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Projected streamflow and sediment supply under changing climate to the coast of the Kalu River Basin in tropical Sri Lanka over the 21st century

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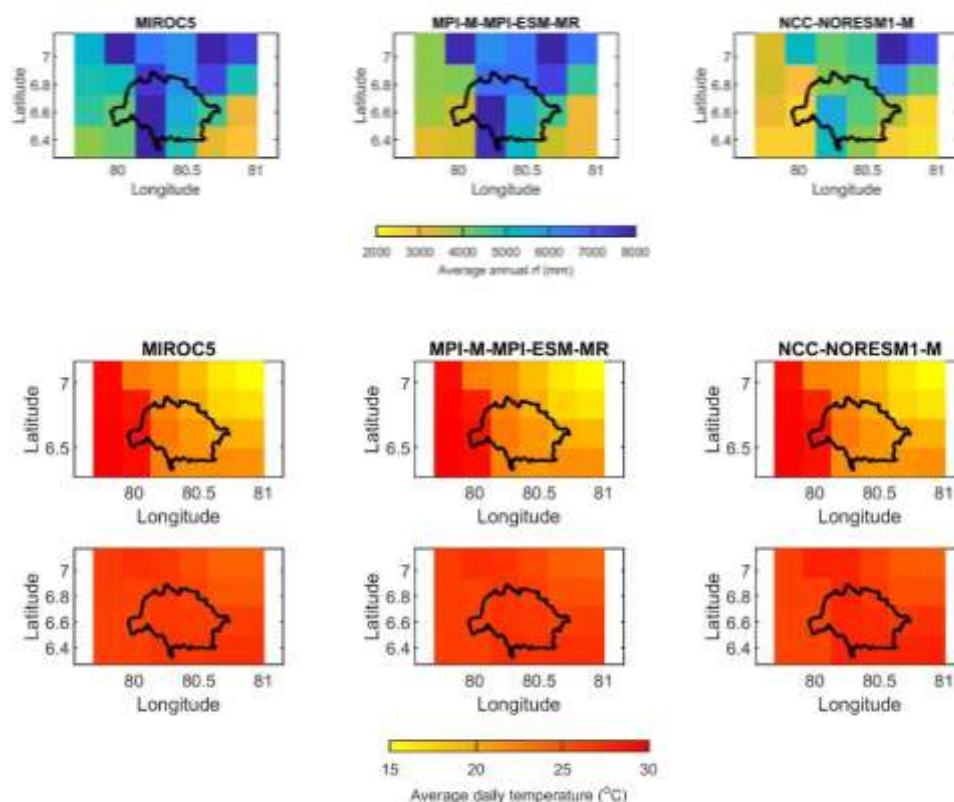
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Supplementary Materials

Figure S1: Gridded average annual precipitation, minimum and maximum temperatures respectively from three RCMs over the Kalu River Basin from 1991 to 2005



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Figure S2: Average monthly precipitation from three RCMs over the Kalu River Basin.

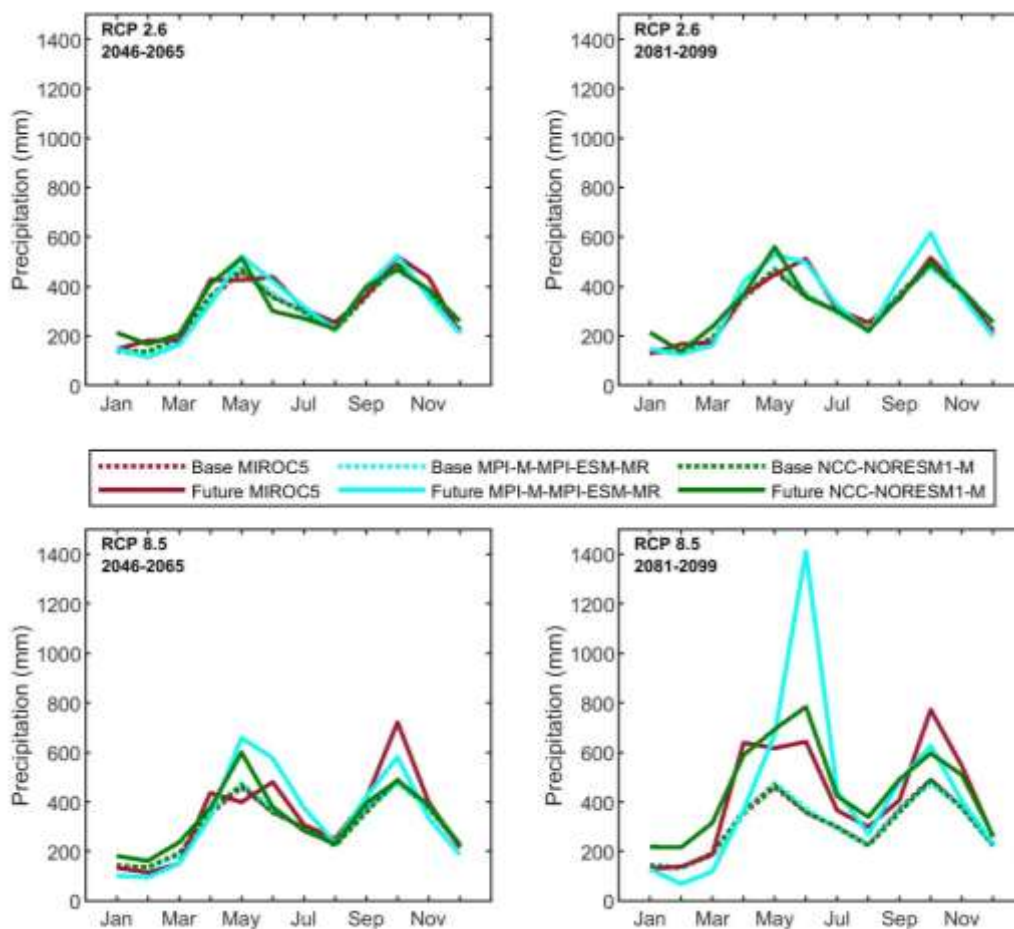


Table S1: Hydrological parameters used in model calibration. The prefixes a, v and r in the parameter name denote 'a value is added to the existing value', 'the existing value is replaced by a new one', and 'the existing value is increased or decreased relative to the existing value', respectively during calibration.

Parameter	Description	Scale	Default	Initial Range
a__CN2.mgt	SCS curve number, AMC (II)	HRU	HRU Specific	-8 - 10
v__GWQMN.gw	Threshold groundwater depth for return flow to occur (mm)	Basin	1000	0 - 1000
v__GW_DELAY.gw	Groundwater delay time (days)	Basin	31	0 - 150
v__ALPHA_BF.gw	Baseflow Alpha Factor (days)	Basin	0.048	0 - 1
v__CANMX.hru	Maximum canopy storage (mm)	Basin	0	0 - 1
v__CH_N2.rte	Manning's coefficient for the main channel	Basin	0.014	0.02 - 0.2
v__CH_K2.rte	Hydraulic conductivity of the main channel (mm/h)	Basin	0	0 - 100
r__SOL_AWC().sol	Available water capacity of a soil layer (mm H ₂ O / mm Soil)	HRU	Soil specific	-0.5 – 0.5
v__ESCO.hru	Soil evaporation compensation factor	HRU	0.95	0 - 1
v__SURLAG.hru	Surface runoff lag coefficient	HRU	2	0 - 10
v__EPCO.hru	Plant uptake compensation factor	HRU	1	0 - 1
r__OV_N.hru	Manning's coefficient for overland flow	HRU	HRU Specific	0 – 0.5
v__GW_REVAP.gw	Groundwater "revap" coefficient	Basin	0.02	0.02 - 0.2
v__REVAPMN.gw	Threshold water depth in a shallow aquifer for "revap" or percolation to occur (mm)	Basin	750	0 -1000
v__CH_EROD.rte	Channel erodibility factor	Reach	0	0 – 1
v__CH_COV2.rte	Channel cover factor	Reach	0	0 – 1
v__SPCON.rte	Liner parameter for calculating the maximum amount of sediment that can be re-entrained during channel sediment routing	Reach	0.0001	0.0001 - 0.002
v__USLE_P.mgt	USLE support practice factor	HRU	HRU	0 - 1
v__USLE_C.plant.dat	USLE cover factor	plant	plant	0.001 – 0.3

