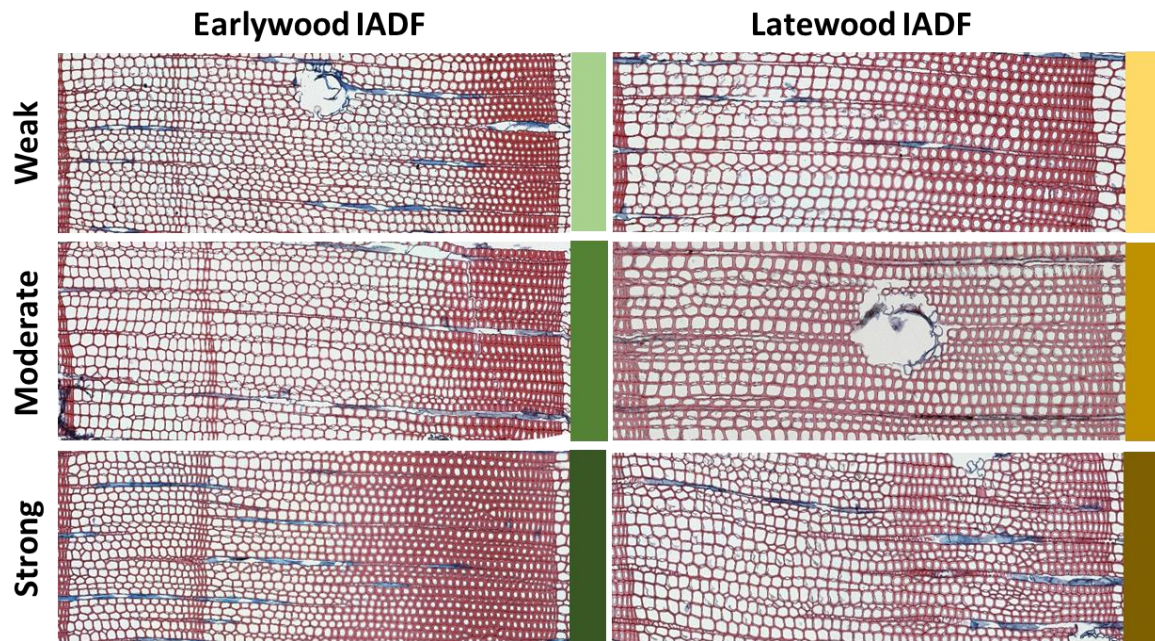
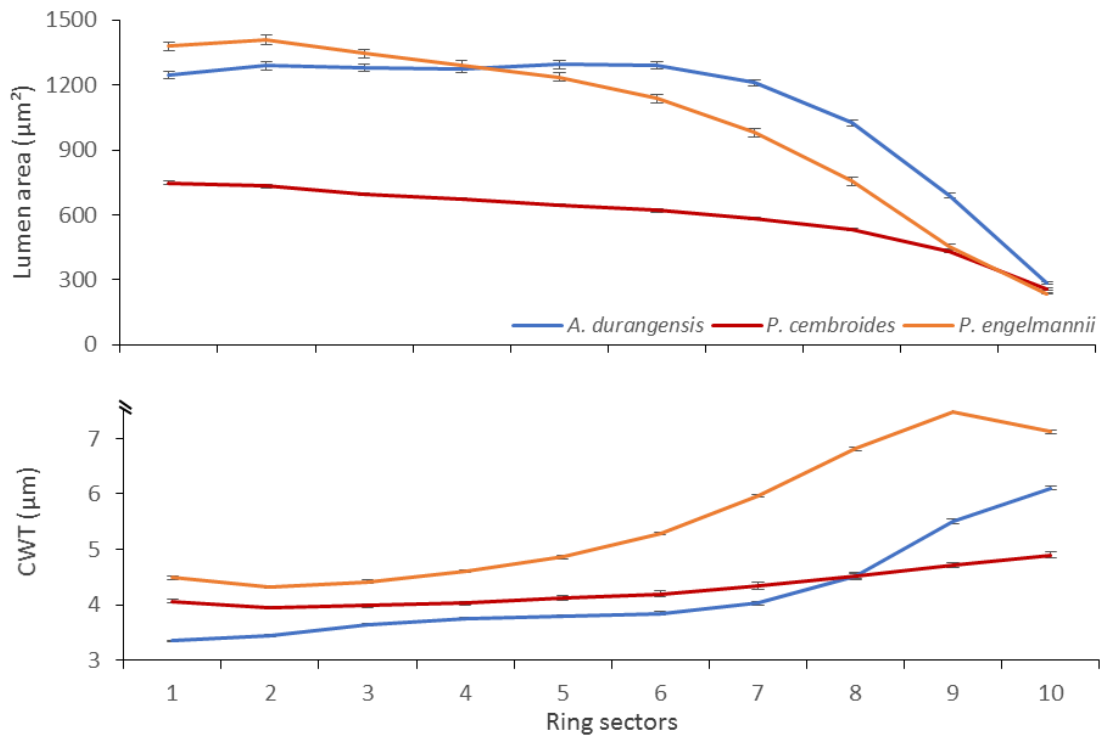


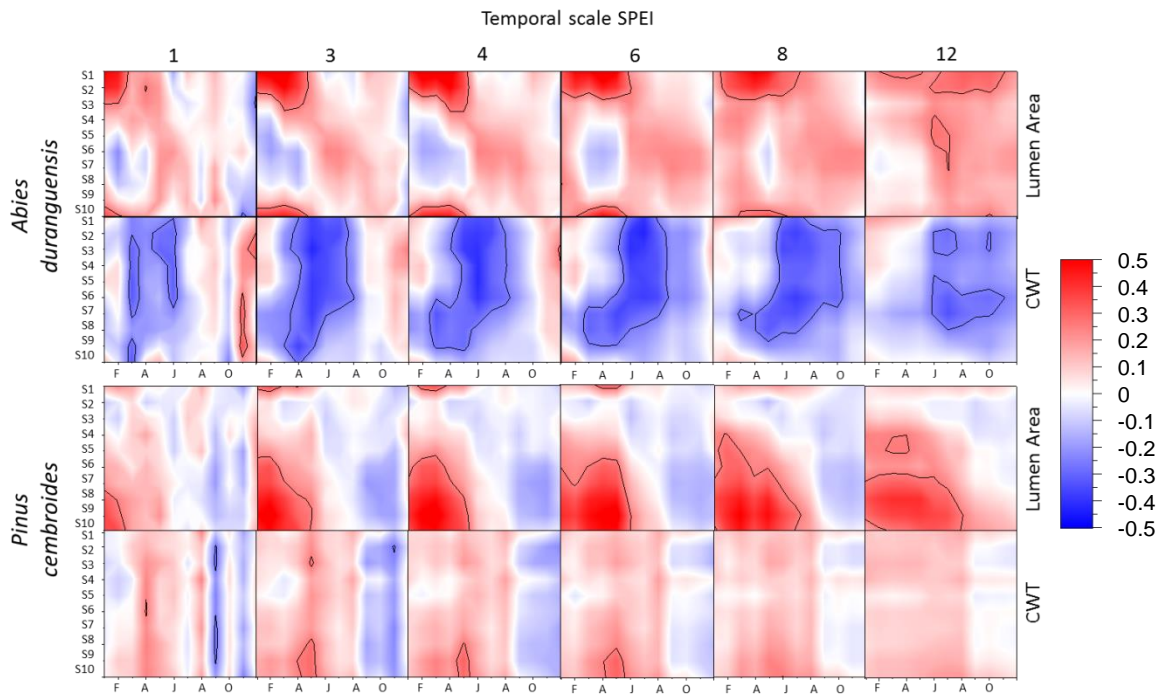
**Figure S1.** Climate diagrams of the climate stations from the dry (Otinapa, 1962-2015 data) and wet (El Salto, 1946-2015 data) study sites.



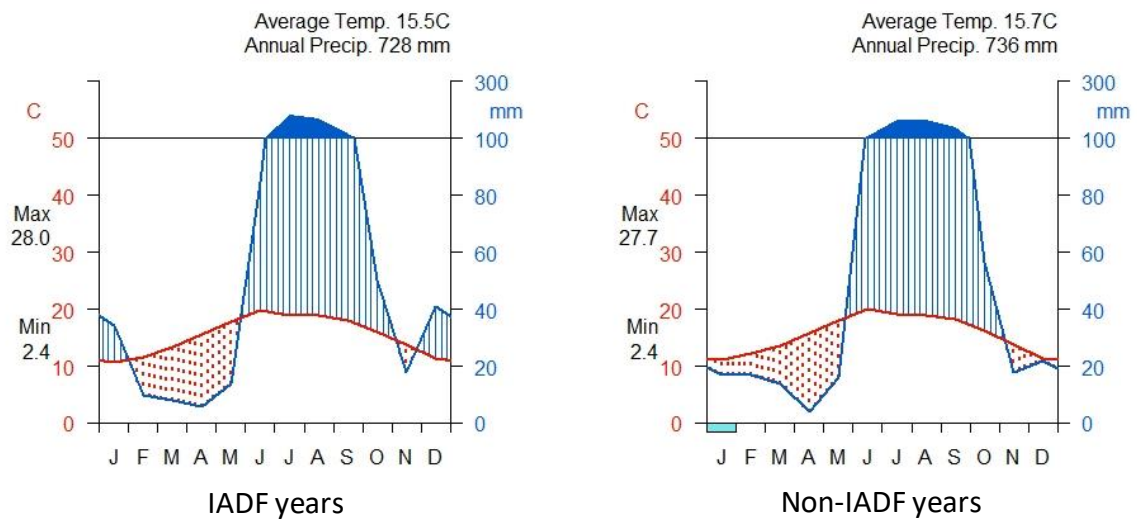
**Figure S2:** Visual aid for the qualitative characterization of intra-annual density fluctuations (IADF) using three level scale of intensity (weak, moderate and strong) and separated in IADFs occurring within the earlywood (producing latewood-like cells) and latewood (producing earlywood-like cells). The color scale of intensity correspond to the one used on Figure 3.



**Figure S3.** Intra-annual values (means  $\pm$  SE) of lumen area and cell-wall thickness (CWT) of the three studied conifer species (wet site, *Abies durangensis*; dry site, *Pinus cembroides* and *Pinus engelmannii*). Values are shown for the common period (1950- 2014).



**Figure S4.** Pearson correlations calculated between the Standardized Precipitation Evapotranspiration Index (SPEI) drought index and sectorized anatomical traits (lumen area; CWT, cell-wall thickness) for two of the three studied conifer species (wet site, *Abies durangensis*; dry site, *Pinus cembroides*). The Y axes correspond to ten tree-ring radial sectors from the early earlywood (S1) to the late latewood (S10). The SPEI was calculated on scales of 1, 3, 4, 6, 8 and 12-month long (columns) from January–December. The graphs show the Pearson correlation coefficients ( $r$ ) using color scales. Correlation values above  $|0.232|$  are significant ( $P < 0.05$ ) and shown by the black contour line. *Pinus engelmannii* did not present significant correlations, thus was not included in the figure.



**Figure S5.** Climate diagrams from CRU (0.5°-gridded) climate data covering both the study wet and dry sites and splitting the years with high (+50%, left plot) and low (-50%, right plot) frequency of intra-annual density fluctuations (IADF).