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Appendix 1

Supplementary Tables

Tab. A1 Collection of MXD-sites. Despite `Tor old´ and `Laa´ the Pinus sylvestris-network (upper panel) was recently accomplished. The Picea abies-data (lower panel) belong to an older network which is lower replicated. Note that the replication of the long `Tor old´ record is 19 samples for most of the 1860-1980 period.

Site	Latitude	Longitude	Start	End	Number of series	Rbar	Reference
Kes	67.56N	24.30E	1475	2006	99	0.41	Esper et al. 2012
Ket	68.22N	24.05E	1569	2006	198	0.41	Esper et al. 2012
Kir	67.90N	20.10E	1656	2006	191	0.47	Esper et al. 2012
Laa	67.00N	27.07E	1670	1978	21	0.51	Esper et al. 2012
Luo	67.50N	24.15E	1653	2006	128	0.34	Esper et al. 2012
Tor	68.20N	19.80E	1796	2006	176	0.45	Esper et al. 2012
Tor old	68.14N	19.40E	441	1980	65	0.38	Esper et al. 2012
Arj	66.07N	17.98E	1634	1978	28	0.66	Schweingruber et al. 1988
Iso	65.62N	27.60E	1755	1978	23	0.52	Schweingruber et al. 1988
Laa	67.00N	27.12E	1701	1978	23	0.49	Schweingruber et al. 1988
Oul	66.37N	29.43E	1726	1978	24	0.53	Schweingruber et al. 1988
Pal	68.03N	24.10E	1782	1978	28	0.53	Schweingruber et al. 1988

Tab. A2 Collection of temperature stations. All northern stations (upper panel) are located in rural areas, whereas Jyvaskylä is the only southern station (lower panel) not associated with an urban setting.

Station	Latitude	Longitude	Start	End	Name
ALU	69.98N	23.37E	1871	1939	Alta Lufthavn
HAP	65.83N	24.15E	1860	2008	Haparanda
KAK	69.47N	25.50E	1876	2011	Karasjok
KAD	68.45N	22.50E	1879	2011	Karesuando
SOD	67.37N	26.65E	1901	2011	Sodankylä
HEL	60.30N	25.00E	1851	1991	Helsinki
JYV	62.40N	25.68E	1900	2011	Jyvaskylä
STO	59.33N	18.05E	1851	1991	Stockholm
TUR	60.52N	22.27E	1900	2011	Turku
UPP	59.88N	17.60E	1743	1970	Uppsala

Supplementary Figures

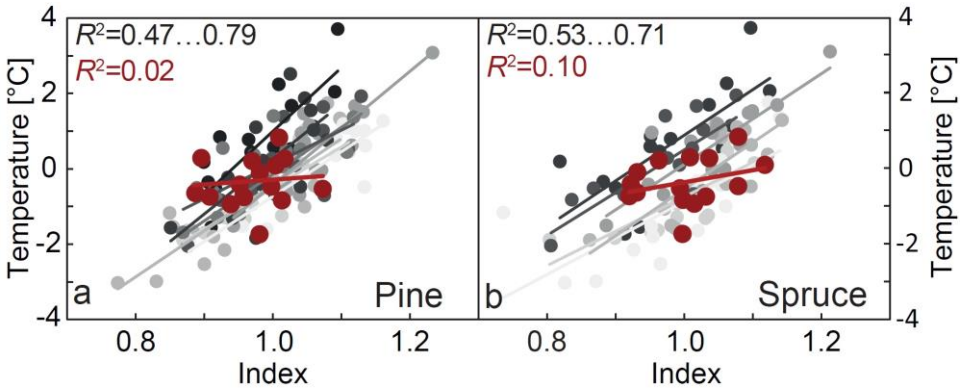

Fig. A1 XY-plots for the correlation of MXD-data against summer temperature. Regression lines were calculated for 15-years intervals (grey shades) prior and post to the 1905-1919 period, which is marked in red. **a** The eight intervals of NScan-P reach explained variances between 0.47 and 0.79, while the divergence period exhibits no common variance. **b** For the shorter NScan-S seven intervals were calculated with similar values before and after early divergence (0.53-0.71) and slightly enhanced, but insignificant coherence in the central 1905-1919 period.

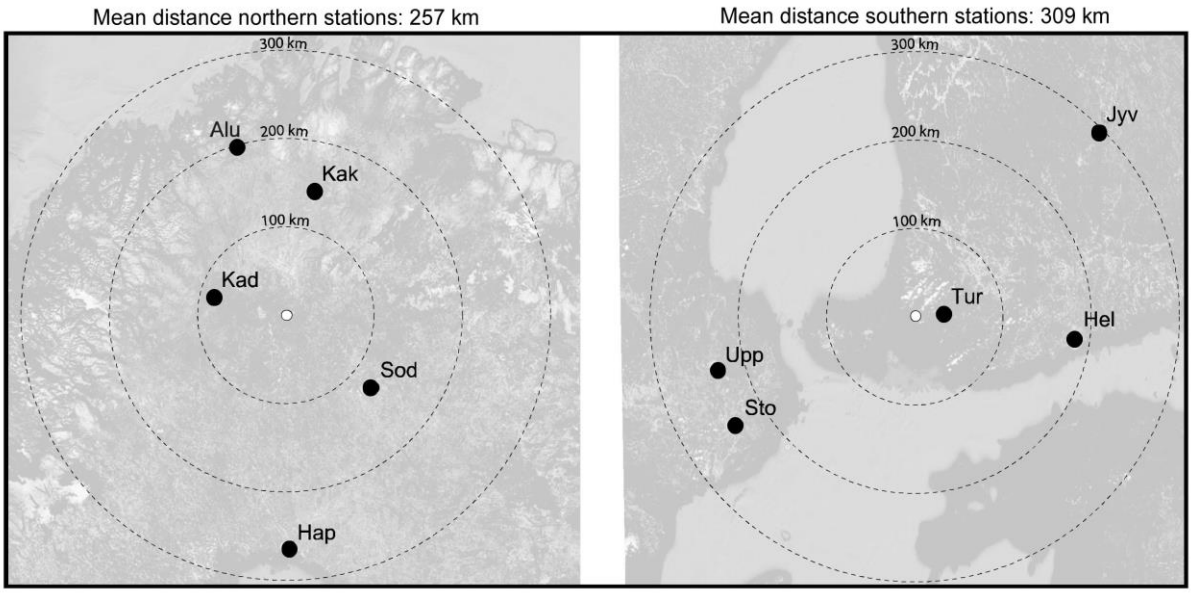

Fig. A2 Spatial spread of the northern and southern climate stations used for JJA_{north} and JJA_{south}. Mean distances were calculated as the averaged distance for all possible combinations of stations.

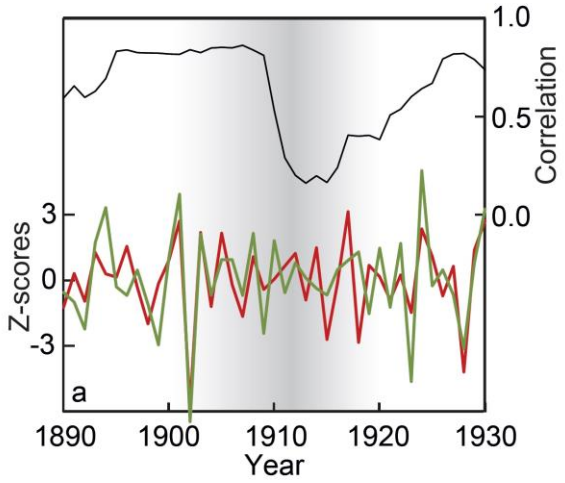

Fig. A3 Comparisons of NScan-P (green) with JJA_{north} (red) temperatures for the high frequency domain. Figure corresponds to Fig. 5a. Additionally a first differencing was applied. Top panel shows the 15-year running correlation. EDP is highlighted with grey shading.