(a)

$R = 0.3$, $p = 0.3$

$y = 560 + 0.146\ x$ $R^2 = 0.088$

(b)

$R = -0.61$, $p = $ 1e-10

$y = 0.384 - 0.000518\ x$ $R^2 = 0.38$

Figure S1: **(a)** Relation between altitude and rainfall and **(b)** Correlation of distance between stations and their rainfall correlation strength. R is the correlation coefficient while p represents the probability value

Table S1: The evaluation result at Adwa station showing the historical performance of all models under each of the four evaluation metrics considered and average to all metrics

Climate Models	Climate models performance result from each evaluation metrics				Climate models rank under each metrics ('1' best to '21' poor)				
	RMSE (mm)	MAE (mm)	PBIAS (%)	Pearson Correlation (r)	RMSE rank	MAE rank	|PBIAS| rank	r rank	Average score
M1	8.8	3.9	44.7	0.14	17	20	13	19	17.3
M2	6.5	2.3	-61.5	0.25	3	2	18	6	7.3
M3	9.8	4.1	78.9	0.24	21	21	20	8	17.5
M4	8.8	3.2	14.2	0.20	16	17	5	15	13.3
M5	9.1	3.9	48.5	0.16	19	19	15	18	17.8
M6	6.7	2.7	-24.7	0.24	8	9	10	9	9.0
M7	7.1	2.8	-6.7	0.27	14	13	4	5	9.0
M8	8.9	3.5	27.9	0.19	18	18	11	17	16.0
M9	7.0	2.7	-20.2	0.23	12	10	8	10	10.0
M10	7.2	2.7	-23.8	0.21	15	11	9	12	11.8
M11	9.2	3.1	-2.4	0.19	20	16	1	16	13.3
M12	6.9	2.3	-72.4	0.14	11	3	19	20	13.3
M13	6.7	2.4	-47.4	0.21	9	7	14	13	10.8
M14	6.7	2.2	-89.8	0.14	7	1	21	21	12.5
M15	6.6	2.4	-40.9	0.27	5	6	12	4	6.8
M16	6.8	2.4	-51.4	0.22	10	5	16	11	10.5
M17	6.7	2.3	-61.5	0.21	6	4	17	14	10.3
M18	6.0	2.5	-17.0	0.39	1	8	7	1	4.3
M19	6.4	3.0	15.3	0.30	2	15	6	2	6.3
M20	6.5	2.7	-5.6	0.29	4	12	3	3	5.5
M21	7.1	2.9	3.9	0.25	13	14	2	7	9.0

N.B. The colour scale is for each column and ranges from "*green*" best to "*red*" poor skill.

Table S2: Statistical error measure values for the three-interpolation method at each evaluation points (in left side) and the weighted score of each interpolation method (in the right side).

Evaluation points	Interpolation method	RMSE	MAE	PBIAS
P1	**IDW**	235	225	26.3
	EBK	198	185	21.7
	OK	220	200	23.4
P2	**IDW**	147	135	19.8
	EBK	204	188	27.9
	OK	218	201	29.8
P3	**IDW**	160	137	-16.5
	EBK	100	82	-5.4
	OK	121	102	-8.3
P4	**IDW**	153	119	-5.9
	EBK	164	123	-7.2
	OK	155	116	-5.7
P5	**IDW**	111	97	-9.8
	EBK	83	70	-4.3
	OK	92	76	-5.5

Interpolation method	IDW	EBK	OK
P1	3	1	2
P2	1	2	3
P3	3	1	2
P4	1.7	3.0	1.3
P5	3	1	2
Average rank	2.3	1.6	2.1

N.B. "1" is the best score while "3" is the least score.

Table S3: Station level comparison result between CRU and observed rainfall data at monthly time step

Stations	RMSE	MAE	PBIAS	Pearson Correlation (r)
Hawzen	32.67	17.92	5.25	0.89
MekelleAP	41.04	24.13	-13.95	0.88
Lalibela	42.70	28.54	23.14	0.91
Maichew	44.18	28.75	-25.24	0.84
Wukro	45.09	21.99	-15.36	0.88
Adwa	46.19	26.62	-29.44	0.89
Ambagiorgis	49.00	31.52	9.58	0.90
Gonder	52.52	27.22	-10.21	0.91
Enfraz	55.63	34.25	4.91	0.92
Maksegnit	55.95	35.62	8.16	0.90
Nefasmewcha	56.19	35.78	14.46	0.88
Alamata	56.23	37.40	-16.87	0.75
Debark	69.26	35.65	-25.99	0.88
Shire	69.43	39.81	-43.85	0.88

N.B. The colour scale is for each column and ranges from "*green*" best to "*red*" poor skill. The same interpretation to Table 6.