atmosphere

MDPI

Supplementary Materials: Climatic Trends of Variable Temperate Environment: A Complete Time Series Analysis during 1980–2020

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Table S1. Statistical analysis of maximum temperature.

		Value	Standard Error	t-Value	Prob>|t|
Shalimar	Intercept	-61.86981	28.18589	-2.19506	0.03509
	Slope	0.04073	0.01408	2.89385	0.0066
Qazigund	Intercept	-13.81307	22.51495	-0.61351	0.5431
	Slope	0.01656	0.01126	1.47072	0.14939
Kokernag	Intercept	-65.29184	26.56618	-2.45771	0.01853
	Slope	0.04172	0.01328	3.14103	0.00321
Pahalgam	Intercept	-107.0137	27.46967	-3.8957	3.7357E-4
	Slope	0.06194	0.01373	4.50964	5.80274E-5
Gulmarg	Intercept	-12.85572	74.10279	-0.17348	0.86317
	Slope	0.01353	0.03705	0.36524	0.71691
Kupwara	Intercept	-70.57274	25.94697	-2.71988	0.0097
	Slope	0.04533	0.01297	3.49408	0.0012

Statistics

	Shalimar	Qazigund	Kokernag	Pahalgam	Gulmarg	Kupwara
Number of Points	36	41	41	41	41	41
Degrees of Freedom	34	39	39	39	39	39
Residual Sum of Squares	26.16838	28.36895	39.49658	42.22876	307.30554	37.67684
Pearson's r	0.44455	0.22923	0.44933	0.58544	0.05838	0.48827
R-Square (COD)	0.19763	0.05255	0.2019	0.34274	0.00341	0.23841
Adj. R-Square	0.17403	0.02825	0.18144	0.32588	-0.02214	0.21888

Summary

	Intercept		Slope		Statistics
	Value	Standard Error	Value	Standard Error	Adj. R-Square
Shalimar	-61.86981	28.18589	0.04073	0.01408	0.17403
Qazigund	-13.81307	22.51495	0.01656	0.01126	0.02825
Kokernag	-65.29184	26.56618	0.04172	0.01328	0.18144

Pahalgam	-107.0137	27.46967	0.06194	0.01373	0.32588
Gulmarg	-12.85572	74.10279	0.01353	0.03705	-0.02214
Kupwara	-70.57274	25.94697	0.04533	0.01297	0.21888

ANOVA

		DF	Sum of Squares	Mean Square	F Value	Prob>F
Shalimar	Model	1	6.44541	6.44541	8.37438	0.0066
	Error	34	26.16838	0.76966		
	Total	35	32.61379			
Qazigund	Model	1	1.5734	1.5734	2.16302	0.14939
	Error	39	28.36895	0.72741		
	Total	40	29.94235			
Kokernag	Model	1	9.99168	9.99168	9.86606	0.00321
	Error	39	39.49658	1.01273		
	Total	40	49.48827			
Pahalgam	Model	1	22.02056	22.02056	20.3369	5.80274E-5
	Error	39	42.22876	1.08279		
	Total	40	64.24932			
Gulmarg	Model	1	1.05112	1.05112	0.1334	0.71691
	Error	39	307.30554	7.87963		
	Total	40	308.35666			
Kupwara	Model	1	11.79437	11.79437	12.20858	0.0012
	Error	39	37.67684	0.96607		
	Total	40	49.47122			

Table S2. Statistical analysis of minimum temperature

Statistics

		Value	Standard Error	t-Value	Prob>|t|
Shalimar	Intercept	13.63911	17.40074	0.78382	0.43857
	Slope	-0.0034	0.00869	-0.39114	0.69814
Qazigund	Intercept	-2.9876	10.70296	-0.27914	0.78161
	Slope	0.0047	0.00535	0.87737	0.38566
Kokernag	Intercept	-28.96623	14.66615	-1.97504	0.05537
	Slope	0.01775	0.00733	2.42035	0.02026
Pahalgam	Intercept	-129.52674	23.36424	-5.5438	2.22631E-6
	Slope	0.0664	0.01168	5.68359	1.42461E-6
Gulmarg	Intercept	-29.48272	21.88555	-1.34713	0.18571
	Slope	0.016	0.01094	1.46181	0.15181
Kupwara	Intercept	-8.41016	14.36814	-0.58533	0.56169
	Slope	0.00735	0.00718	1.02278	0.31272

	Shalimar	Qazigund	Kokernag	Pahalgam	Gulmarg	Kupwara
Number of Points	36	41	41	41	41	41
Degrees of Freedom	34	39	39	39	39	39
Residual Sum of Squares	9.97352	6.41075	12.03742	30.54954	26.80503	11.5532
Pearson's r	-0.06693	0.13912	0.36137	0.67308	0.22792	0.16162
R-Square (COD)	0.00448	0.01936	0.13059	0.45304	0.05195	0.02612
Adj. R-Square	-0.0248	-0.00579	0.1083	0.43901	0.02764	0.00115

Summary

	Intercept		Slope		Statistics
	Value	Standard Error	Value	Standard Error	Adj. R-Square
Shalimar	13.63911	17.40074	-0.0034	0.00869	-0.0248
Qazigund	-2.9876	10.70296	0.0047	0.00535	-0.00579
Kokernag	-28.96623	14.66615	0.01775	0.00733	0.1083
Pahalgam	-129.52674	23.36424	0.0664	0.01168	0.43901
Gulmarg	-29.48272	21.88555	0.016	0.01094	0.02764
Kupwara	-8.41016	14.36814	0.00735	0.00718	0.00115

ANOVA

		DF	Sum of Squares	Mean Square	F Value	Prob>F
Shalimar	Model	1	0.04488	0.04488	0.15299	0.69814
	Error	34	9.97352	0.29334		
	Total	35	10.0184			
Qazigund	Model	1	0.12653	0.12653	0.76977	0.38566
	Error	39	6.41075	0.16438		
	Total	40	6.53728			
Kokernag	Model	1	1.8081	1.8081	5.85807	0.02026
	Error	39	12.03742	0.30865		
	Total	40	13.84552			
Pahalgam	Model	1	25.30376	25.30376	32.30315	1.42461E-6
	Error	39	30.54954	0.78332		
	Total	40	55.8533			
Gulmarg	Model	1	1.46869	1.46869	2.13688	0.15181
	Error	39	26.80503	0.68731		
	Total	40	28.27372			
Kupwara	Model	1	0.30988	0.30988	1.04607	0.31272
	Error	39	11.5532	0.29624		
	Total	40	11.86309			

Table S3. Statistical analysis of rainfall.

		Value	Standard Error	t-Value	Prob>|t|
Shalimar	Intercept	1924.66731	8162.03517	0.23581	0.815
	Slope	-0.55723	4.07587	-0.13672	0.89206
Qazigund	Intercept	11962.82021	7487.38816	1.59773	0.11818
	Slope	-5.37526	3.74363	-1.43584	0.15902
Kokernag	Intercept	4638.67213	6879.37027	0.67429	0.50411
	Slope	-1.7915	3.43962	-0.52084	0.60542
Pahalgam	Intercept	9672.05087	6176.8735	1.56585	0.12546
	Slope	-4.20517	3.08838	-1.36161	0.18114
Gulmarg	Intercept	13496.01882	7991.62737	1.68877	0.09924
	Slope	-6.0784	3.99574	-1.52122	0.13627
Kupwara	Intercept	8251.25784	6067.60314	1.35989	0.18168
	Slope	-3.58206	3.03375	-1.18074	0.24486

Statistics

	Shalimar	Qazigund	Kokernag	Pahalgam	Gulmarg	Kupwara
Number of Points	36	41	41	41	41	41
Degrees of Freedom	34	39	39	39	39	39
Residual Sum of Squares	2194371.36	3137343.02	2648492.08	2135200.80	3574141.64	2060324.57
Pearson's r	-0.02344	-0.22407	-0.08311	-0.21303	-0.23667	-0.18578
R-Square (COD)	5.49434E-4	0.05021	0.00691	0.04538	0.05601	0.03451
Adj. R-Square	-0.02885	0.02585	-0.01856	0.0209	0.03181	0.00976

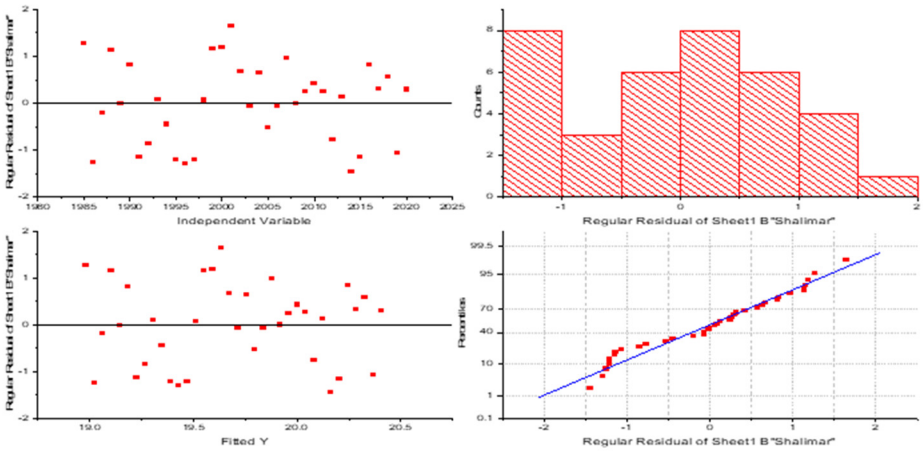
Summary

	Intercept		Slope		Statistics
	Value	Standard Error	Value	Standard Error	Adj. R-Square
Shalimar	1924.66731	8162.03517	-0.55723	4.07587	-0.02885
Qazigund	11962.82021	7487.38816	-5.37526	3.74363	0.02585
Kokernag	4638.67213	6879.37027	-1.7915	3.43962	-0.01856
Pahalgam	9672.05087	6176.8735	-4.20517	3.08838	0.0209
Gulmarg	13496.01882	7991.62737	-6.0784	3.99574	0.03181
Kupwara	8251.25784	6067.60314	-3.58206	3.03375	0.00976

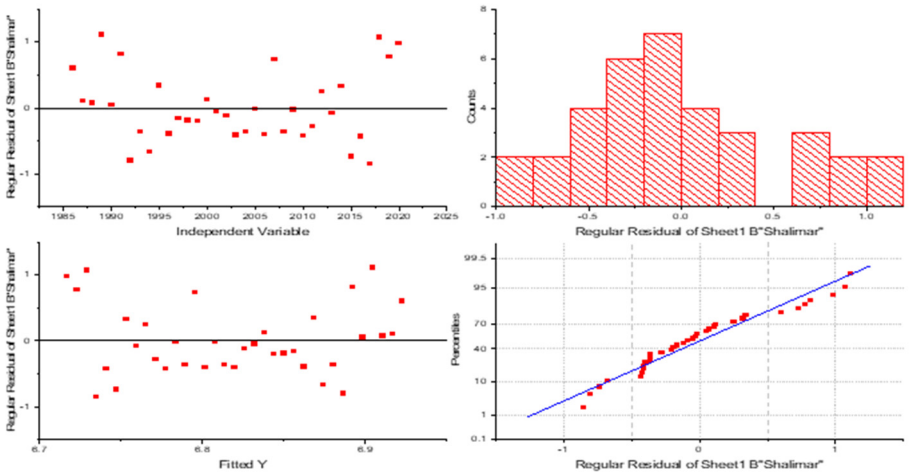
ANOVA

		DF	Sum of Squares	Mean Square	F Value	Prob>F
Shalimar	Model	1	1206.32575	1206.32575	0.01869	0.89206
	Error	34	2194371.36175	64540.33417		
	Total	35	2195577.6875			
Qazigund	Model	1	165848.31289	165848.31289	2.06164	0.15902
	Error	39	3137343.01686	80444.69274		
	Total	40	3303191.32976			
Kokernag	Model	1	18422.33489	18422.33489	0.27128	0.60542
	Error	39	2648492.08072	67910.05335		

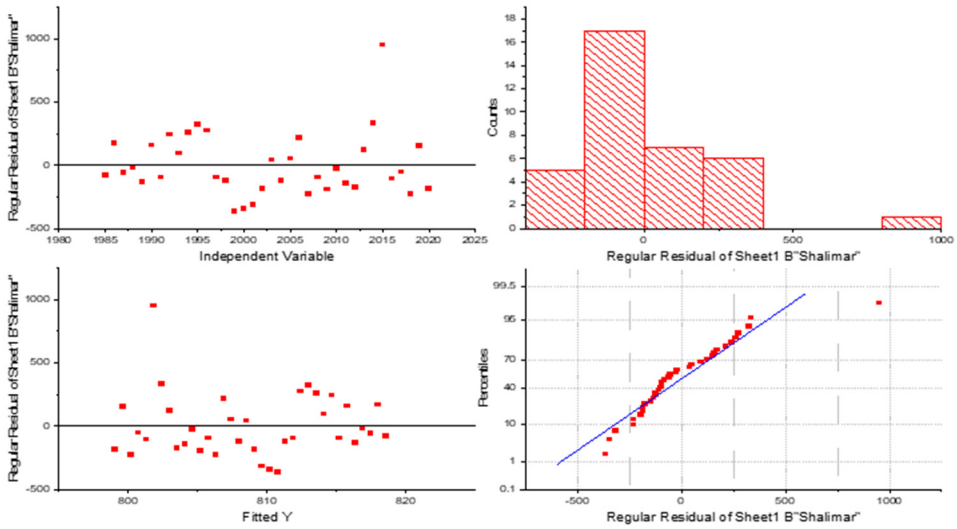
	Total	40	2666914.41561			
Pahalgam	Model	1	101503.23367	101503.23367	1.85398	0.18114
	Error	39	2135200.79608	54748.73836		
	Total	40	2236704.02976			
Gulmarg	Model	1	212075.27875	212075.27875	2.3141	0.13627
	Error	39	3574141.63686	91644.65736		
	Total	40	3786216.91561			
Kupwara	Model	1	73650.64826	73650.64826	1.39414	0.24486
	Error	39	2060324.57369	52828.83522		
	Total	40	2133975.22195			



(a). Residual graph of Maximum Temperature (1980–2020), Shalimar**.**

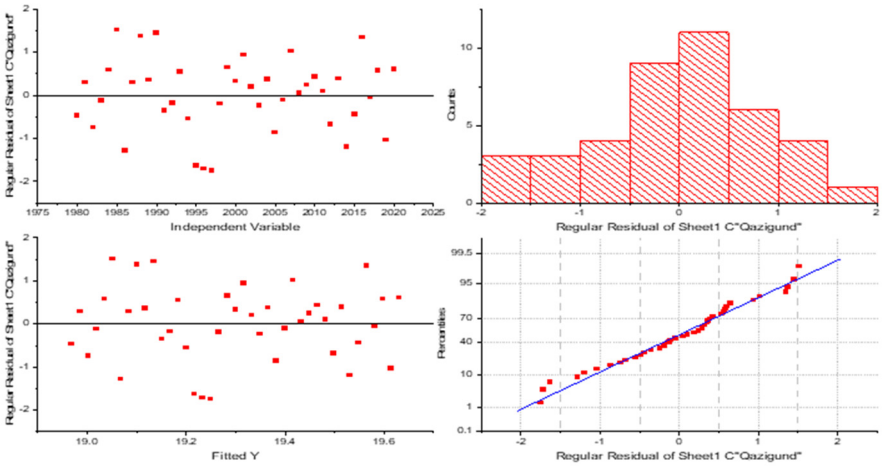


(b). Residual graph of Minimum Temperature (1980-2020), Shalimar.

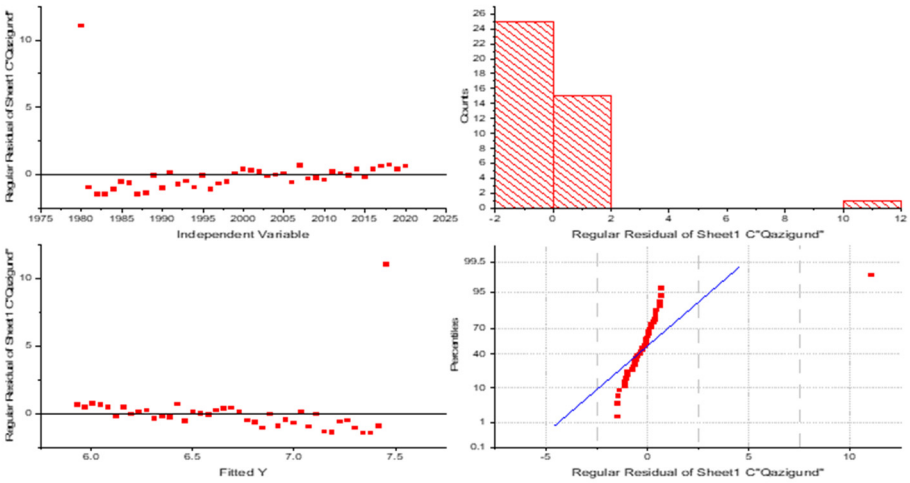


(c). Residual graph of Rainfall (1980-2020), Shalimar**.**

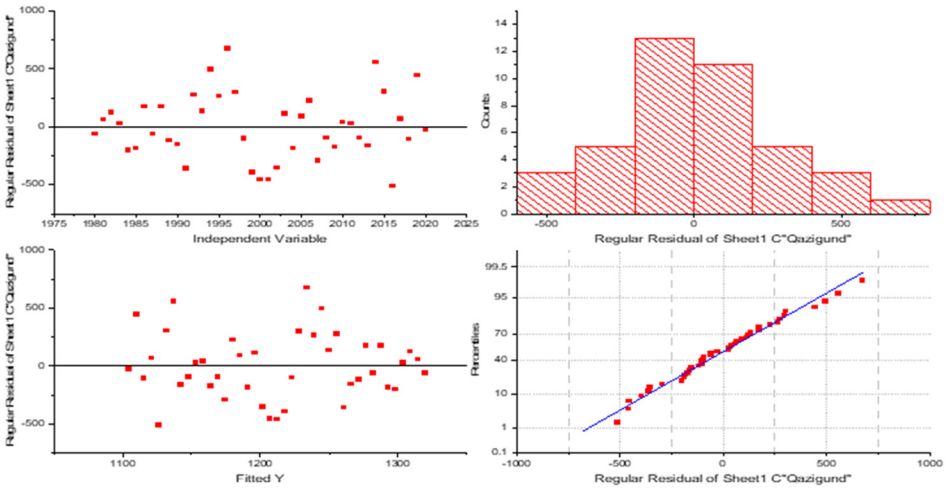
Figure S1. Residual graph of temperature and rainfall of Shalimar.



(a). Residual graph of Maximum Temperature (1980-2020), Qazigund.

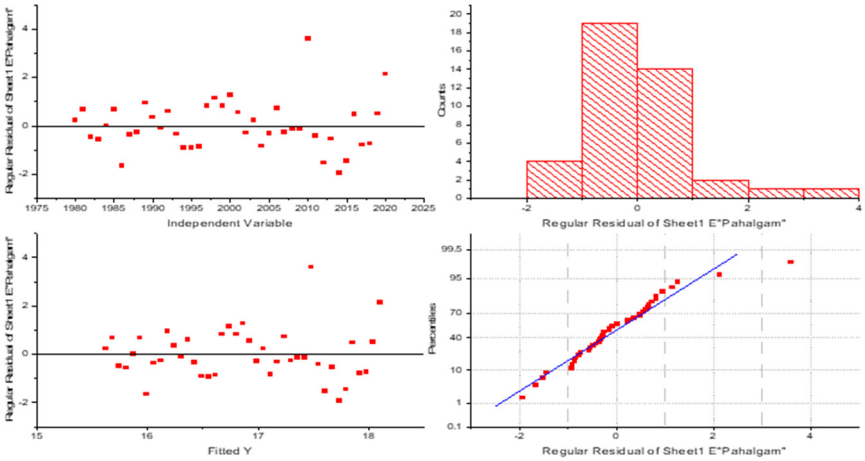


(b) Residual graph of Minimum Temperature (1980-2020), Qazigund.

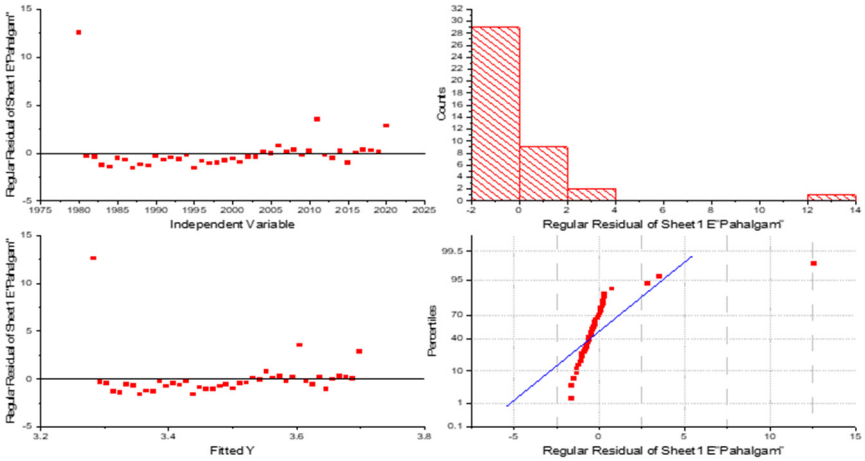


(c) Residual graph of rainfall (1980-2020), Qazigund.

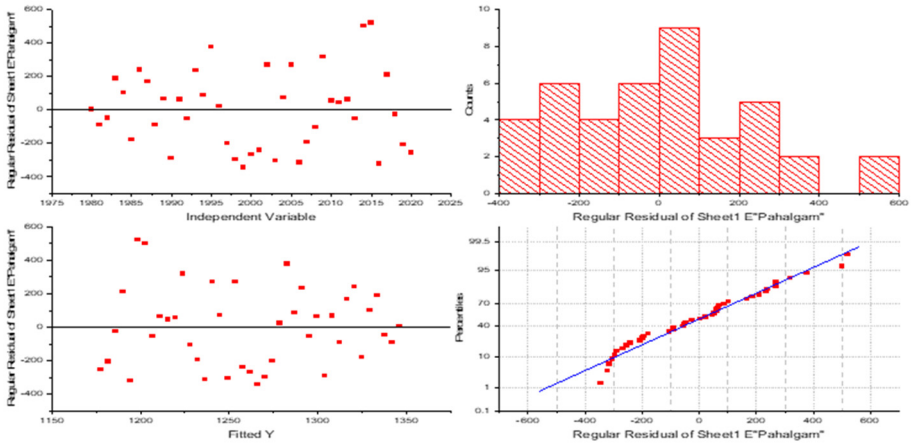
Figure S2 Residual graph of temperature and rainfall of Qazigund.



(a). Residual graph of Maximum Temperature (1980-2020), Pahalgam.

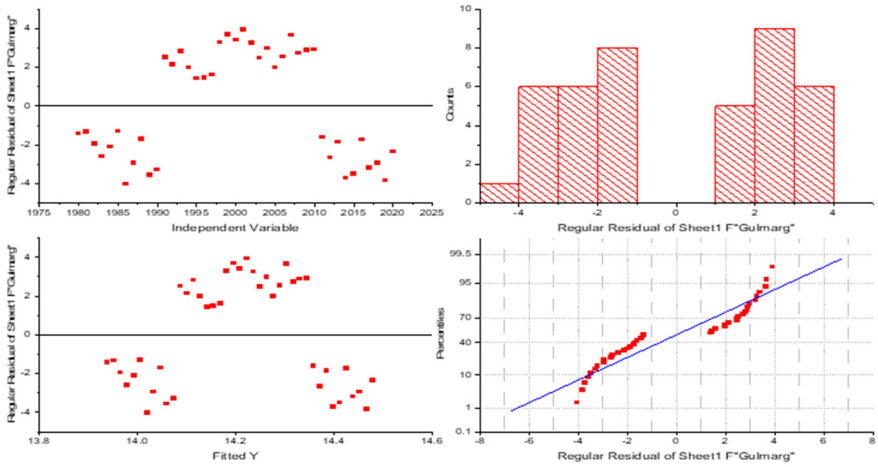


(b). Residual graph of Minimum Temperature (1980–2020), Pahalgam.

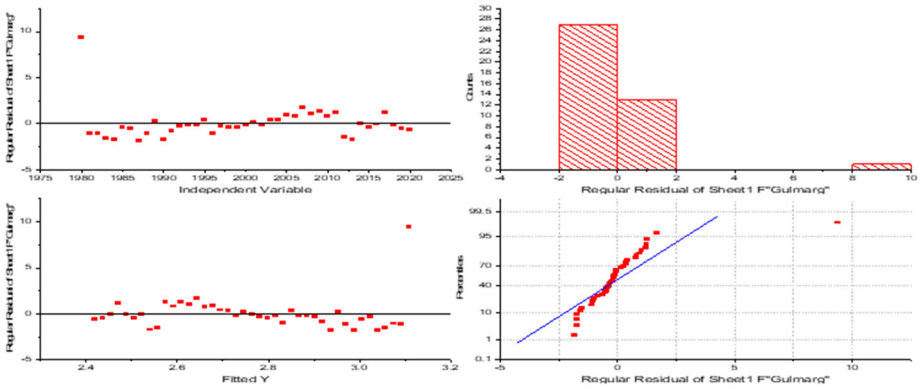


(c). Residual graph of Rainfall (1980-2020), Pahalgam.

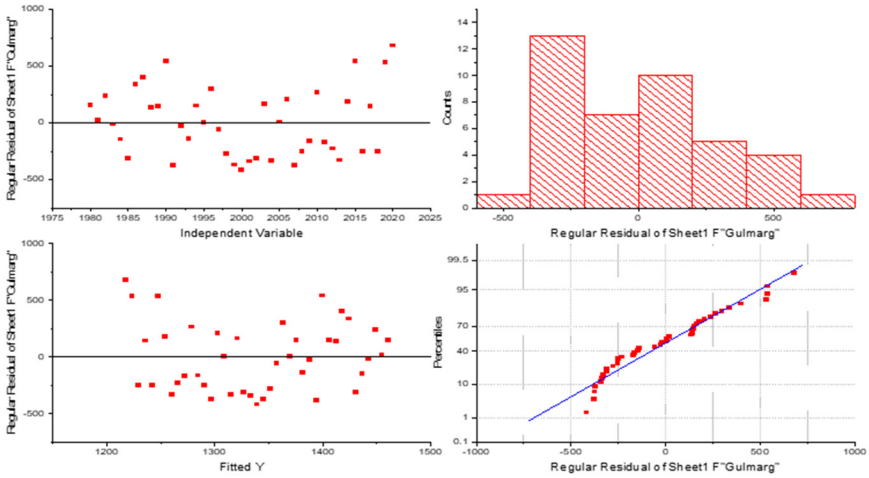
Figure S3. Residual graph of temperature and rainfall of Pahalgam.



(a). Residual graph of Maximum Temperature (1980–2020), Gulmarg.

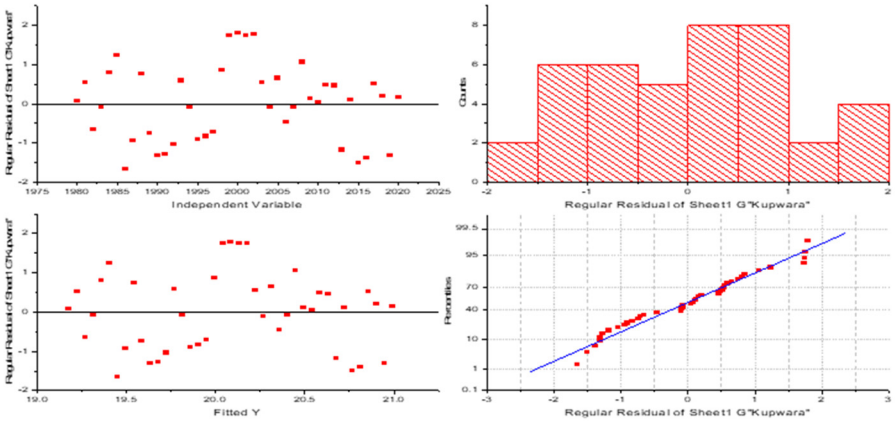


(b). Residual graph of Minimum Temperature (1980-2020), Gulmarg.

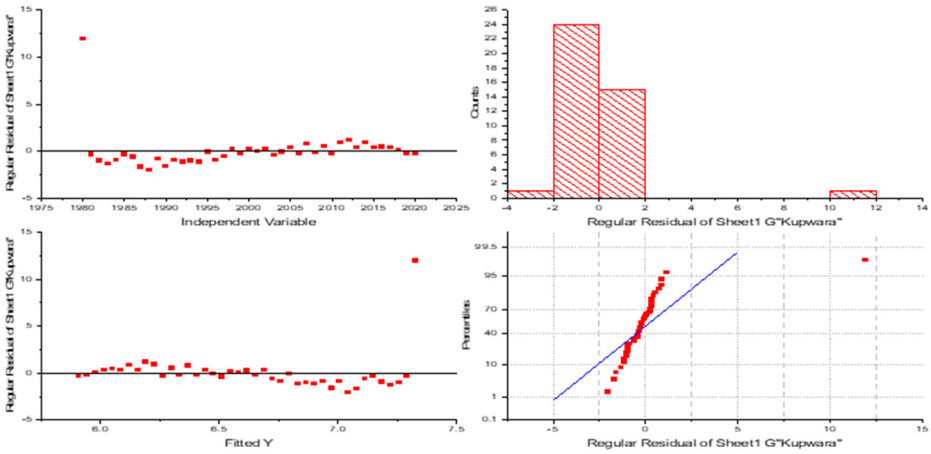


(c). Residual graph of Rainfall (1980-2020), Gulmarg.

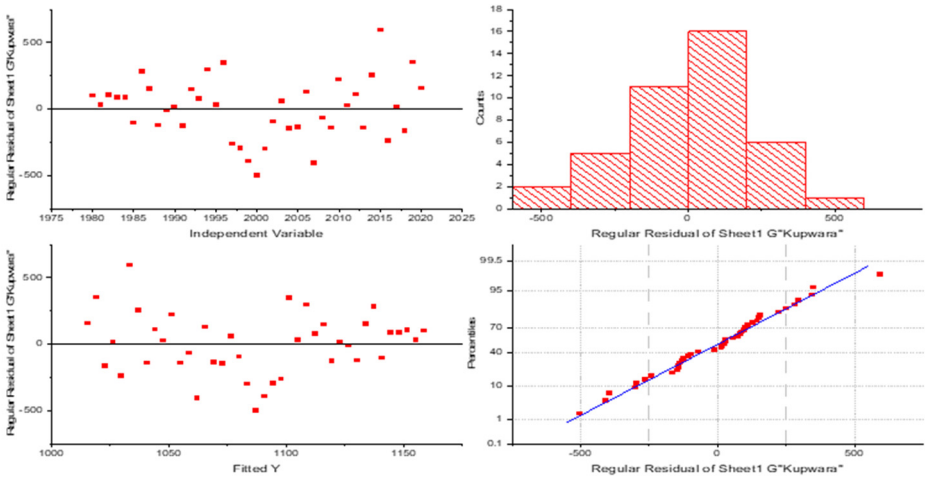
Figure S4. Residual graph of temperature and rainfall of Gulmarg.



(a). Residual graph of Maximum Temperature (1980-2020), Kupwara.

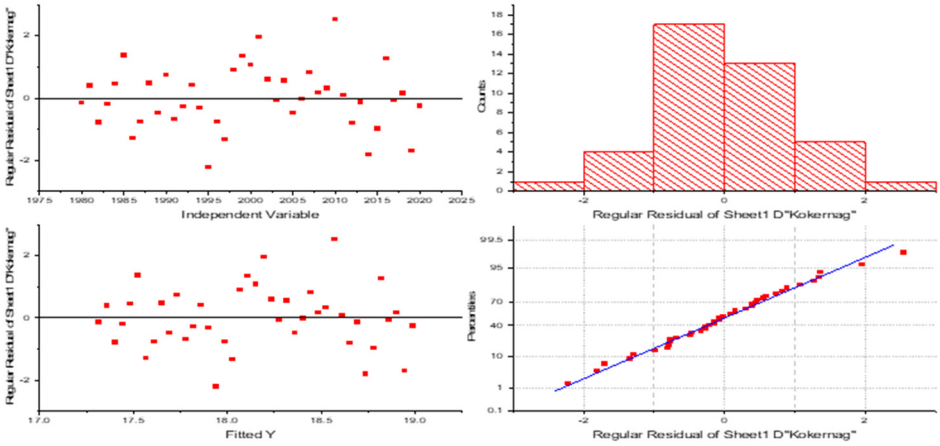


(b). Residual graph of Minimum Temperature (1980-2020), Kupwara.

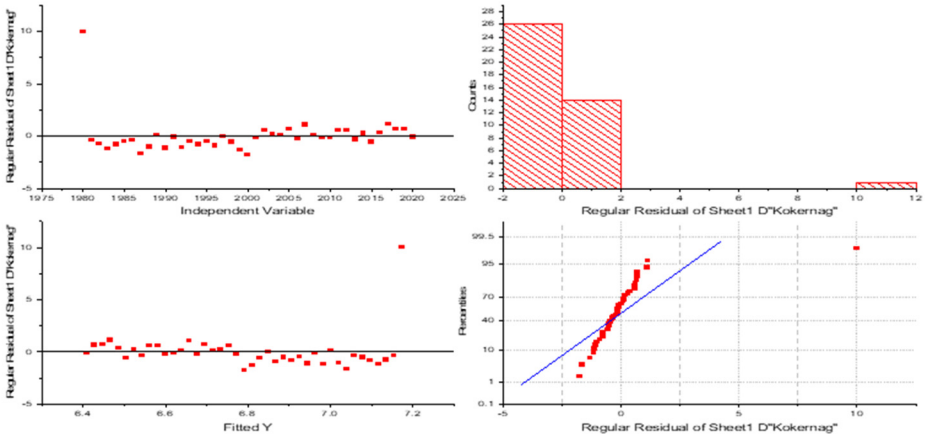


(c) Residual graph of Rainfall (1980-2020), Kupwara.

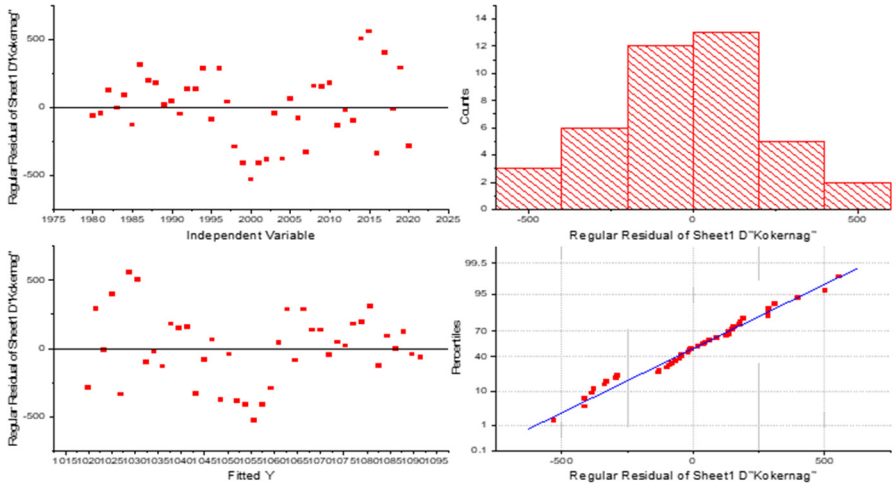
Figure S5. Residual graph of temperature and rainfall of Kupwara.



(a). Residual graph of Maximum Temperature (1980-2020), Kokernag.



(b). Residual graph of Minimum Temperature (1980-2020), Kokernag.



(c). Residual graph of Maximum Temperature (1980-2020), Kokernag.

Figure S6. Residual graph of temperature and rainfall of Kokernag.

Table S4. Statistical analysis of maximum temperature, Kashmir valley.

		Value	Standard Error	t-Value	Prob>|t|
Kashmir Valley Max. Temp	Intercept	1924.66731	8162.03517	0.23581	0.815
	Slope	-0.55723	4.07587	-0.13672	0.89206
Kashmir Valley Min. Temp	Intercept	11962.82021	7487.38816	1.59773	0.11818
	Slope	-5.37526	3.74363	-1.43584	0.15902
Kashmir Valley Rainfall	Intercept	4638.67213	6879.37027	0.67429	0.50411
	Slope	-1.7915	3.43962	-0.52084	0.60542

Statistics

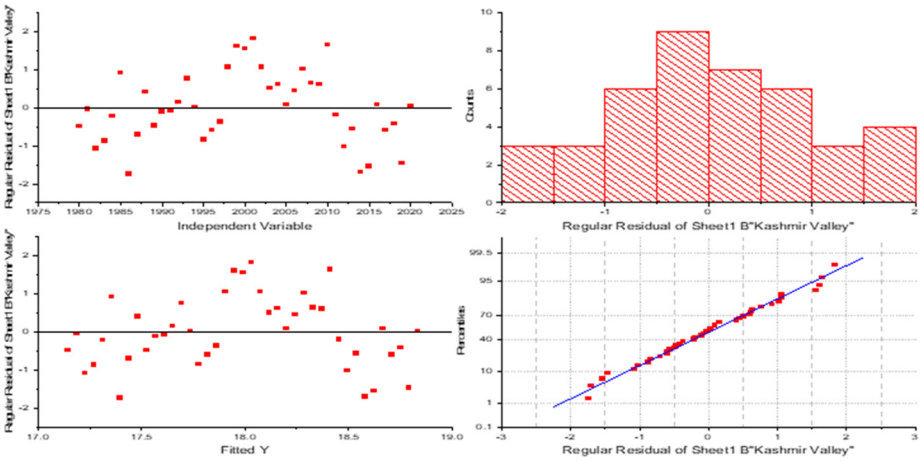
	Kashmir Valley Max. Temp	Kashmir Valley Min. Temp	Kashmir Valley Rainfall
Number of Points	36	41	41
Degrees of Freedom	34	39	39
Residual Sum of Squares	2194371.36175	3137343.01686	2648492.08072
Pearson's r	-0.02344	-0.22407	-0.08311
R-Square (COD)	5.49434E-4	0.05021	0.00691
Adj. R-Square	-0.02885	0.02585	-0.01856

Summary

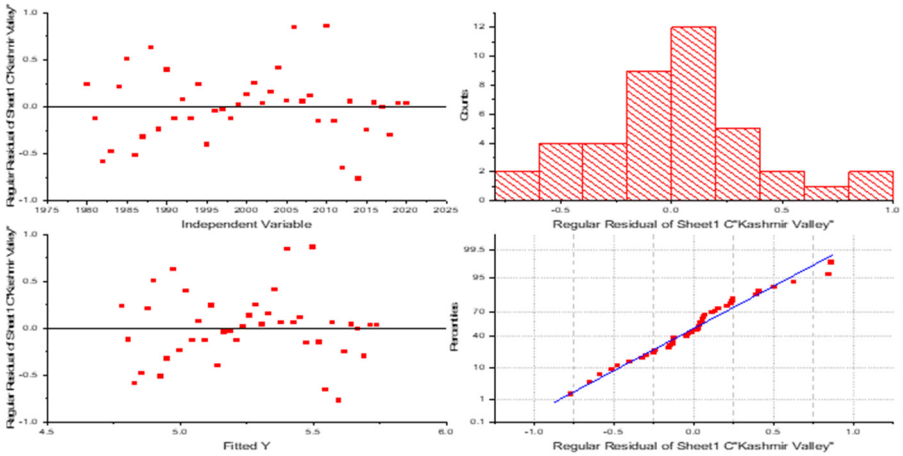
	Intercept		Slope		Statistics
	Value	Standard Error	Value	Standard Error	Adj. R-Square
Kashmir Valley Max. Temp	1924.66731	8162.03517	-0.55723	4.07587	-0.02885
Kashmir Valley Min. Temp	11962.82021	7487.38816	-5.37526	3.74363	0.02585
Kashmir Valley Rainfall	4638.67213	6879.37027	-1.7915	3.43962	-0.01856

ANOVA

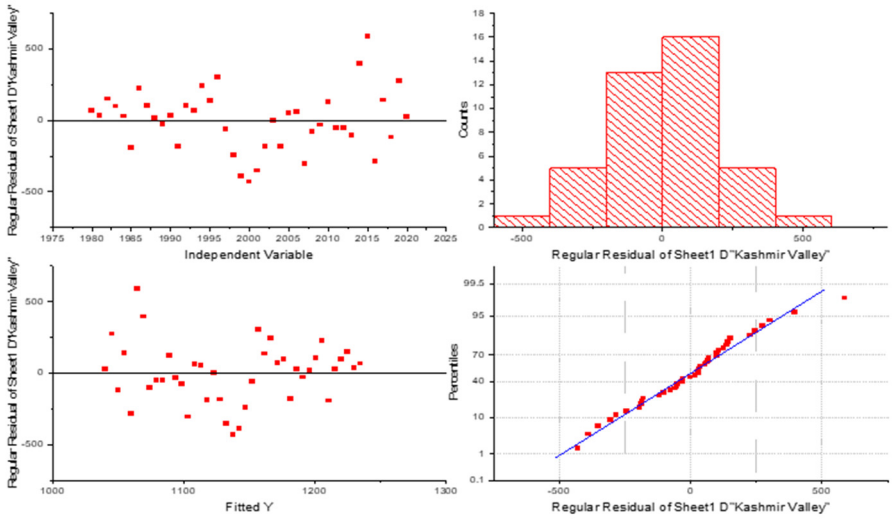
		DF	Sum of Squares	Mean Square	F Value	Prob>F
	Model	1	1206.32575	1206.32575	0.01869	0.89206
	Error	34	2194371.36175	64540.33417		
Kashmir Valley Max. Temp	Total	35	2195577.6875			
	Model	1	165848.31289	165848.31289	2.06164	0.15902
	Error	39	3137343.01686	80444.69274		
Kashmir Valley Min. Temp	Total	40	3303191.32976			
	Model	1	18422.33489	18422.33489	0.27128	0.60542
	Error	39	2648492.08072	67910.05335		
Kashmir Valley Rainfall	Total	40	2666914.41561			



(a). Residual graph of Maximum Temperature (1980-2020), Kashmir valley.



(b). Residual graph of Minimum Temperature (1980-2020), Kashmir valley.



(c) Residual graph of Rainfall (1980-2020), Kashmir valley.

Figure S7. Residual graph of temperature and rainfall of Kashmir.