Supplementary Materials: Spring Season in Western Nepal Himalaya is not yet Warming: A 400-Year Temperature Reconstruction Based on Tree-Ring Widths of Himalayan Hemlock (Tsuga dumosa)

Sugam Aryal [1,*], Narayan Prasad Gaire [2], Nawa Raj Pokhrel [3], Prabina Rana [4], Basant Sharma [5], Deepak Kumar Kharal [5], Buddi Sagar Poudel [5], Nita Dyola [6], Ze-Xin Fan [2], Jussi Grießinger [1] and Achim Bräuning [1]

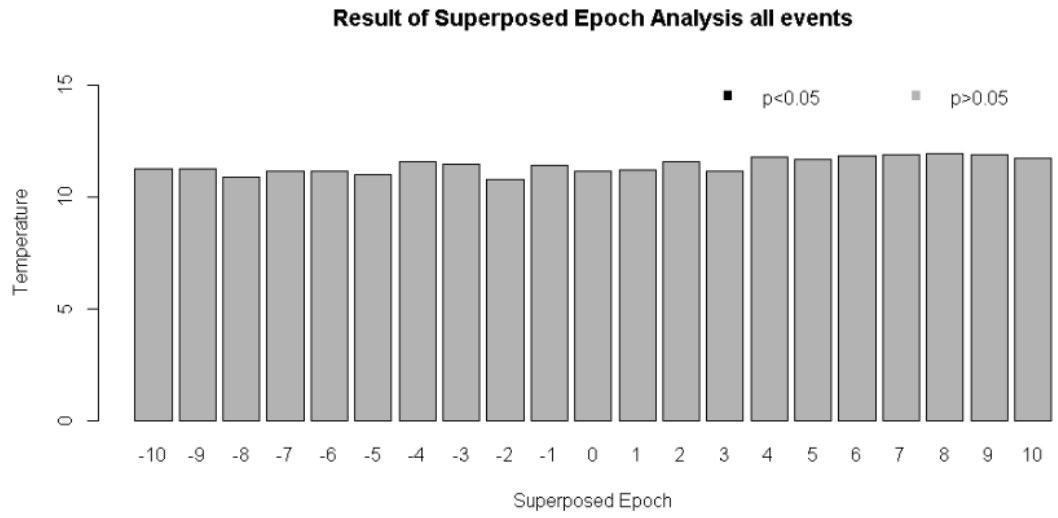

Figure S1. Result of Superposed Epoch Analysis of volcanic events in 1815, 1883 and 1991 on reconstructed temperature.

Table S1. Comparison of chronology statistics of different detrending methods.

SN	Detrending methods	Total rbar	Within tree rbar	Between tree rbar	Effective rbar	EPS	SNR
1	SSF-NegExp	0.238	0.695	0.221	0.235	0.922	11.341
2	SSF-Spline	0.16	0.629	0.156	0.165	0.887	7.881
3	ModNegExp	0.158	0.634	0.154	0.162	0.885	7.715
4	Spline_20	0.25	0.724	0.246	0.255	0.932	13.727
5	Spline_30	0.234	0.721	0.229	0.239	0.926	12.533
6	Spline_50	0.219	0.709	0.215	0.224	0.92	11.527
7	Spline_60	0.207	0.7	0.202	0.211	0.915	10.705

Table S2. Leave-one-out calbration and verification statistics using diffrent detrending methods with Mar-May temperature

SN	Detrending methods	r	R^2	R^2 adj.	RMSE (cal)	F-value	p-value (F)	DW-value	p-value (DW)	Sign +	Sign -	pmt	RE	RMSE (ver)
1	SSF-NegExp	-0.622	0.387	0.369	0.929	21.539	0.00005	2.055	0.53531	27	9	3.348	0.308	0.96
2	SSF-Spline	-0.617	0.38	0.362	0.935	20.872	0.000062	2.049	0.53008	29	7	2.64	0.295	0.969
3	ModNegExp	-0.612	0.375	0.356	0.94	20.38	0.000073	2.027	0.5041	30	6	2.499	0.299	0.967
4	Spline_20	-0.431	0.186	0.162	1.072	7.774	0.008617	1.523	0.07486	26	10	0.32	0.096	1.098
5	Spline_30	-0.521	0.271	0.249	1.015	12.635	0.001136	1.776	0.24787	27	9	1.325	0.19	1.039
6	Spline_50	-0.595	0.354	0.335	0.955	18.647	0.000129	2.006	0.49003	27	9	2.76	0.28	0.98
7	Spline_60	-0.606	0.367	0.349	0.945	19.747	0.000089	2.022	0.50497	27	9	2.965	0.293	0.971

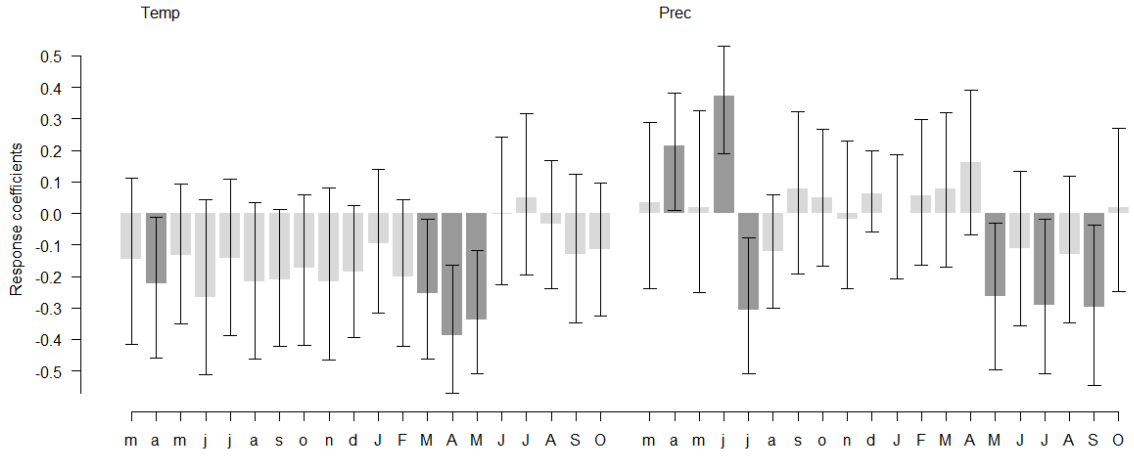

Figure S2. Relation of chronology with CRU-TS averaged temperature and precipitation of four grids around study area.

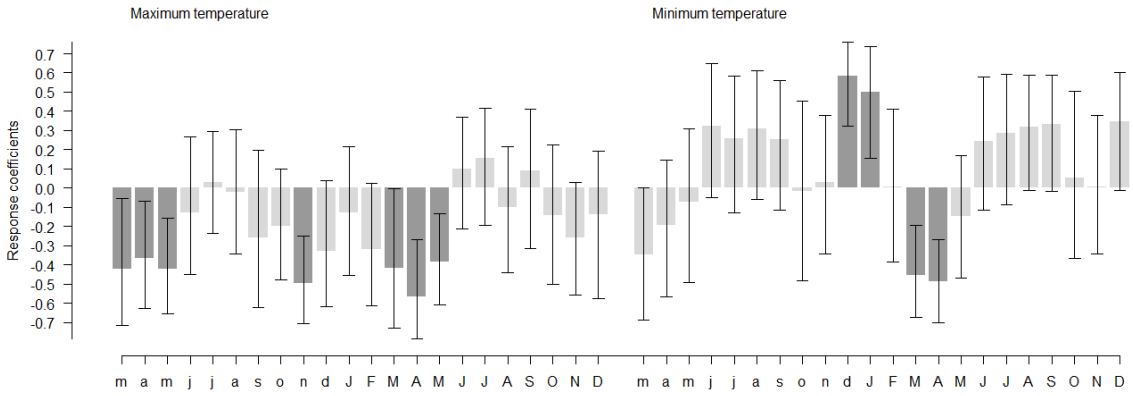

Figure S3. Correlation of chronology with maximum and minimum temperature of study area.

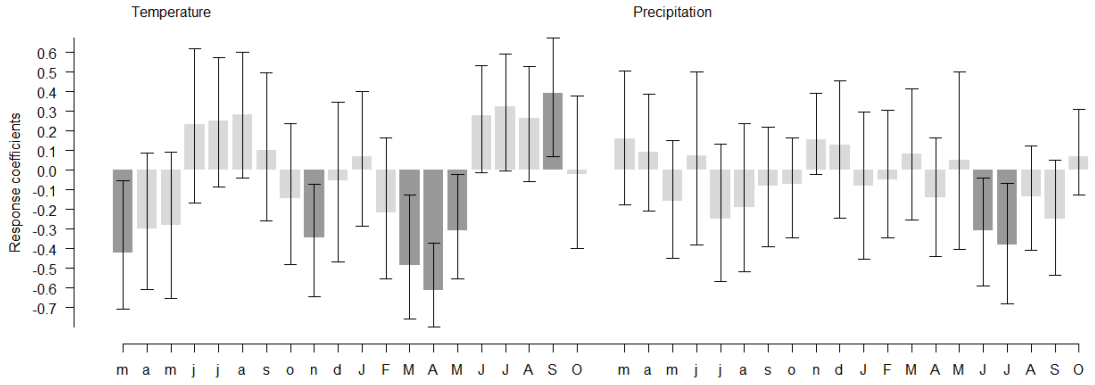

Figure S4. Correlation of chronology with the climate after removing autocorrelation using 1st difference.

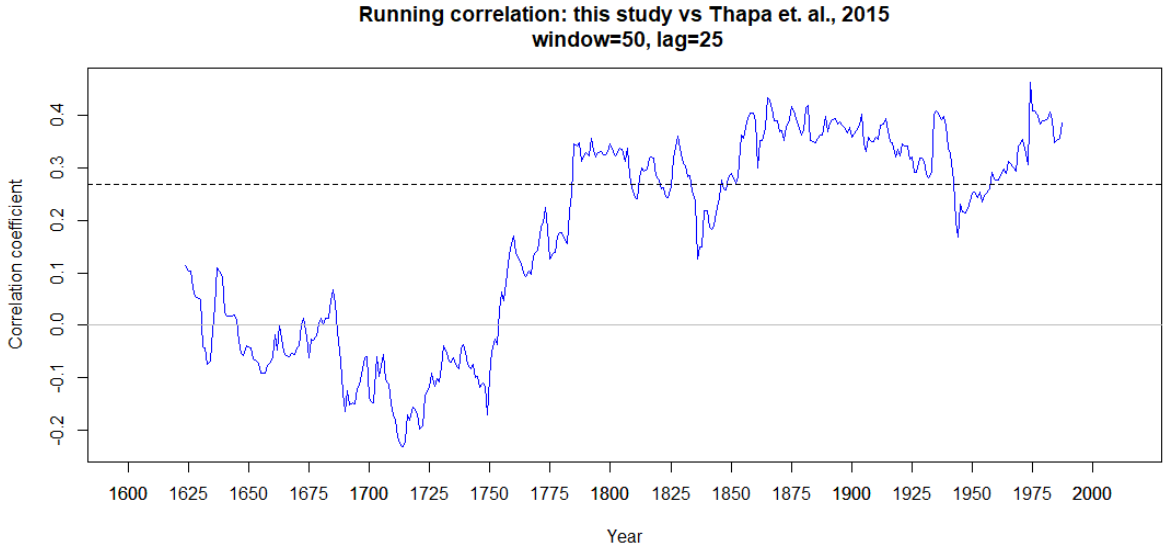

Figure S5. Running correlation between reconstructed temperatures by Thapa et al [1] and in our study.

Reference

1. Thapa, U.K.; Shah, S.K.; Gaire, N.P.; Bhuju, D.R. Spring temperatures in the far-western Nepal Himalaya since AD 1640 reconstructed from Picea smithiana tree-ring widths. *Clim. Dyn* **2015**, *45*, 2069–2081, doi:10.1007/s00382-014-2457-1.