

## Supplementary Material

for

Majeed, M., Stoica, E., Meko, D. M., Touchan, R., Sivrikaya, F., Alexandru, A. M., Arimon, L. C., Kvaratskhelia, R., Maglakelidze, S., Pacaldo, J. M., Deeksha, 2023. Analysis of the climate signal in subannual width measurements of *Pinus nigra* tree rings in Kastamonu Province, Turkey. *Tree-Ring Research* 79(2):50–59.



Figure S1. *Group picture captured at the forest site after doing the sample collection.*



Figure S2. Group picture captured at the Kastamonu University, Turkey after the certificate distribution ceremony.

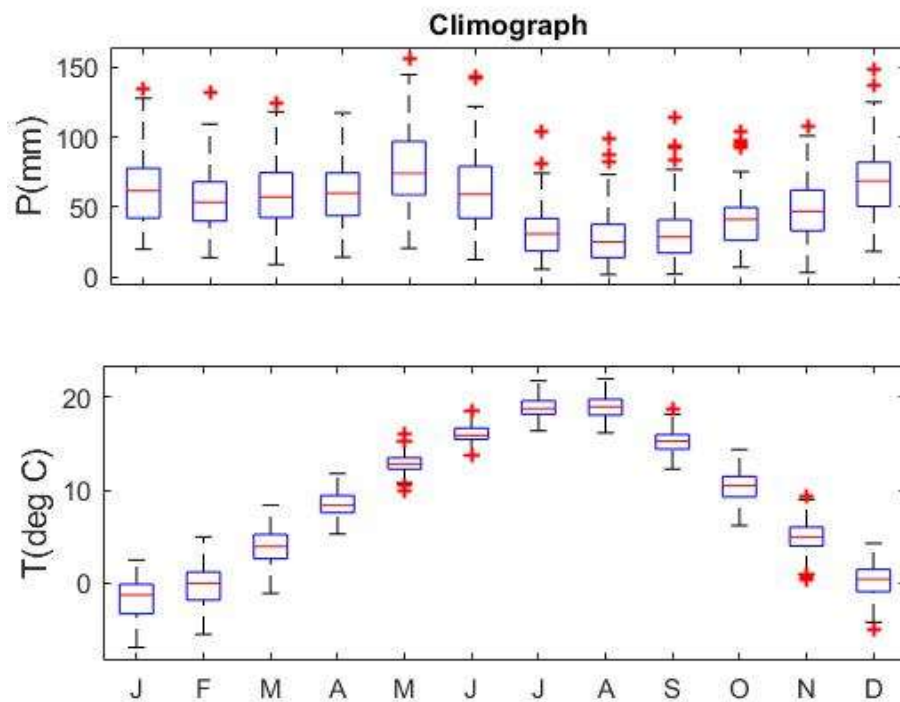


Figure S3. Climate graph showing Precipitation (P) in mm in the upper graph and Temperature (T) in the lower graph in °C.

TEMPORAL STABILITY OF CORRELATION FROM EARLY TO LATE SUB-PERIOD

Full = 1917-2020, Early = 1917-1968, Late = 1969-2020

Season <sup>a</sup>	Months length	Correlation <sup>b</sup>			Sample Size <sup>c</sup>		Test Results <sup>d</sup>	
		Full	Early	Late	$N_1$	$N_2$	$\Delta Z$	$p$
Aug*	1	0.35	0.41	0.32	47	47	0.1042	0.624
May-Jul	3	0.41	0.41	0.38	45	45	0.0392	0.858
May-Aug	4	0.42	0.43	0.41	42	42	0.0334	0.882
Apr-Sep	6	0.36	0.30	0.42	45	45	-0.1358	0.535

<sup>a</sup>Season: start & end months and number of months in season; asterisk denotes year preceding tree-ring year.

<sup>b</sup>Correlation: Pearson correlation of tree-ring index with primary climate variable for full-period, early-period, and late-period.

<sup>c</sup>Sample Size:  $N_1$  and  $N_2$  are the effective sample sizes for the correlations computed on early and late sub-periods, respectively. Effective sample size is fewer than the number of observations if both time series have positive lag-1 autocorrelation. Autocorrelations for the assessment computed on the full analysis period. Sample-size adjustment after Dawdy and Matalas (1964).

<sup>d</sup>Test Results: The test statistic ( $\Delta Z$ ) is the difference between transformed correlations for the early and late periods, following Panofsky and Brier (1968) and Snedecor and Cochran (1989). The last column is the  $p$ -value for a test of the null hypothesis that the population sample correlations for the early and late period are the same. A significant difference in sub-period correlations is indicated by a small  $p$  (e.g.,  $p < 0.05$ ).

**Figure S4.** Temporal stability of correlation of EW chronology with Kastamonu precipitation for first and last halves of the full, 1917-2020, analysis period. The high  $p$ -values for the difference-of-correlations test indicate that the correlations are not significantly different for the early and late sub-period. This table is Figure 11 in the graphics output of Seascorr. The statistics are described in more detail in the table notes.



TEMPORAL STABILITY OF CORRELATION FROM EARLY TO LATE SUB-PERIOD

Full = 1917-2020, Early = 1917-1968, Late = 1969-2020

Season <sup>a</sup>		Correlation <sup>b</sup>			Sample Size <sup>c</sup>		Test Results <sup>d</sup>	
Months	length	Full	Early	Late	$N_1$	$N_2$	$\Delta Z$	$p$
Jul	1	0.49	0.31	0.58	51	51	-0.3472	0.087
Jun-Aug	3	0.42	0.47	0.41	50	50	0.0665	0.747
May-Aug	4	0.42	0.41	0.44	48	48	-0.0408	0.847
Mar-Aug	6	0.39	0.42	0.39	49	49	0.0343	0.870

<sup>a</sup>Season: start & end months and number of months in season; asterisk denotes year preceding tree-ring year.

<sup>b</sup>Correlation: Pearson correlation of tree-ring index with primary climate variable for full-period, early-period, and late-period.

<sup>c</sup>Sample Size:  $N_1$  and  $N_2$  are the effective sample sizes for the correlations computed on early and late sub-periods, respectively. Effective sample size is fewer than the number of observations if both time series have positive lag-1 autocorrelation. Autocorrelations for the assessment computed on the full analysis period. Sample-size adjustment after Dawdy and Matalas (1964).

<sup>d</sup>Test Results: The test statistic ( $\Delta Z$ ) is the difference between transformed correlations for the early and late periods, following Panofsky and Brier (1968) and Snedecor and Cochran (1989). The last column is the  $p$ -value for a test of the null hypothesis that the population sample correlations for the early and late period are the same. A significant difference in sub-period correlations is indicated by a small  $p$  (e.g.,  $p < 0.05$ ).

**Figure S5.** Temporal stability of correlation of LW chronology with Kastamonu precipitation for first and last halves of the full, 1917-2020, analysis period. Remainder of caption as in Figure S4.