave radiation and the APHRODITE only provides precipitation and temperature. Spatial distribution of annual (1988) precipitation of the WFD and the APHRODITE over entire GBM basin and difference between two data are shown in Fig. S1.

We have simulated our hydrological model H08 by using the APHRODITE precipitation and temperature data to compare the model output with that of using WFD dataset. We found the simulation using APHRODITE precipitation and temperature data (other metrological variables are taken from WFD) does not give better simulation results than the simulation using WFD (simulation result presented in Table S1). Time series plot of simulated discharge using both (i) complete dataset from the WFD and (ii) combination of precipitation and temperature data from the APHRODITE dataset and other metrological variables from the WFD is shown in Fig. S2.

Supplement Table

Supplement Table S1: Result obtained from two different simulations (1988) using the APHRODITE and the WFD precipitation data (unit: mm year^{-1})

		Rainfall	Snowfall	Total runoff	ET
APHRODITE	Entire GBM	1 171	27	664	524
	Brahmaputra	1 252	9	852	424
	Ganges	959	27	442	537
WFD	Entire GBM	1 555	27	1 034	538
	Brahmaputra	1 819	16	1 430	426
	Ganges	1 178	18	627	565

1 **Supplement Figure**

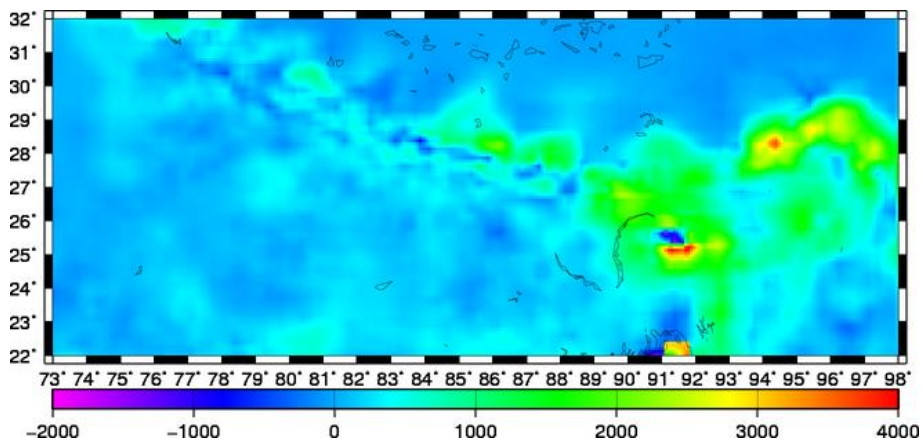(a) APHRODITE (mm year^{-1})
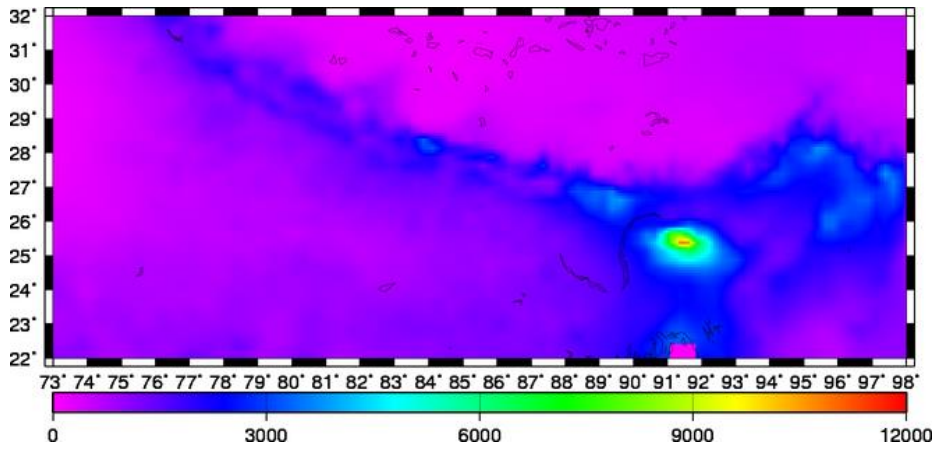
(b) WFD (mm year^{-1})
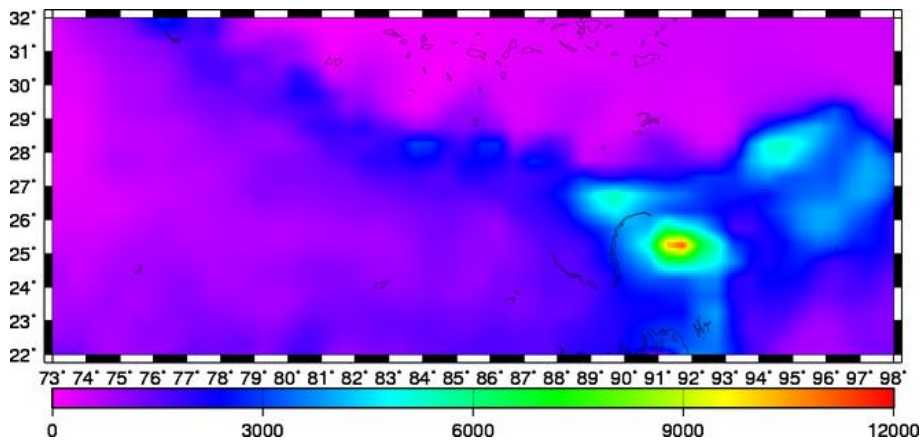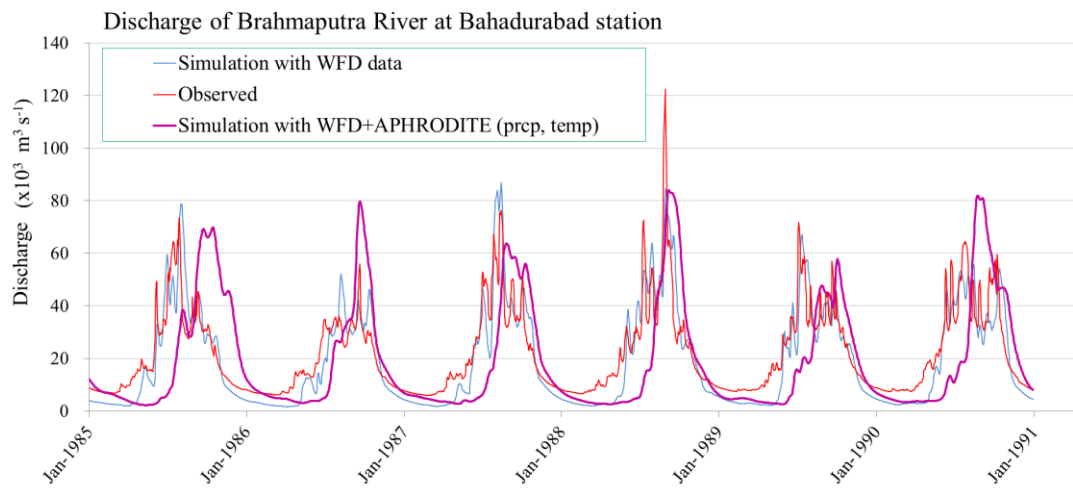

(c) WFD - APHRODITE (mm year^{-1})

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3 Supplement Figure S1 Spatial distribution of annual (1988) precipitation of the (a) WFD and

4 the (b) APHRODITE over entire GBM basin and (c) difference between two data.

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Supplement Figure S2 Time series plot of simulated discharge using both (i) complete dataset from the WFD and (ii) combination of precipitation and temperature data from the APHRODITE dataset and other metrological variables from the WFD

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