

Supplementary Materials

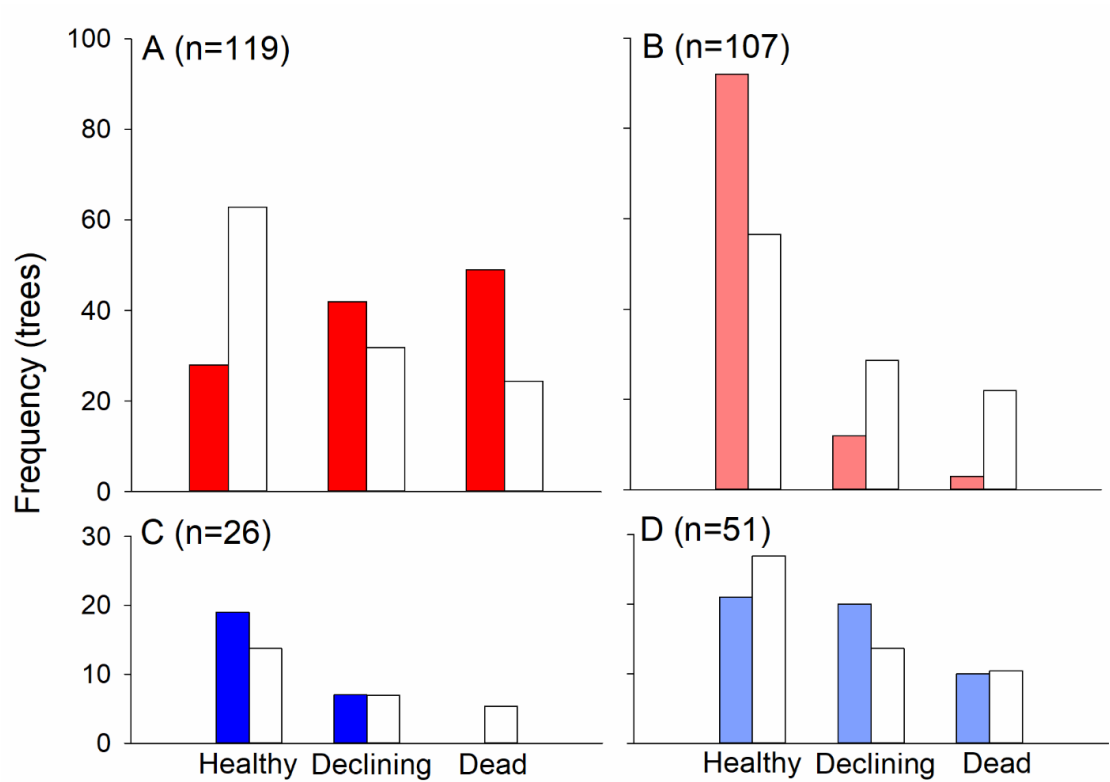


Figure S1. Observed (coloured) and expected (white) values of healthy, declining and dead trees for the four principal component chronologies.

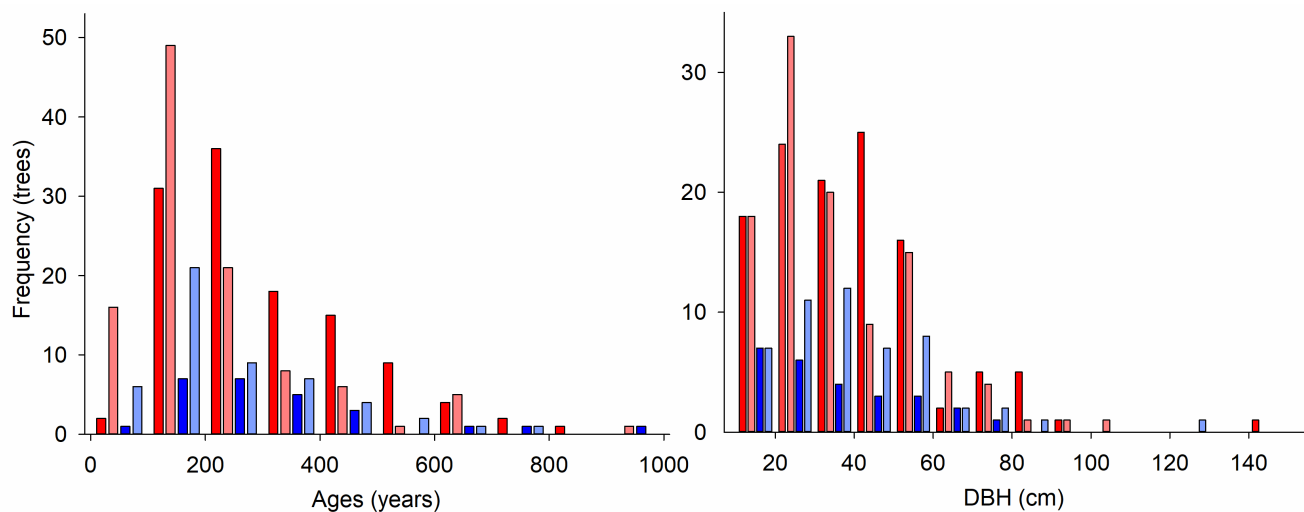


Figure S2. Size and age distributions of yellow-cedar trees in the four principal component chronologies (A=dark red, B=light red, C=dark blue, D=light blue). Class sizes for each frequency distribution are (left) 100 years for age estimates and (right) 10 cm for diameter at breast height (n=303).

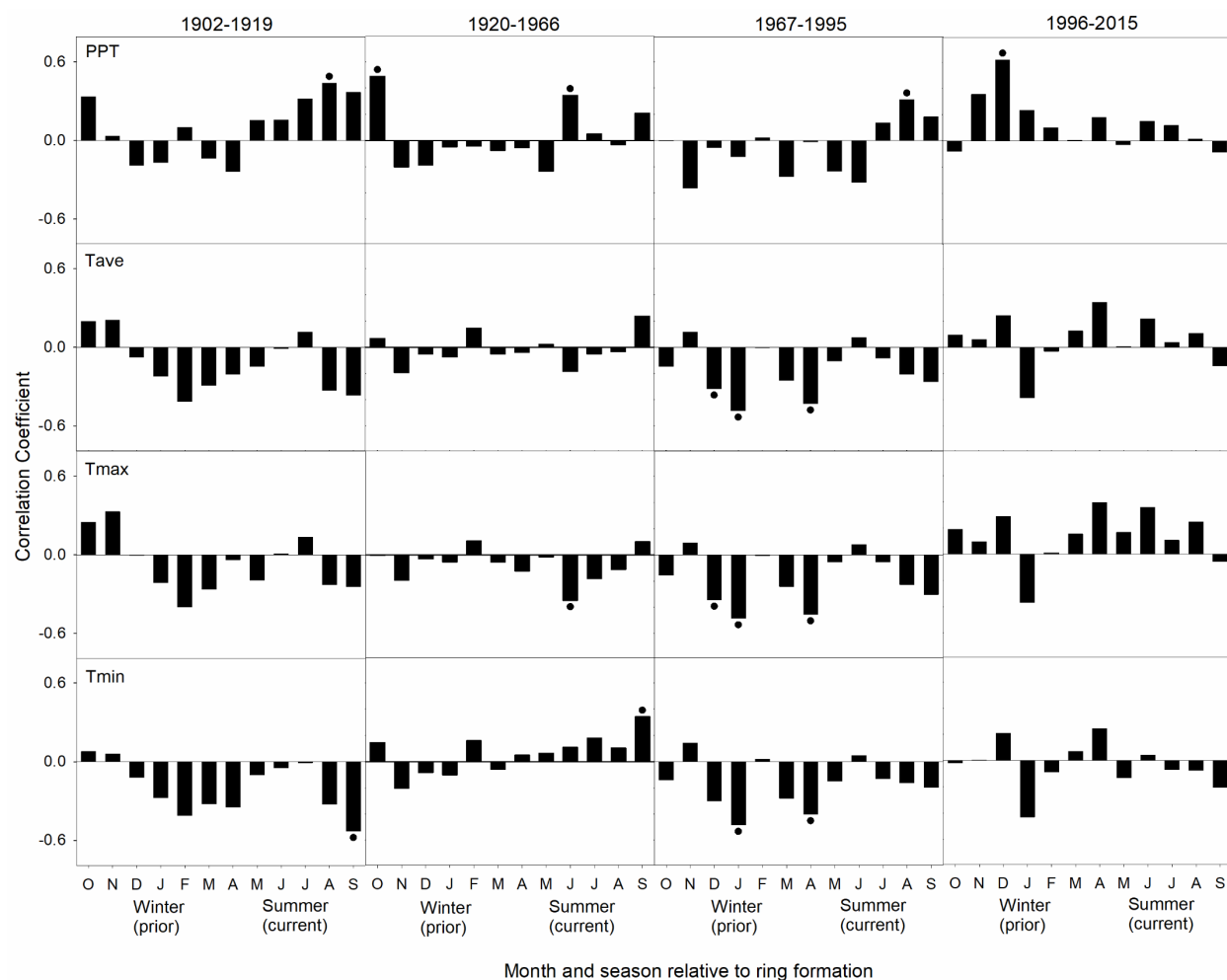


Figure S3. Correlation between monthly average precipitation, monthly mean temperature, monthly maximum temperature, monthly minimum temperature and the residual chronology for principal component A, over the time periods based on the identified breakpoints of the chronology. Bars are the correlation coefficients, a dot indicates significance ($\alpha=0.05$).

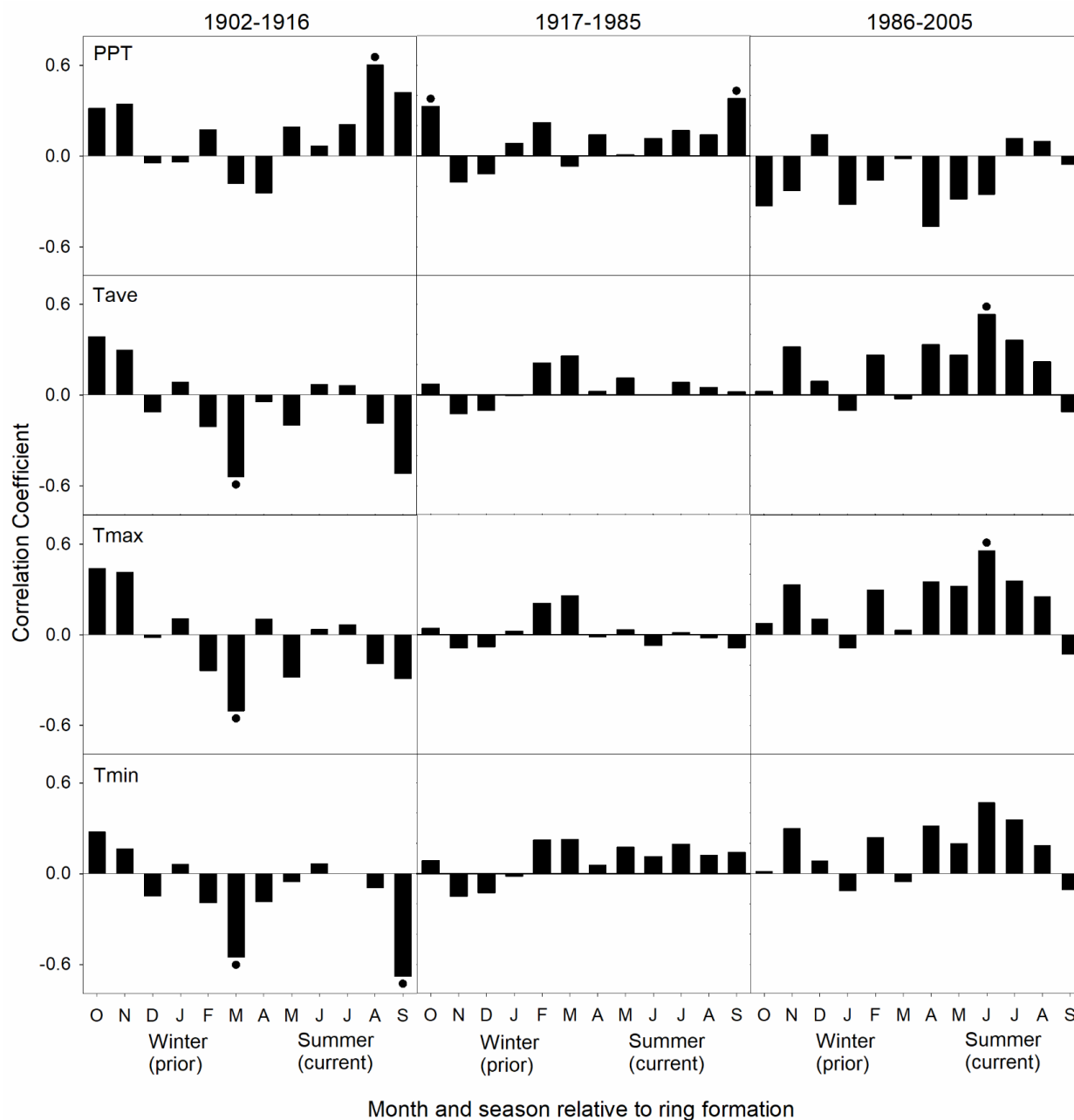


Figure S4. Correlation between monthly average precipitation, monthly mean temperature, monthly maximum temperature, monthly minimum temperature and the residual chronology for principal component B, over the time periods based on the identified breakpoints of the chronology. Bars are the correlation coefficients, a dot indicates significance ($\alpha=0.05$).

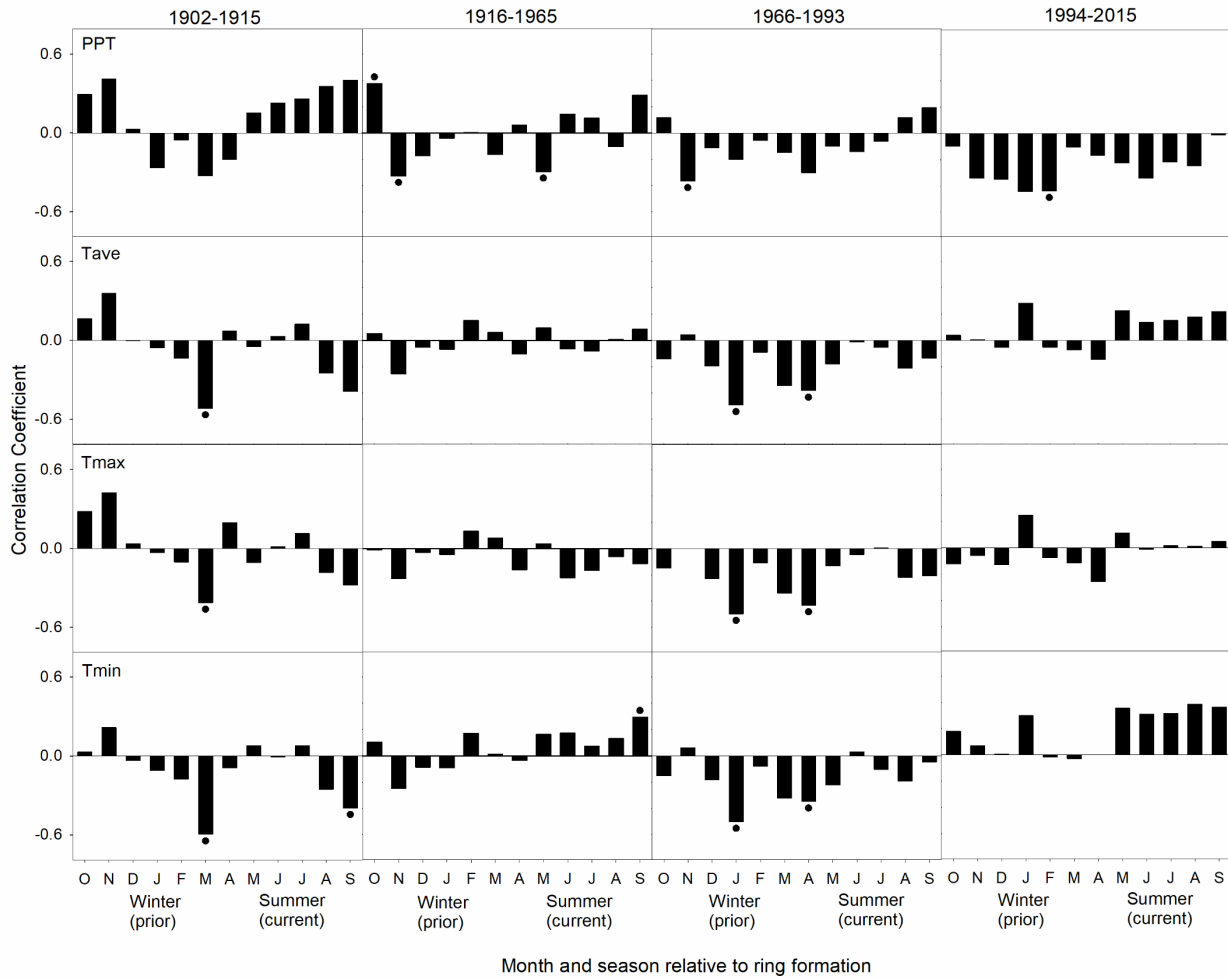


Figure S5. Correlation between monthly average precipitation, monthly mean temperature, monthly maximum temperature, monthly minimum temperature and the residual chronology for principal component C, over the time periods based on the identified breakpoints of the chronology. Bars are the correlation coefficients, a dot indicates significance ($\alpha=0.05$).

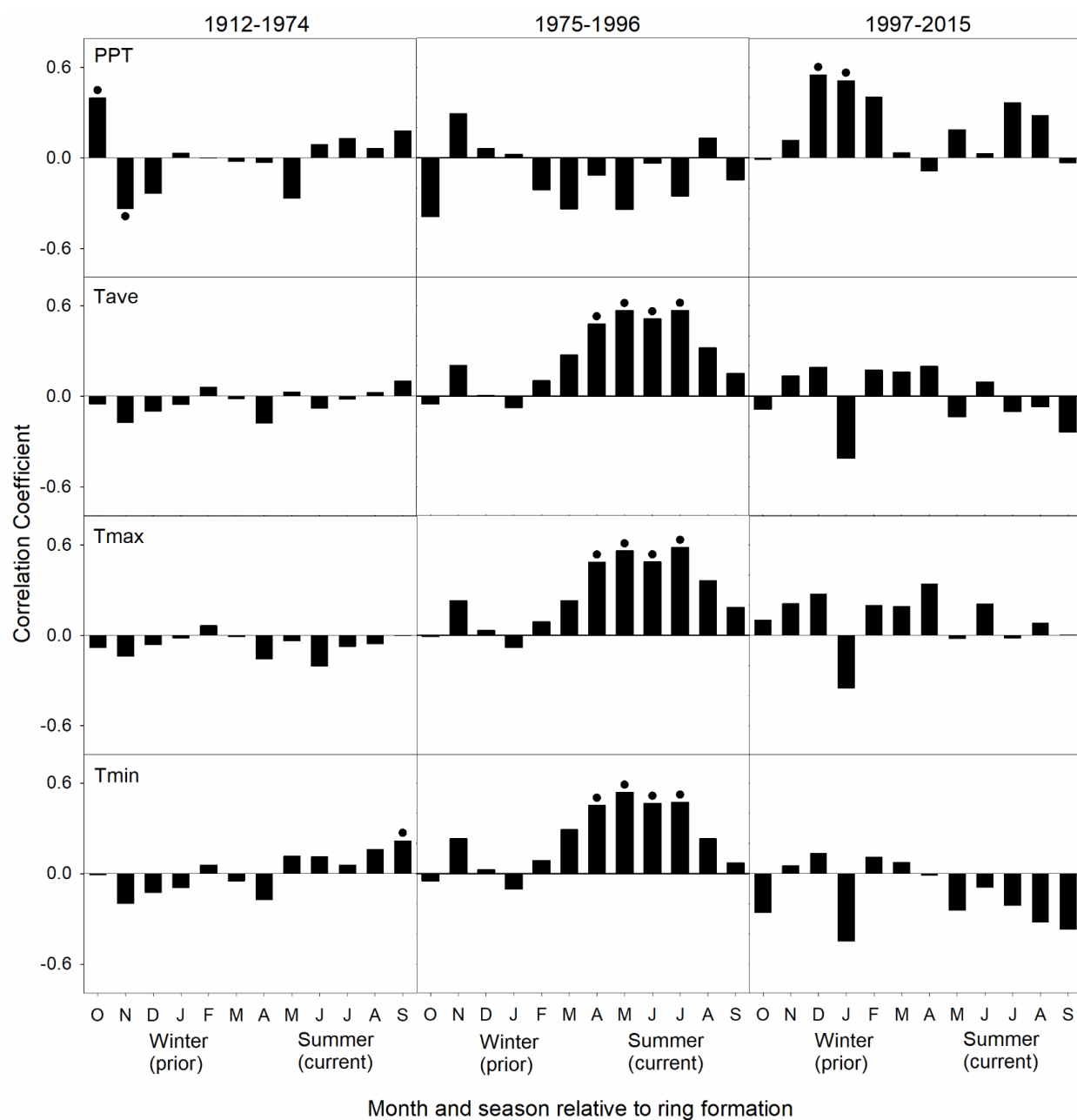


Figure S6. Correlation between monthly average precipitation, monthly mean temperature, monthly maximum temperature, monthly minimum temperature and the residual chronology for principal component D, over the time periods based on the identified breakpoints of the chronology. Bars are the correlation coefficients, a dot indicates significance ($\alpha=0.05$).