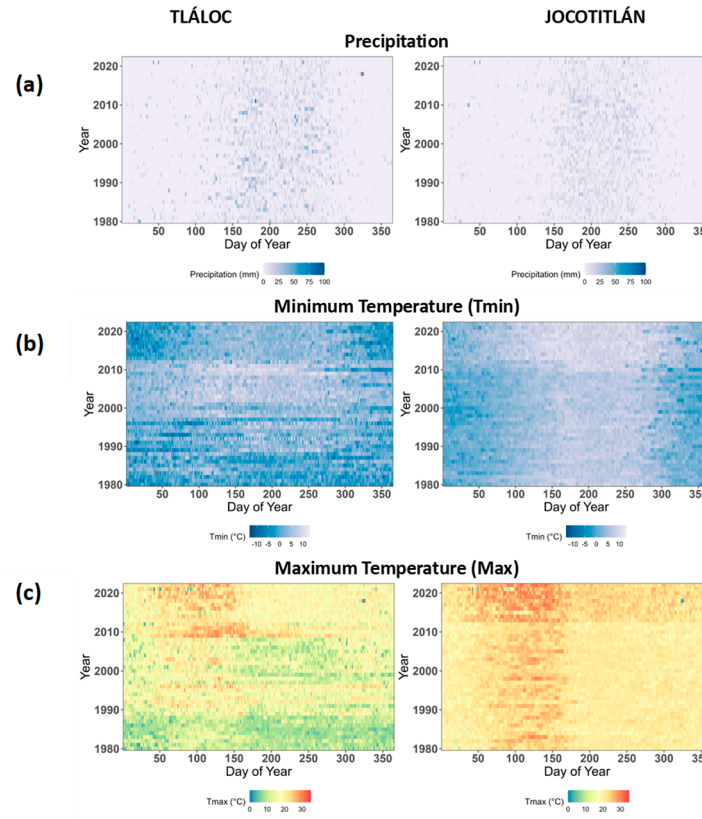


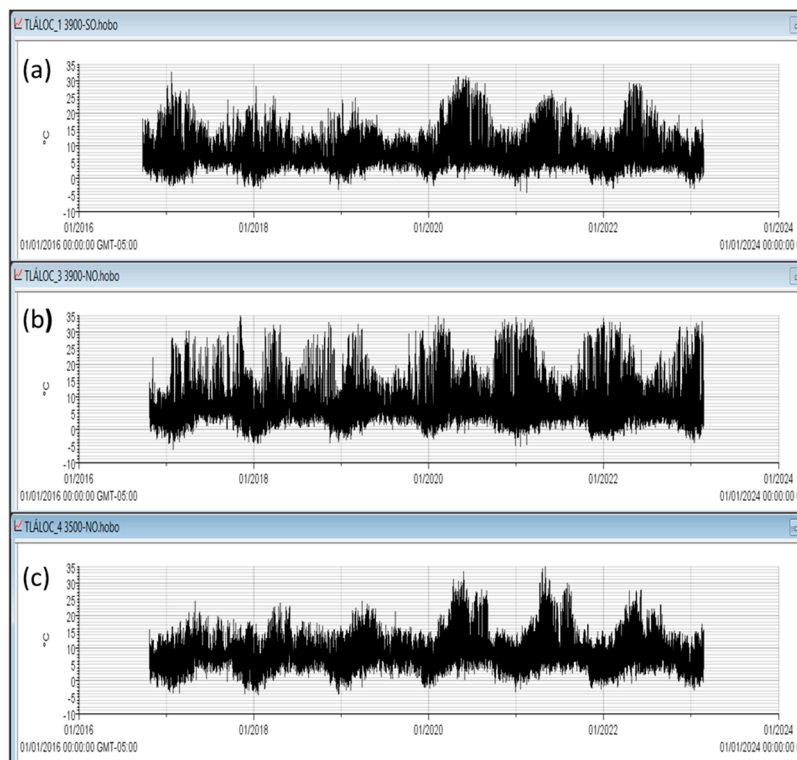
## Supplementary Information for:

### Short-Term Tree-Ring Series of *Pinus hartwegii* Lindl. Taken at Ground Level Correlate to Normalized Difference Vegetation Index Series

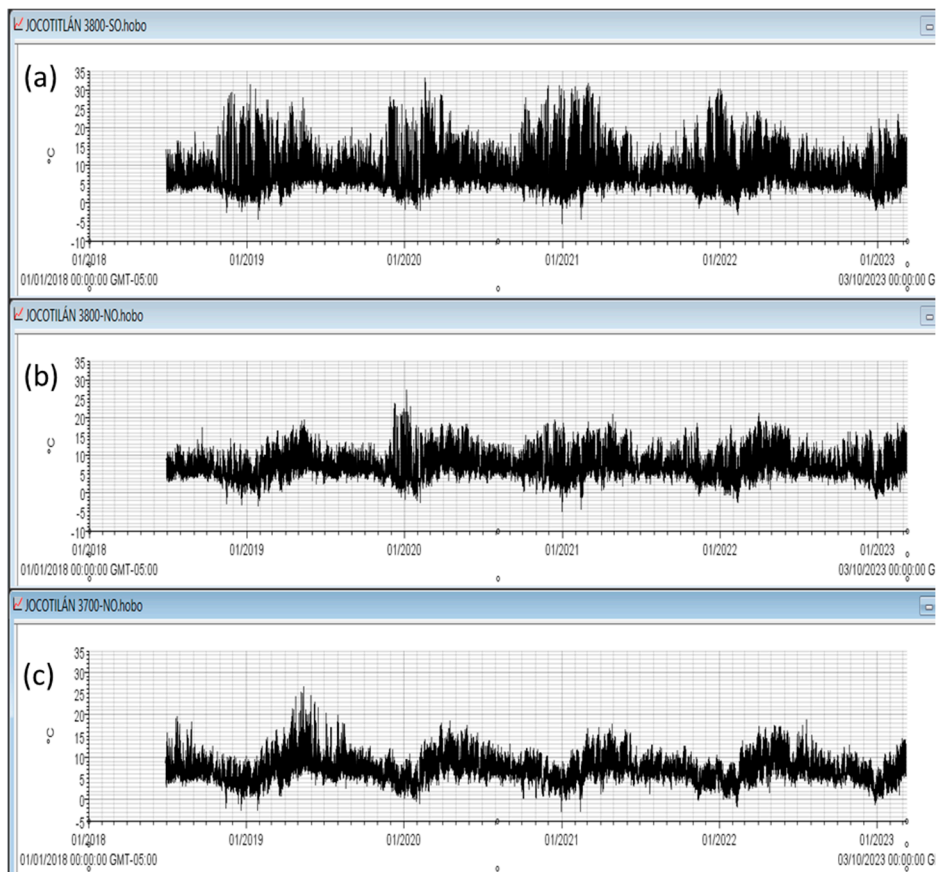


**Figure S1.** Temporal distribution of climatic variables for the two study sites, from 1980 to 2021. (a) Daily precipitation, (b) Minimum temperature and (c) Maximum temperature. Estimations were performed according to Thornton et al. (2022). Note that daily precipitation is more even distributed at TLÁLOC site, while at JOCOTITLÁN, two sharp dry periods are defined before and after the growing season. Minimum temperatures in the growing season are higher at JOCOTITLÁN. Also note that at TLÁLOC maximum temperatures, before the growing season have increased in recent years.

Thornton, M.; Shrestha, R.; Wei, Y.; Thornton, P.; Kao, S.; Wilson, B. Daymet: daily surface weather data on a 1-km grid for North America, Version 4. ORNL DAAC, Oak Ridge, Tennessee, USA. 2022, doi:<https://doi.org/10.3334/ORNLDAAAC/2129>.



**Figure S2.** Daily temperatures recorded with HOBO (®) dataloggers every four hours for three sites in the TLÁLOC location. Note the increase in temperatures in the year 2020 and 2021, specially in plots (a) and (c).



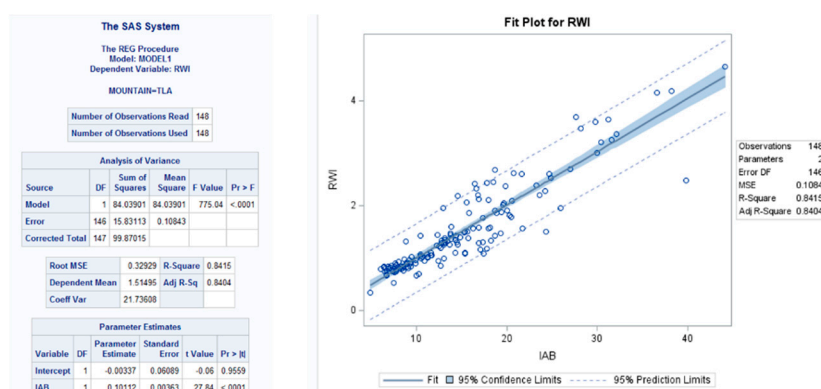
**Figure S3.** Daily temperatures recorded with HOBO (®) dataloggers every four hours for three sites in the JOCOTILÁN location. Note the higher contrast in temperaure variation between the 3800-SW site (a) and the 3700-NO site (c).

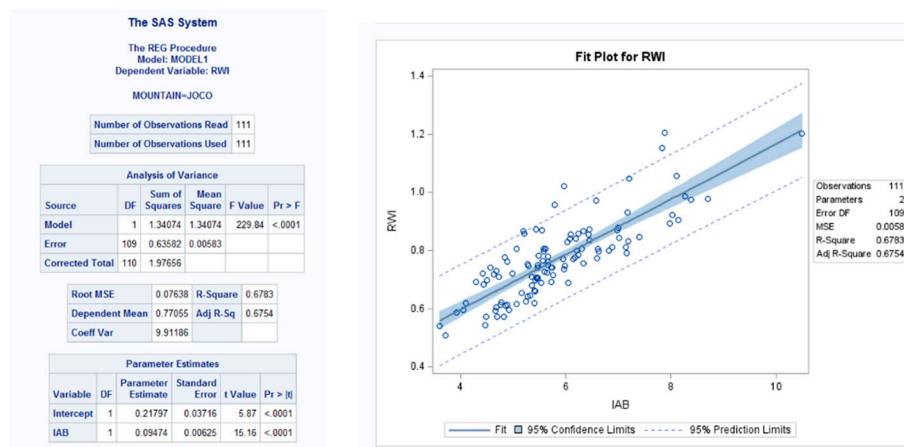
**Table S1.** Correlation Matrix for the vegetation indices, NDVI, EVI and SAVI for the two studied mountains. Note that in all cases the correlation is highly significant ( $p < 0.05$ ), implying that all indices would generate similar results and conclusions. However, we emphasized on one of the most common vegetation indices like the NDVI:

The SAS System						
The CORR Procedure						
3 Variables: NDVI_TLA EVI_TLA SAVI_TLA						
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
NDVI_TLA	40	0.57226	0.03005	22.89021	0.50863	0.63213
EVI_TLA	40	0.22794	0.01220	9.11772	0.20455	0.25270
SAVI_TLA	40	0.24103	0.01266	9.64127	0.21969	0.26779
Pearson Correlation Coefficients, N = 40 Prob >  r  under H0: Rho=0						
	NDVI_TLA	EVI_TLA	SAVI_TLA			
NDVI_TLA	1.00000	0.44408 0.0041	0.51051 0.0008			
EVI_TLA	0.44408 0.0041	1.00000	0.97348 <.0001			
SAVI_TLA	0.51051 0.0008	0.97348 <.0001	1.00000			

The SAS System						
The CORR Procedure						
3 Variables: NDVI_JOCO EVI_JOCO SAVI_JOCO						
Simple Statistics						
Variable	N	Mean	Std Dev	Sum	Minimum	Maximum
NDVI_JOCO	91	0.62192	0.04209	56.59484	0.51715	0.72744
EVI_JOCO	91	0.25099	0.02385	22.84047	0.15482	0.30357
SAVI_JOCO	91	0.26180	0.02223	23.82405	0.17002	0.30756
Pearson Correlation Coefficients, N = 91 Prob >  r  under H0: Rho=0						
	NDVI_JOCO	EVI_JOCO	SAVI_JOCO			
NDVI_JOCO	1.00000	0.26739 0.0104	0.36943 0.0003			
EVI_JOCO	0.26739 0.0104	1.00000	0.97703 <.0001			
SAVI_JOCO	0.36943 0.0003	0.97703 <.0001	1.00000			

The standardized values of ring width (RWI) are highly correlated to Basal area increments (BAI) indicating that RWI are also a proxy of basal area growth or tree growth. BAI area in  $\text{cm}^2 \text{ year}^{-1}$ .





**Figure S4.** The standardized values of ring width (RWI) are highly correlated to Basal area increments (BAI) indicating that RWI is a reasonable proxy of tree growth. BAI area in  $\text{cm}^2 \text{ year}^{-1}$ .