**Table 1.** Characteristics of sampled plot. Lat = latitude; Long = longitude. Dbh and height of all trees, Basal Area (BA), Density and SRD (Size ratio proportional to distance) are computed for all trees within a 10-m radius of focal trees (see methods). Temp.: annual average of minimun and maximum temperatures. Values shown here correspond to site averages. Standard deviations are shown in parentheses. Different letters indicate statistically significant differences between sites (Kruskal-Wallis test followed by Dunn’s test, p<0.05).

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  |  |  |  |  |  |  | *Cored trees* | | | |  | *Competence* | | | | |
| Site | Lat (°) | Long (°) | Elev. (m) | Slope (°) | Prec. (mm) | Temp (° C) | # trees (# cores) | Dbh (cm) | Height (m) | Age (years) |  | Dbh all (cm) | Height all (m) | BA (m2/ha) | Density (trees/ha) | SRD |
| CA-High | 36.97 | -3.42 | 1865 | 12.11 | 674 | 6.4 - 17.1 | 15 (30) | 69.8 (20.5) a | 15.4 (1.8) a | 161.0 (32.2) |  | 34.1 (24.3) a | 10.8 (4.4) a | 39.13 (24.31) a | 348.0 (147.1) a | 0.91 (0.63) a |
| CA-Low | 36.96 | -3.42 | 1719 | 12.86 | 674 | 6.4 - 17.1 | 15 (30) | 45.9 (8.6) a | 12.6 (1.6) b | 148.5 (16.5) |  | 21.7 (14.4) b | 9.0 (2.8) b | 18.02 (7.11) ab | 409.6 (226.0) a | 0.89 (0.44) a |
| SJ | 37.13 | -3.37 | 1395 | 27.33 | 635 | 7.4 - 16 | 20 (48) | 31.9 (3.7) b | 11.8 (2.3) b | 72.6 (11.1) |  | 20.6 (8.1) b | 9.7 (3.6) ab | 11.64 (5.47) b | 339.0 (130.3) a | 1.11 (0.52) a |

**Table 2.** Characteristics of the mean tree ring chronologies. Values of the length year in parenthesis indicate years replicated more with than five series. RW = mean annual ring width (standard deviation in parenthesis). MS = mean sensitivity. AR(1) = mean autocorrelation of raw series. Rbt = mean correlation between series. EPS = mean expressed population signal. EPS and Rbt are calculated for the mean residual chronologies of growth indices.

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Site | First year | Last year | Length (years) | # trees | # cores | RW (mm) | MS | AR(1) | Rbt | EPS |
| CA-High | 1819 | 2016 | 198 (188) | 15 | 30 | 1.500 (0.879) | 0.203 | 0.827 | 0.513 | 0.907 |
| CA-Low | 1836 | 2016 | 181 (164) | 15 | 30 | 1.253 (0.781) | 0.208 | 0.799 | 0.563 | 0.897 |
| SJ | 1921 | 2016 | 96 (90) | 20 | 48 | 1.725 (1.207) | 0.319 | 0.692 | 0.797 | 0.959 |

**Table 3.** Robust two-way ANOVAs of the resilience metrics of greenness (EVI) and tree-growth (BAI) for the two factors drought events (in 2005 and 2012) and site.

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | Resistance |  | Recovery |  | Resilience |  |
| variable | factores | F | p | F | p | F | p |
|  | Drought event | 799.9 | 0.001 | 312 | 0.001 | 207.2 | 0.001 |
| EVI | Site | 153.2 | 0.001 | 105.4 | 0.001 | 29.82 | 0.001 |
|  | Drought event X Site | 234.7 | 0.001 | 364.3 | 0.001 | 6.14 | 0.014 |
|  | Drought event | 6.02 | 0.019 | 29.55 | 0.001 | 44.31 | 0.001 |
| BAI | Site | 59.25 | 0.001 | 53.08 | 0.001 | 1.31 | 0.534 |
|  | Drought event X Site | 32.24 | 0.001 | 4.4 | 0.134 | 30.01 | 0.001 |

**Table S1.** Robust measures of central tendency of resilience indices for greenness (EVI) groupped by drought events, site and interaction. Measures of central tendency are M-estimators based on Huber’s Psi (see material and methods). 95 % confidence intervals using 3000 bootstrap are included in parentheses.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2005 |  |  | 2012 |  |  |  |  |  |
| site | Resistance | Recovery | Resilience | Resistance | Recovery | Resilience | Resistance | Recovery | Resilience |
| N | 0.819 (0.8137,0.8243) | 1.1689 (1.161,1.1768) | 0.9553 (0.9507,0.9599) | 0.9472 (0.9423,0.9521) | 1.0417 (1.0364,1.047) | 0.9855 (0.9805,0.9905) | 0.8835 (0.8777,0.8893) | 1.1021 (1.0958,1.1084) | 0.9701 (0.9666,0.9737) |
| S | 0.9016 (0.8958,0.9074) | 1.0662 (1.0584,1.0741) | 0.9618 (0.9573,0.9663) | 0.9387 (0.9336,0.9438) | 1.0711 (1.0674,1.0748) | 1.0039 (0.9996,1.0081) | 0.9207 (0.9167,0.9246) | 1.069 (1.0652,1.0729) | 0.983 (0.9797,0.9864) |
|  | 0.8584 (0.8535,0.8633) | 1.1197 (1.1131,1.1262) | 0.9585 (0.9553,0.9617) | 0.9431 (0.9396,0.9466) | 1.0571 (1.0537,1.0604) | 0.9947 (0.9913,0.998) |  |  |  |

**Table S2.** Robust measures of central tendency of resilience indices for tree-growth (BAI) groupped by drought events, site and interaction. Measures of central tendency are M-estimators based on Huber’s Psi (see material and methods). 95 % confidence intervals using 3000 bootstrap are included in parentheses.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | 2005 |  |  | 2012 |  |  |  |  |  |
| site | Resistance | Recovery | Resilience | Resistance | Recovery | Resilience | Resistance | Recovery | Resilience |
| CA-High | 0.8921 (0.8091,0.9751) | 0.8866 (0.8003,0.973) | 0.7895 (0.6913,0.8878) | 0.7534 (0.6864,0.8204) | 1.1071 (1.0257,1.1885) | 0.8132 (0.7413,0.8852) | 0.8157 (0.7549,0.8764) | 0.9962 (0.9171,1.0753) | 0.7975 (0.7439,0.8511) |
| CA-Low | 0.9012 (0.8132,0.9892) | 0.8321 (0.7326,0.9315) | 0.7303 (0.6118,0.8489) | 0.9263 (0.9001,0.9526) | 0.952 (0.8889,1.015) | 0.8761 (0.8394,0.9129) | 0.9209 (0.8834,0.9584) | 0.8972 (0.8431,0.9514) | 0.8172 (0.7553,0.8791) |
| SJ | 0.4454 (0.3751,0.5158) | 1.1122 (1.0004,1.2241) | 0.4888 (0.4213,0.5562) | 0.7687 (0.6839,0.8534) | 1.4457 (1.3223,1.5691) | 1.031 (0.93,1.1321) | 0.6116 (0.5387,0.6846) | 1.2824 (1.1791,1.3856) | 0.7694 (0.6524,0.8864) |
|  | 0.721 (0.6437,0.7984) | 0.9462 (0.8794,1.0129) | 0.653 (0.5852,0.7209) | 0.8193 (0.7758,0.8628) | 1.1608 (1.0813,1.2403) | 0.9107 (0.8648,0.9567) |  |  |  |