Table R4.1: Ksat (mm/h) measured in the field and values reported Rawls et al. (1982) which are used for the uncalibrated runs, including the calibrated Ksat values for our closure relation and the benchmark model.

Unit type	Number of measurements	min	max	mean	Standard deviation	values used in this study (Rawls et al., 1982)	Calibrated values in proposed closure relation	Calibrated values in benchmark closure relation
Alluvial fan (coarse)	201	9	125	76	25	4.3	51.8	860
Alluvial fan (fine)	126	15	125	64	26	2.3	27.8	460
colluvium	10	22	101	67	22	2.3	27.8	460
River plain	60	10	125	87	29	4.3	51.8	860

Table R4.2: Sensitivity of our closure relation evaluated as percent change in total discharge volume compared to the standard runs

catchment	change in model parameters (%)	% change in total discharge volume				
		Ks	Hf	mc	LAI	Ic
L	-25	11.95	6.36	-5.32	2.46	2.48
	25	-6.93	-3.51	4.9	-2.31	-2.31
M	-25	14.07	8.48	-4.99	1.52	1.54
	25	-8.48	-5.06	6.45	-1.2	-1.2
S	-25	18.36	11.05	-5.63	0.64	0.62
	25	-10.25	-6.59	5.51	-0.65	-0.63

Ks= saturated hydraulic conductivity; Hf= matric suction at the wetting front; mc= moisture content; LAI = leaf area index; Ic = interception capacity per leaf area

Table R4.3: Sensitivity of the benchmark model evaluated as percent change in total discharge volume compared to the standard runs

catchment	% change in model parameters	% change in total discharge volume				
		Ks	Hf	mc	LAI	Ic
L	-25	13.79	8.38	-5.36	2.83	2.9
	25	-8.36	-4.87	4.33	-2.73	-2.72
M	-25	17.17	11.92	-7.7	1.74	1.77
	25	-9.84	-6.66	9.52	-1.25	-1.25
S	-25	25.96	20.01	-9.89	0.71	0.71
	25	-12.47	-9.04	13.32	-0.72	-0.7

Ks= saturated hydraulic conductivity; Hf= matric suction at the wetting front; mc= moisture content; LAI = leaf area index; Ic = interception capacity per leaf area