

Assessing Long-Term Hydrologic Impact of Climate Change Using an Ensemble Approach and Comparison with Global Gridded Model—A Case Study on Goodwater Creek Experimental Watershed

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Water Supplement

Supplemental Table S1. List of the model used for impact assessment.

SN	Model	SN	Model
1	bcc-csm1-1.1.rcp26	25	ipsl-cm5a-mr.1.rcp26
2	bcc-csm1-1.1.rcp45	26	ipsl-cm5a-mr.1.rcp45
3	bcc-csm1-1.1.rcp60	27	ipsl-cm5a-mr.1.rcp60
4	bcc-csm1-1.1.rcp85	28	ipsl-cm5a-mr.1.rcp85
5	ccsm4.1.rcp26	29	miroc-esm.1.rcp26
6	ccsm4.2.rcp26	30	miroc-esm.1.rcp45
7	ccsm4.1.rcp45	31	miroc-esm.1.rcp60
8	ccsm4.2.rcp45	32	miroc-esm.1.rcp85
9	ccsm4.1.rcp60	33	miroc-esm-chem.1.rcp26
10	ccsm4.2.rcp60	34	miroc-esm-chem.1.rcp45
11	ccsm4.1.rcp85	35	miroc-esm-chem.1.rcp60
12	ccsm4.2.rcp85	36	miroc-esm-chem.1.rcp85
13	gfdl-esm2g.1.rcp26	37	miroc5.1.rcp26
14	gfdl-esm2g.1.rcp45	38	miroc5.1.rcp45
15	gfdl-esm2g.1.rcp60	39	miroc5.1.rcp60
16	gfdl-esm2g.1.rcp85	40	miroc5.1.rcp85
17	gfdl-esm2m.1.rcp26	41	mri-cgcm3.1.rcp26
18	gfdl-esm2m.1.rcp45	42	mri-cgcm3.1.rcp45
19	gfdl-esm2m.1.rcp60	43	mri-cgcm3.1.rcp60
20	gfdl-esm2m.1.rcp85	44	mri-cgcm3.1.rcp85
21	ipsl-cm5a-lr.1.rcp26	45	noresm1-m.1.rcp26
22	ipsl-cm5a-lr.1.rcp45	46	noresm1-m.1.rcp45
23	ipsl-cm5a-lr.1.rcp60	47	noresm1-m.1.rcp60
24	ipsl-cm5a-lr.1.rcp85	48	noresm1-m.1.rcp85

Water Supplement

Supplemental Table S2. Monthly additive factor used for the bias correction of maximum temperature using delta method for all the models

Model SN.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	-0.90	-0.31	0.91	-1.04	-1.12	-1.11	-1.64	-1.50	-2.09	-2.31	-0.19	-0.34
2	-1.24	-0.82	0.58	-1.04	-1.04	-1.04	-1.89	-1.49	-1.99	-2.37	-0.87	-0.55
3	-1.27	-0.46	0.67	-0.91	-1.36	-1.18	-1.95	-1.49	-1.95	-2.75	-0.69	-0.57
4	-0.97	-0.45	0.38	-1.27	-1.09	-1.15	-1.95	-1.69	-2.06	-2.41	-0.37	-0.28
5	-0.64	-1.01	-0.76	-1.19	-1.80	-1.29	-1.66	-1.37	-1.65	-1.49	-0.56	-1.42
6	-0.84	-0.96	-0.53	-1.37	-1.75	-1.40	-2.04	-1.68	-1.70	-1.89	-1.12	-1.35
7	-0.62	-0.84	-0.50	-1.09	-1.94	-1.33	-1.91	-1.47	-1.85	-1.81	-0.65	-1.30
8	-0.76	-0.39	-0.24	-1.11	-1.91	-1.28	-2.04	-1.57	-1.87	-1.77	-1.13	-1.05
9	-1.04	-1.05	-1.05	-1.09	-1.95	-1.19	-1.72	-1.50	-1.64	-1.54	-0.79	-1.59
10	-0.65	-0.03	-0.22	-1.15	-1.91	-1.47	-2.18	-1.76	-1.82	-1.93	-0.81	-1.13
11	-1.24	-1.32	-0.63	-1.15	-1.90	-1.26	-1.87	-1.41	-1.67	-1.78	-0.64	-1.48
12	-0.64	-0.23	-0.23	-1.17	-1.96	-1.62	-2.07	-1.73	-1.93	-1.93	-1.12	-1.35
13	-0.21	-0.99	-0.05	-1.29	-1.71	-1.25	-1.91	-1.43	-1.59	-2.25	-0.84	-1.32
14	-0.39	-1.21	-0.33	-1.18	-1.65	-1.24	-1.70	-1.27	-1.67	-2.42	-0.89	-0.83
15	-0.36	-1.26	0.26	-1.13	-1.62	-1.42	-1.84	-1.23	-1.59	-2.06	-0.91	-1.14
16	-0.37	-0.96	-0.11	-1.27	-1.77	-1.25	-1.75	-1.23	-1.60	-2.17	-0.82	-1.02
17	-0.64	-0.86	-0.06	-0.81	-1.66	-1.22	-1.64	-1.23	-1.62	-1.97	-1.07	-1.13
18	-0.21	-0.83	-0.03	-0.80	-1.64	-1.09	-1.61	-1.18	-1.46	-1.87	-0.76	-1.43
19	-0.45	-1.11	-0.26	-0.76	-1.49	-1.23	-1.66	-1.15	-1.73	-1.82	-0.84	-1.28
20	-0.27	-1.25	-0.07	-0.73	-1.76	-1.30	-1.78	-1.19	-1.62	-1.98	-0.65	-1.11
21	-0.70	-1.70	0.21	-1.25	-2.01	-1.80	-2.06	-1.45	-1.66	-2.02	-1.39	-1.11
22	-0.99	-1.78	0.25	-1.41	-2.09	-1.79	-2.08	-1.51	-1.66	-1.97	-1.63	-1.35
23	-0.87	-1.55	0.06	-1.23	-2.04	-1.74	-2.05	-1.41	-1.57	-2.13	-1.20	-1.18
24	-0.93	-1.47	0.56	-1.01	-1.94	-1.69	-2.05	-1.51	-1.77	-2.00	-1.12	-1.06
25	-0.88	-0.40	-0.26	-1.06	-1.84	-1.65	-1.58	-1.49	-1.84	-1.50	-0.65	-0.66
26	-0.69	-0.36	-0.30	-0.84	-1.79	-1.48	-1.43	-1.33	-1.81	-1.14	-0.60	-0.70
27	-0.74	-0.64	-0.34	-1.03	-2.00	-1.60	-1.65	-1.44	-1.74	-1.44	-0.65	-0.79

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28	-0.79	-0.46	-0.19	-1.13	-1.73	-1.52	-1.54	-1.46	-1.69	-1.45	-0.61	-0.46
29	-1.01	-0.84	-0.28	-1.25	-1.25	-1.32	-1.60	-1.42	-1.70	-1.32	-0.52	-1.12
30	-1.44	-0.87	-0.06	-1.20	-1.24	-1.36	-1.75	-1.76	-2.06	-1.47	-0.73	-1.28
31	-1.03	-1.07	-0.32	-1.18	-1.21	-1.37	-1.66	-1.47	-1.93	-1.33	-0.36	-0.96
32	-1.05	-0.70	-0.26	-1.30	-1.30	-1.28	-1.69	-1.60	-1.90	-1.47	-0.47	-1.36
33	-0.35	0.02	0.38	-1.01	-1.57	-1.08	-1.43	-1.36	-1.36	-1.56	-0.37	-1.50
34	-0.41	-0.17	0.32	-0.57	-1.44	-1.13	-1.40	-1.27	-1.39	-1.50	-0.48	-1.13
35	-0.38	0.00	0.50	-0.87	-1.65	-1.08	-1.40	-1.36	-1.60	-1.71	-0.58	-1.06
36	-0.30	-0.10	0.58	-0.77	-1.71	-1.15	-1.49	-1.38	-1.29	-1.47	-0.56	-1.19
37	-0.53	0.19	0.17	-0.89	-1.41	-1.25	-1.73	-1.43	-1.57	-1.93	-0.91	-0.93
38	-0.92	-0.17	-0.03	-1.19	-1.56	-1.23	-1.68	-1.52	-1.69	-2.15	-0.89	-1.17
39	-0.59	0.13	0.14	-1.06	-1.53	-1.34	-1.74	-1.48	-1.83	-2.00	-0.76	-0.86
40	-0.83	-0.35	-0.07	-1.15	-1.47	-1.23	-1.70	-1.47	-1.68	-2.10	-0.95	-0.99
41	-0.91	-0.89	0.38	-1.09	-1.21	-1.13	-1.48	-1.29	-0.71	-0.97	0.02	-0.86
42	-0.64	-0.66	0.00	-0.88	-1.32	-1.11	-1.48	-1.31	-0.83	-0.98	-0.20	-0.65
43	-0.93	-0.80	0.21	-0.94	-1.33	-0.98	-1.38	-1.24	-0.85	-1.05	-0.10	-0.75
44	-0.77	-0.66	-0.16	-1.06	-1.26	-1.21	-1.39	-1.22	-0.75	-1.18	-0.21	-0.90
45	-0.57	-0.89	-0.24	-0.57	-1.51	-1.26	-1.60	-1.35	-1.70	-1.38	-0.64	-0.69
46	-0.37	-0.84	-0.48	-0.61	-1.22	-1.24	-1.58	-1.52	-1.80	-1.57	-0.58	-0.43
47	-0.62	-0.92	-0.36	-0.51	-1.42	-1.23	-1.69	-1.62	-1.81	-1.63	-0.54	-0.55
48	-0.22	-0.75	-0.34	-0.56	-1.44	-1.17	-1.55	-1.41	-1.82	-1.58	-0.54	-0.26

Water Supplement

Supplemental Table S3. Monthly additive factor used for the bias correction of minimum temperature using delta method for all the models

Model SN	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	0.36	0.83	1.95	0.54	0.62	0.30	-0.03	-0.08	-0.68	-0.44	0.91	0.95
2	0.11	0.54	1.84	0.56	0.72	0.34	-0.23	-0.10	-0.47	-0.35	0.46	0.76
3	-0.02	0.74	1.88	0.60	0.44	0.25	-0.27	-0.11	-0.61	-0.61	0.65	0.75
4	0.27	0.83	1.69	0.34	0.57	0.27	-0.32	-0.27	-0.60	-0.42	0.74	0.96
5	0.27	0.83	1.69	0.34	0.57	0.27	-0.32	-0.27	-0.60	-0.42	0.74	0.96
6	0.77	0.55	1.09	0.24	0.20	0.00	-0.36	-0.26	-0.27	0.00	0.48	0.18
7	0.98	0.44	1.11	0.49	-0.09	0.06	-0.33	-0.17	-0.47	0.22	0.84	0.20
8	0.76	0.99	1.36	0.47	0.05	0.10	-0.38	-0.17	-0.37	0.21	0.27	0.38
9	0.65	0.38	0.66	0.53	-0.10	0.18	-0.22	-0.18	-0.22	0.49	0.85	-0.02
10	0.94	1.40	1.42	0.42	0.07	-0.02	-0.45	-0.29	-0.38	-0.02	0.66	0.37
11	0.48	0.13	1.02	0.44	-0.06	0.13	-0.32	-0.07	-0.24	0.19	1.03	0.11
12	0.93	1.13	1.35	0.38	0.02	-0.18	-0.43	-0.31	-0.54	-0.04	0.40	0.16
13	1.23	0.57	1.15	0.14	-0.01	0.14	-0.30	0.01	0.16	0.02	0.93	0.37
14	1.04	0.43	1.01	0.11	0.01	0.17	-0.13	0.13	0.02	0.04	0.82	0.73
15	1.01	0.42	1.41	0.19	0.02	0.01	-0.27	0.17	0.05	0.30	0.83	0.49
16	1.05	0.56	1.10	0.05	-0.10	0.16	-0.13	0.15	0.10	0.14	0.83	0.66
17	0.74	0.26	1.34	0.55	0.05	0.33	-0.12	0.13	-0.01	0.19	0.80	0.25
18	1.13	0.31	1.34	0.56	0.15	0.46	-0.12	0.20	0.04	0.17	1.07	0.03
19	0.94	0.15	1.16	0.64	0.25	0.29	-0.10	0.28	-0.14	0.36	1.03	0.10
20	1.09	0.04	1.33	0.64	0.05	0.23	-0.18	0.24	-0.04	0.06	1.14	0.23
21	0.76	-0.09	1.41	0.49	-0.21	-0.28	-0.41	-0.02	-0.19	-0.08	0.19	0.45
22	0.49	-0.17	1.48	0.37	-0.29	-0.26	-0.44	-0.08	-0.18	0.06	0.01	0.30
23	0.62	0.10	1.37	0.52	-0.27	-0.23	-0.38	0.03	-0.07	-0.09	0.24	0.33
24	0.54	0.15	1.72	0.71	-0.16	-0.19	-0.41	-0.09	-0.28	-0.01	0.36	0.36
25	0.88	0.97	1.37	0.51	-0.02	-0.06	0.10	-0.01	-0.31	0.34	0.81	0.80
26	1.03	0.97	1.30	0.63	-0.01	0.00	0.20	0.08	-0.33	0.60	0.88	0.75
27	0.92	0.71	1.22	0.48	-0.18	-0.08	0.00	-0.04	-0.18	0.48	0.85	0.72

Water Supplement

28	0.88	0.90	1.29	0.41	0.02	-0.01	0.13	-0.04	-0.21	0.36	0.91	1.00
29	0.48	0.55	1.11	0.22	0.41	0.04	-0.09	-0.08	-0.45	0.48	0.89	0.44
30	0.25	0.64	1.43	0.26	0.39	0.05	-0.20	-0.27	-0.62	0.38	0.76	0.33
31	0.47	0.39	1.17	0.24	0.43	0.04	-0.19	-0.13	-0.55	0.53	1.04	0.62
32	0.42	0.72	1.21	0.18	0.37	0.06	-0.18	-0.16	-0.58	0.42	0.99	0.29
33	1.04	1.15	1.64	0.45	0.17	0.31	-0.03	-0.10	-0.10	0.32	1.31	0.26
34	1.08	0.95	1.52	0.77	0.23	0.22	0.00	-0.02	-0.14	0.30	1.17	0.51
35	1.13	1.12	1.73	0.53	0.03	0.31	0.04	-0.07	-0.26	0.17	1.15	0.60
36	1.22	1.14	1.73	0.64	0.04	0.21	-0.03	-0.11	-0.06	0.35	1.19	0.49
37	1.19	1.31	1.45	0.48	0.20	0.18	-0.21	-0.09	-0.08	0.16	0.69	0.72
38	0.78	0.98	1.24	0.31	0.11	0.20	-0.18	-0.17	-0.28	-0.10	0.74	0.45
39	1.08	1.31	1.42	0.42	0.10	0.11	-0.23	-0.16	-0.29	0.05	0.72	0.73
40	0.87	0.86	1.28	0.32	0.12	0.23	-0.18	-0.14	-0.15	0.00	0.65	0.65
41	0.60	0.42	1.60	0.47	0.50	0.30	0.05	0.01	0.64	0.90	1.54	0.64
42	0.91	0.67	1.27	0.70	0.38	0.32	0.05	0.01	0.59	0.92	1.24	0.77
43	0.58	0.42	1.44	0.60	0.36	0.51	0.13	0.07	0.54	0.82	1.39	0.74
44	0.71	0.59	1.15	0.50	0.45	0.24	0.11	0.12	0.63	0.73	1.28	0.66
45	1.17	0.65	1.10	0.73	0.17	0.23	-0.03	-0.06	-0.26	0.53	0.80	0.81
46	1.35	0.80	0.79	0.72	0.48	0.26	-0.05	-0.20	-0.33	0.31	0.84	0.99
47	1.18	0.61	1.04	0.79	0.26	0.27	-0.14	-0.25	-0.27	0.28	0.80	0.82
48	1.48	0.76	0.96	0.80	0.31	0.30	-0.03	-0.11	-0.38	0.44	0.89	1.17

Water Supplement

Supplemental Table S4. Monthly scaling factor used for the bias correction of precipitation using quantile mapping for gage25 datasets for all the models

Model SN.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.35	2.17	1.72	1.58	1.20	1.87	2.23	2.71	1.64	0.98	0.85	2.87
2	1.35	2.17	2.08	1.58	1.20	2.33	1.31	2.59	1.64	0.98	0.85	2.87
3	1.35	2.17	2.08	1.58	1.20	2.33	2.23	2.71	1.64	0.98	0.85	2.87
4	1.35	2.17	1.71	1.35	1.20	2.33	2.23	2.71	1.64	0.98	0.85	2.87
5	1.73	2.37	1.95	2.48	1.17	2.70	2.49	2.67	2.23	1.43	1.20	4.72
6	1.87	1.76	1.92	1.89	1.14	2.88	2.70	2.66	2.16	1.38	1.23	2.69
7	1.73	2.37	1.95	2.48	1.17	2.70	2.49	2.67	2.23	1.43	1.32	4.72
8	2.03	1.76	1.65	2.27	1.14	2.88	2.70	2.66	2.16	1.38	1.23	2.69
9	1.73	2.37	1.95	2.48	1.17	2.70	2.49	2.67	2.23	1.43	1.32	4.40
10	2.03	1.76	1.31	2.27	1.14	2.88	2.70	2.66	2.16	1.38	1.12	2.69
11	1.73	2.37	1.95	2.48	1.17	2.28	2.25	2.67	2.23	1.43	1.32	4.72
12	2.03	1.76	1.92	2.27	1.14	2.24	2.70	2.66	2.16	1.38	1.23	2.69
13	1.69	3.66	1.61	2.24	1.21	2.74	2.36	2.89	2.31	1.66	1.38	3.03
14	1.69	3.04	1.53	2.24	1.13	2.74	2.36	2.89	2.31	1.85	1.38	3.03
15	1.69	2.40	1.61	2.24	1.21	2.74	2.36	2.89	2.31	1.38	1.15	3.03
16	1.69	2.69	1.61	2.24	1.21	2.74	2.36	1.71	2.31	1.22	0.79	3.03
17	1.49	2.60	1.52	1.71	1.48	2.07	1.89	3.42	1.96	1.51	0.91	2.88
18	1.49	2.60	1.52	1.71	1.48	2.07	1.89	3.42	1.96	1.51	0.91	2.88
19	1.49	2.60	1.52	1.71	1.48	2.07	1.89	3.42	1.96	1.51	0.86	2.88
20	1.49	2.60	1.52	1.71	1.48	2.07	1.89	2.62	1.96	1.51	0.91	2.88
21	1.46	2.79	1.33	1.95	1.42	2.89	2.40	2.79	1.45	1.13	0.99	2.74
22	1.46	2.79	1.33	1.95	1.42	2.89	2.44	2.79	1.28	1.13	0.99	2.74
23	1.46	2.79	1.33	1.95	1.42	2.49	2.44	2.79	1.45	1.13	0.99	2.74
24	1.46	2.79	1.17	1.95	1.42	2.43	2.44	2.79	1.45	1.13	0.99	2.74
25	1.89	2.03	1.89	2.55	1.87	2.95	1.52	3.02	2.15	1.58	1.17	3.62
26	1.94	2.03	1.82	2.55	1.87	2.95	1.52	3.02	2.15	1.58	1.17	3.62
27	1.43	2.03	1.94	1.45	1.40	2.95	1.52	3.02	1.91	1.58	1.17	3.62

Water Supplement

28	2.06	2.03	1.94	2.55	1.30	2.95	1.52	3.02	2.15	1.58	1.17	3.62
29	1.83	1.93	1.52	1.62	1.47	3.04	2.40	3.19	1.62	1.17	1.27	2.54
30	1.83	1.93	1.52	1.62	1.47	3.04	2.40	3.19	1.62	1.17	1.41	2.54
31	1.83	1.93	1.52	1.62	1.47	3.04	2.40	3.05	1.62	1.17	1.01	2.54
32	1.83	1.93	1.52	1.62	1.47	3.04	1.84	3.19	1.62	1.17	1.27	2.50
33	1.76	2.84	1.67	2.58	1.18	2.95	2.18	2.65	1.82	1.53	1.10	3.42
34	1.76	1.84	1.75	2.58	1.18	2.95	2.18	2.65	1.82	1.53	1.05	3.42
35	1.47	2.84	1.75	2.58	1.18	2.77	2.18	2.65	1.82	1.53	1.07	2.19
36	1.55	2.84	1.75	2.51	1.18	2.95	2.18	2.65	1.82	1.53	1.10	3.42
37	1.70	3.29	1.55	2.95	1.08	2.73	2.69	2.89	2.09	1.35	0.93	3.34
38	1.70	3.29	1.55	3.20	1.08	2.73	2.69	2.89	2.09	1.35	0.93	3.34
39	1.70	3.29	1.55	3.10	1.08	2.73	2.57	2.89	2.09	1.35	0.93	2.98
40	1.70	3.29	1.55	3.20	1.08	2.73	2.69	2.89	2.09	1.35	0.93	3.34
41	1.54	1.75	1.64	2.12	1.27	3.06	2.45	3.34	2.05	2.08	1.03	4.23
42	1.54	1.75	1.64	2.12	1.27	3.88	2.45	3.26	2.05	1.60	1.11	4.23
43	1.54	1.75	1.64	2.12	1.27	3.88	2.45	2.67	2.05	2.21	1.11	4.23
44	1.54	1.75	1.64	2.12	1.27	3.88	2.45	3.34	2.05	2.21	1.11	3.87
45	1.84	2.13	1.81	1.95	1.74	2.75	1.77	2.52	2.21	1.76	1.41	3.87
46	1.84	2.13	1.81	1.95	1.74	2.75	1.77	2.52	2.21	1.76	1.37	3.87
47	1.24	2.13	1.81	1.95	1.74	2.49	1.77	2.52	2.21	1.76	1.41	3.87
48	1.84	2.13	1.81	1.95	1.74	2.75	1.77	2.52	2.05	1.74	1.39	3.87

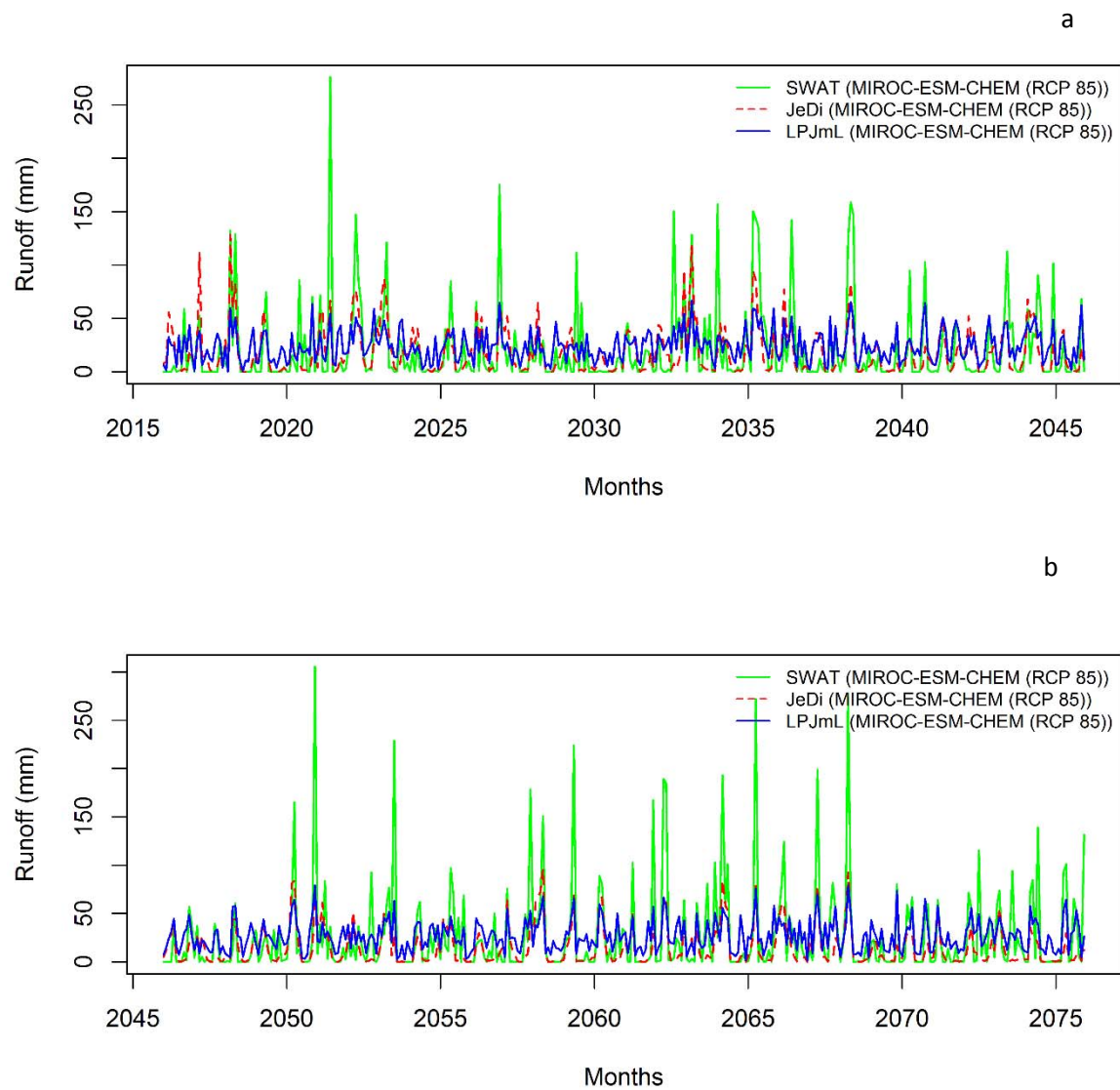
Water Supplement

Supplemental Table S5. Monthly precipitation threshold (mm) used for the bias correction of precipitation using quantile mapping for gage25 datasets for all the models

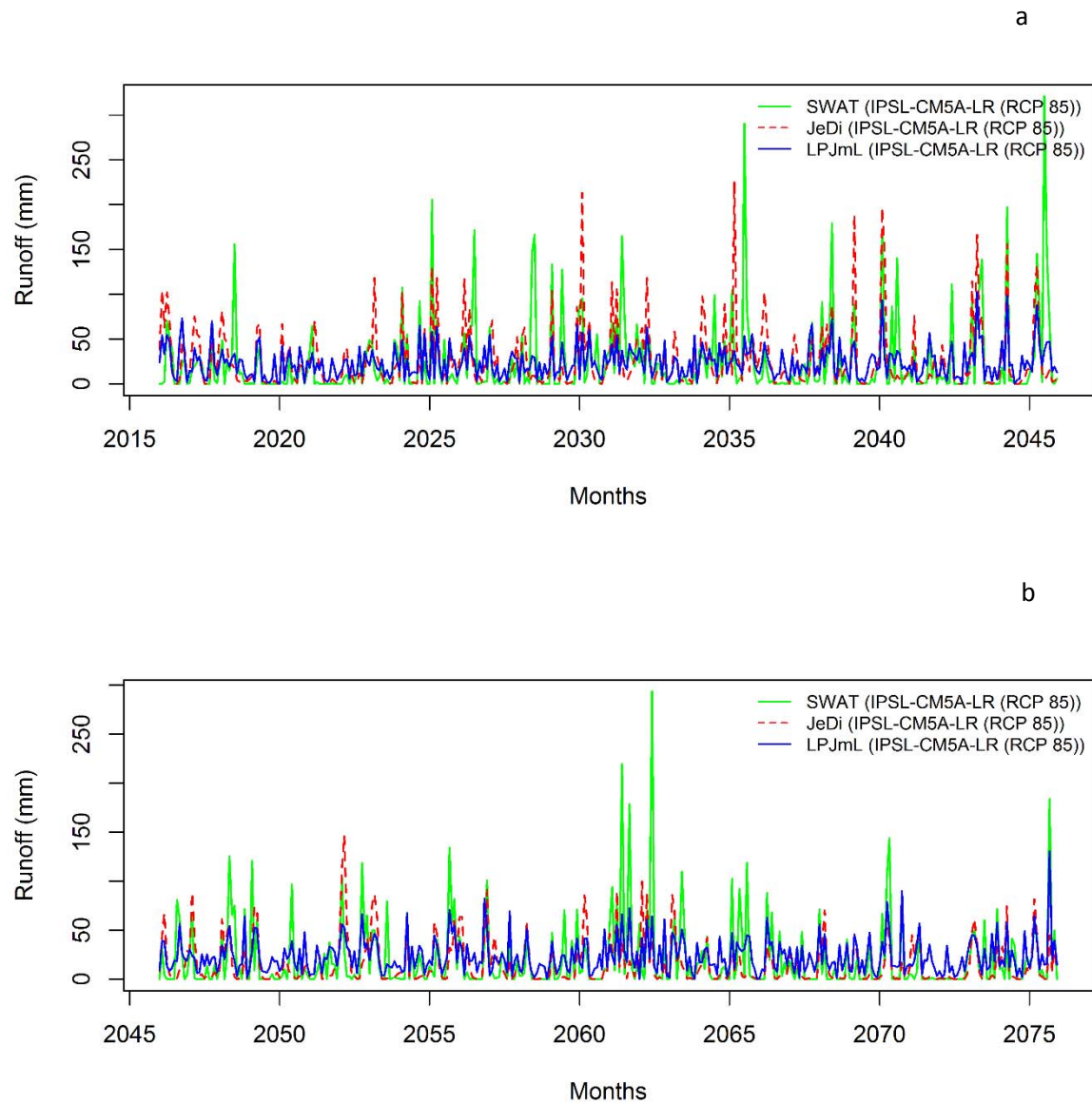
Model SN.	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1	1.32	1.81	2.10	1.93	2.71	3.55	3.57	2.46	2.27	1.20	1.84	1.60
2	1.50	1.86	2.01	2.02	2.68	3.54	3.24	2.63	2.09	1.04	1.90	1.66
3	1.32	1.87	2.07	2.10	2.62	3.55	3.23	2.69	2.43	0.98	1.83	1.57
4	1.37	1.86	2.03	1.94	2.85	3.27	3.08	2.44	2.12	1.17	2.09	1.64
5	1.27	2.26	2.12	2.49	3.27	3.87	3.86	3.33	2.84	1.97	2.09	1.73
6	1.34	2.13	2.41	2.49	2.99	4.00	3.13	3.14	3.34	1.84	1.99	1.92
7	1.25	1.88	2.18	2.48	3.32	3.75	3.41	3.34	2.88	1.90	2.00	1.56
8	1.40	1.92	2.36	2.41	2.84	4.26	3.13	3.17	3.24	1.70	2.04	1.63
9	1.31	2.11	2.18	2.58	3.35	3.91	3.91	3.29	2.59	1.83	2.07	1.66
10	1.38	1.92	2.41	2.36	2.78	4.00	3.03	3.03	3.15	1.70	2.14	1.92
11	1.09	2.09	2.34	2.44	3.31	3.73	3.75	3.31	2.72	2.03	2.13	1.59
12	1.49	1.97	2.36	2.33	2.92	4.04	3.19	3.03	3.42	1.86	1.91	1.75
13	1.39	1.48	2.10	2.61	2.67	4.14	3.69	2.64	2.14	1.12	1.97	1.89
14	1.44	1.55	2.04	2.61	2.72	3.81	3.69	2.84	2.31	0.94	2.23	1.75
15	1.38	1.48	2.23	2.61	2.76	4.24	3.69	2.85	2.41	1.09	2.06	1.99
16	1.43	1.71	2.30	2.60	2.67	4.20	3.76	2.85	2.31	1.21	2.19	1.99
17	1.33	1.99	1.94	2.67	2.87	3.84	3.70	3.61	2.29	1.23	2.02	1.69
18	1.33	1.70	2.00	2.73	2.48	3.73	3.87	3.70	2.61	1.36	1.88	1.70
19	1.34	2.07	1.94	2.75	2.56	3.47	3.76	3.37	2.53	1.24	1.96	1.70
20	1.38	1.87	1.84	2.64	2.51	3.55	3.70	3.72	2.44	1.34	1.96	1.70
21	1.39	1.50	2.70	1.97	2.59	2.79	3.74	2.69	2.59	1.90	1.59	1.46
22	1.36	1.56	2.88	1.87	2.87	2.65	3.34	2.74	2.78	1.80	1.60	1.39
23	1.26	1.52	2.63	2.05	2.62	2.79	3.35	2.74	2.78	1.76	1.72	1.58
24	1.19	1.47	2.84	1.97	2.73	2.69	3.72	2.77	2.69	1.88	1.73	1.56
25	0.89	1.98	1.62	1.90	2.48	3.35	4.03	2.68	2.93	1.59	1.82	1.89
26	0.94	1.99	1.72	2.06	2.68	3.58	4.12	2.66	3.13	1.79	1.61	1.94
27	0.98	1.97	1.73	2.00	2.62	3.57	3.96	2.82	2.63	1.66	1.64	1.90

Water Supplement

28	0.91	2.08	1.75	1.93	2.57	3.35	3.88	2.82	2.90	1.68	1.59	1.87
29	1.28	1.94	2.19	2.32	2.87	3.43	3.40	2.68	2.54	1.99	1.83	1.69
30	1.26	2.15	1.99	2.27	2.90	3.14	3.39	2.40	2.29	1.99	1.88	1.65
31	1.19	1.97	2.12	2.39	3.02	3.23	3.40	2.68	2.28	1.77	1.83	1.68
32	1.28	1.96	2.04	2.34	2.75	3.33	3.55	2.48	2.51	1.86	1.82	1.62
33	1.41	1.48	2.14	2.51	2.56	4.11	3.27	2.48	2.30	1.66	1.65	1.68
34	1.31	1.47	2.20	2.64	2.86	4.18	3.30	2.48	2.28	1.78	1.82	1.82
35	1.30	1.67	2.19	2.70	2.87	4.11	3.30	2.59	2.36	1.58	1.90	1.57
36	1.44	1.43	2.26	2.51	2.74	4.27	3.25	2.43	2.48	1.72	1.56	1.68
37	1.21	2.03	1.99	2.62	2.73	3.11	3.25	2.89	2.62	1.62	2.22	1.63
38	1.21	2.00	2.00	2.38	2.58	3.17	3.26	2.68	2.68	1.70	2.04	1.56
39	1.22	1.99	1.99	2.48	2.70	2.96	3.08	2.77	2.18	1.64	2.50	1.65
40	1.23	2.27	1.97	2.43	2.82	3.09	3.08	2.90	2.35	1.62	2.45	1.52
41	1.25	2.11	2.20	2.44	2.89	3.21	3.98	2.87	2.95	1.89	1.72	1.83
42	1.24	2.11	2.21	2.33	2.91	3.25	3.73	3.13	2.64	1.83	1.98	1.83
43	1.13	2.30	2.22	2.31	2.92	3.11	3.73	3.19	2.69	1.74	2.02	1.85
44	1.16	2.16	2.22	2.39	2.92	3.17	3.79	2.89	2.63	1.89	2.00	1.93
45	1.21	1.84	2.11	2.73	2.94	3.36	3.30	3.37	2.56	1.70	2.27	1.57
46	1.23	1.61	2.46	2.65	2.79	3.49	3.37	3.01	2.38	1.92	2.09	1.59
47	1.18	1.87	2.33	2.82	2.94	3.41	3.31	2.91	2.35	1.79	2.39	1.38
48	1.23	1.83	2.21	2.56	2.79	3.52	3.32	3.17	2.44	1.62	2.10	1.44



Supplemental Figure S6. Runoff comparison simulated monthly runoff from simulation forced with MIROC-ESM-CHEM for near future (a) and far future (b) for RCP 8.5 climate scenarios for the SWAT, LPJmL and JeDi-DGVM model.



Supplemental Figure S7. Runoff comparison of simulated monthly runoff from simulation forced with IPSL-CM5A-LR for near future (**a**) and far future (**b**) for RCP 8.5 climate scenarios for the SWAT, LPJmL and JeDi-DGVM model.