

Online supplemental material for

Climate trends and impacts on crop production in the Koshi river basin of Nepal

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This supplemental file includes:

Figure S1.

Tables S1 and S2.

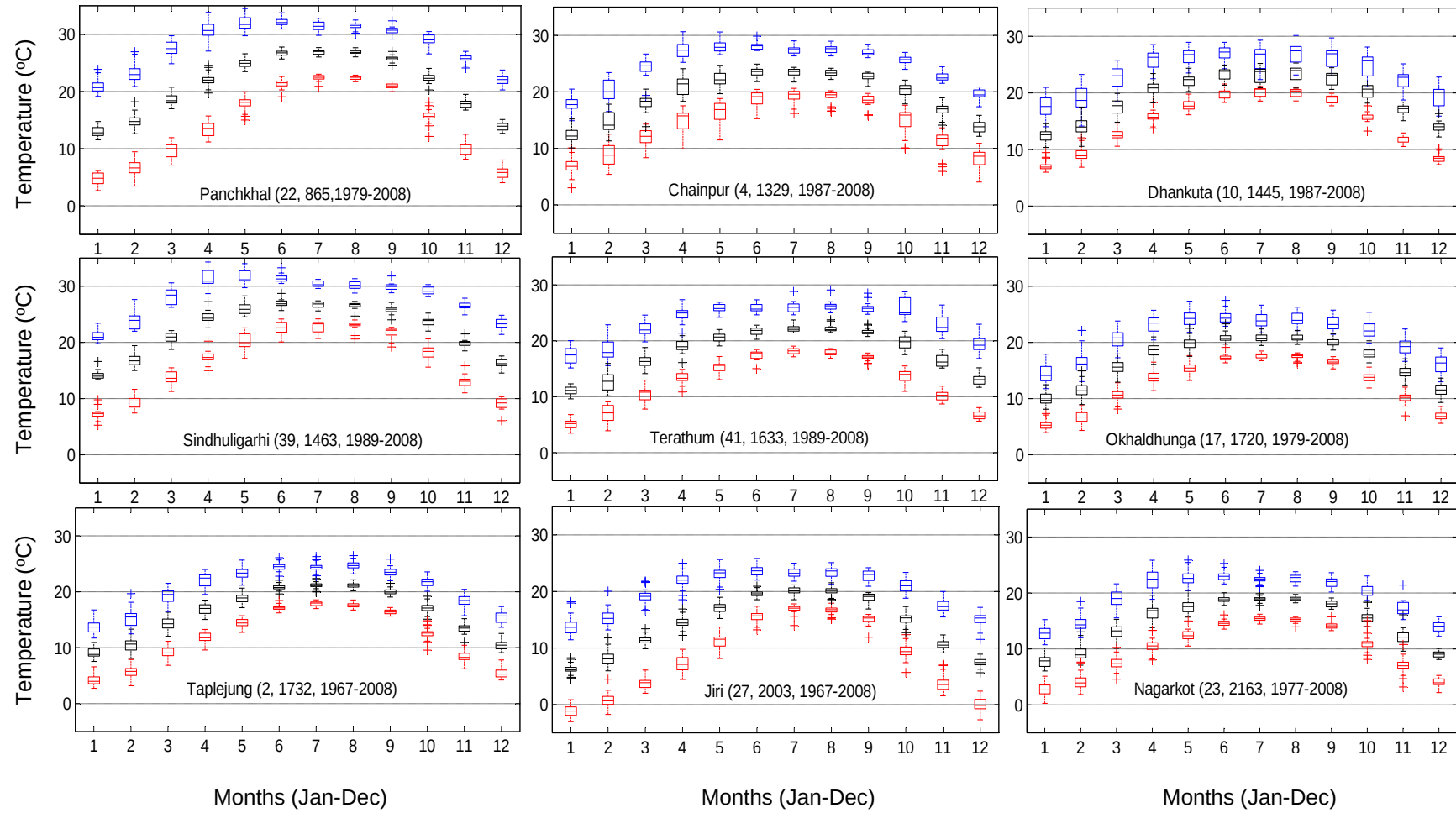


Figure S1 Box plots showing variation in minimum temperature (red), average temperature (black) and maximum temperature (blue) at different elevations (865-2163 m amsl) within the Koshi basin (x-axis represents months (Jan-Dec), y-axis represents temperature in °C, values in parenthesis represents station number, station elevation (m amsl) and data period respectively).

Table S1 Station details (data type P and T represents availability of precipitation and temperature data for the corresponding station; the number assigned to the station corresponds to Figure 1).

No	Station Name	Stn ID	Lat (°N)	Long (°E)	Altitude*	Data type	District (altitude* range)
1	Lungthung	1403	27.55	87.78	1780	P	Taplejung (670- 8586)
2	Taplejung	1405	27.35	87.67	1732	P,T	
3	Dovan	1420	27.35	87.60	763	P	
4	Chainpur	1303	27.28	87.33	1329	P,T	Sankhuwasabha (300-8470)
5	Chepuwa	1317	27.77	87.42	2590	P	
6	Tumlingtar	1321	27.28	87.22	303	P	
7	Pakhribas	1304	27.05	87.28	1680	P,T	Dhankuta (120-2438)
8	Leguwa Ghat	1305	27.13	87.28	410	P	
9	Munga	1306	27.03	87.23	1317	P	
10	Dhankuta	1307	26.98	87.35	1445	P,T	
11	Mulghat	1308	26.93	87.33	365	P	
12	Tribeni	1309	26.93	87.15	143	P	
13	Machuwa Ghat	1322	26.97	87.17	158	P	Solukhumbu (500-8848)
14	Chaurikhark	1202	27.70	86.72	2619	P	
15	Pakarnas	1203	27.43	86.57	1982	P	
16	Salleri	1219	27.50	86.58	2378	P	Okhaldhunga (359-3330)
17	Okhaldhunga	1206	27.32	86.5	1720	P,T	
18	Mane Bhanjyang	1207	27.48	86.42	1576	P	
19	Mandan	1020	27.70	85.65	1365	P	Kavre (318-3018)
20	Dolal Ghat	1023	27.63	85.72	710	P	
21	Pachuwar Ghat	1028	27.57	85.75	633	P	
22	Panchkhal	1036	27.68	85.63	865	P,T	
23	Nagarkot	1043	27.70	85.52	2163	P,T	
24	Khopasi	1049	27.58	85.52	1517	P	
25	Nagdaha	1101	27.68	86.10	850	P	Dolakha (762-7183)
26	Charikot	1102	27.67	86.05	1940	P	
27	Jiri	1103	27.63	86.23	2003	P,T	
28	Gumthang	1006	27.87	85.87	2000	P	Sindhupalchowk (845- 7080)
29	Nawalpur	1008	27.80	85.62	1592	P	
30	Chautara	1009	27.78	85.72	1660	P	
31	Dubachaur	1017	27.87	85.57	1550	P	
32	Baunepati	1018	27.78	85.57	845	P	
33	Dhap	1025	27.92	85.63	1240	P	
34	Bahrabise	1027	27.78	85.90	1220	P	Panchthar (609- 3675)
35	Memeng Jagat	1406	27.20	87.93	1830	P	
36	Phidim	1419	27.15	87.75	1205	P,T	
37	Khotang bazar	1211	27.03	86.83	1295	P	Khotang (152-3620)
38	Diktel	1222	27.22	86.80	1623	P	
39	Sindhuligarhi	1107	27.28	85.97	1463	P,T	Sindhuli (168-2787)
40	Nepal thok	1115	27.45	85.82	1098	P	Ramechhap (488-6909)
41	Terathum	1314	27.13	87.55	1633	P,T	Terathum (345-2962)

* The altitudes are in m amsl.

Table S2 Trends in growing season mean temperature and mean monthly precipitation for rice, maize and wheat (T and P represents temperature and precipitation respectively; values in the parenthesis represents the p value and the number assigned to the station corresponds to Figure 1)

No	Station name	Lat (°N)	Long (°E)	Altitude (m, amsl)	Rice (July to November)		Maize (March to August)		Wheat (November to April)	
					T (°C/dec)	P (mm/dec)	T (°C/dec)	P (mm/dec)	T (°C/dec)	P (mm/dec)
22	Panchkhal	27.68	85.63	865	0.14 (0.025)	-1.41 (0.250)	0.01 (0.100)	2.11 (0.250)	0.10 (0.250)	-0.66 (0.250)
36	Phidim	27.15	87.75	1205	0.41 (0.005)	-6.95 (0.250)	0.24 (0.250)	-6.04 (0.250)	0.87 (0.050)	-4.58 (0.250)
4	Chainpur	27.28	87.33	1329	-0.98 (0.005)	57.14 (0.050)	-1.05 (0.005)	95.76 (0.005)	-1.08 (0.005)	15.90 (0.005)
10	Dhankuta	26.98	87.35	1445	1.33 (0.005)	-6.02 (0.250)	1.24 (0.050)	-6.02 (0.250)	1.055 (0.005)	1.20 (0.250)
39	Sindhuligarhi	27.28	85.97	1463	-0.66 (0.05)	42.38 (0.250)	-1.00 (0.050)	34.00 (0.005)	0.51 (0.250)	13.79 (0.250)
41	Terathum	27.13	87.55	1633	0.97 (0.010)	133.2 (0.025)	0.60 (0.025)	155.2 (0.005)	0.88 (0.050)	17.85 (0.100)
17	Okhaldhunga	27.32	86.5	1720	0.42 (0.005)	23.00 (0.010)	0.30 (0.005)	27.80 (0.005)	0.36 (0.005)	5.20 (0.005)
2	Taplejung	27.35	87.67	1732	0.23 (0.005)	14.03 (0.050)	0.16 (0.005)	16.67 (0.025)	0.20 (0.050)	5.52 (0.025)
27	Jiri	27.63	86.23	2003	0.22 (0.005)	30.66 (0.005)	0.20 (0.005)	39.99 (0.005)	0.12 (0.100)	5.38 (0.010)