

## **Supplementary tables description**

### **Supplementary Table S1.**

Study site locations, ID codes, coordinates (LAT, LON), altitude (ALT), year of first (START) and last (END) measured ring, number of sampled trees (TREES n) and annual and seasonal precipitation, maximum and minimum temperature for each site.

### **Supplementary Tables S2 to S7.**

Summary statistics deviation of the maximum and minimum correlation values and the end date that define the period for which the maximum and minimum correlation of precipitation is obtained at each study site. n: number of total tree\*period calculations; n\_sig: number of total significant tree\*period calculations; n\_sigp: same as n\_sig but in percentage.

### **Supplementary Tables S8 to S13.**

Summary statistics deviation of the maximum and minimum correlation values and the end date that define the period for which the maximum and minimum correlation of maximum temperature is obtained at each study site. N: number of total tree\*period calculations; N\_SIG: number of total significant tree\*period calculations

### **Supplementary Tables S14 to S19.**

Summary statistics deviation of the maximum and minimum correlation values and the end date that define the period for which the maximum and minimum correlation of minimum temperature is obtained at each study site. N: number of total tree\*period calculations; N\_SIG: number of total significant tree\*period calculations

### **Supplementary Table S20.**

Accuracy assessment of the best-performing models. Goodness-of-fit measures: AIC (Akaike information criterion), logLik (log-likelihood function), deviance (residual deviance), and df.resid (degrees of freedom—residual). Full includes seasonal values of PCP, TMAX and TMIN, as well as the interaction between mean annual values; Full\_sig: reduced model where non-significant explanatory variables were omitted; Null: model where only the intercept term and random effects were included.

### **Supplementary Tables S21 to S38.**

Reduced models (Full\_sig) fixed effects of variables. \*\*\* is  $p = 0-0.001$ , \*\*  $p = 0.001-0.01$ , \*  $p = 0.01-0.05$ . Seasonal values of PCP, TMAX and TMIN, and the interaction between mean annual values.