# **Supplementary Information**

**Climate changes: 1895-1924 vs. 1950-1980**

If a 1950-1980 climate normal is used instead of 1990-2014 climate normal, then between 1895-1924 and 1950-1980, increased XXoC between 1895-1924 and 1950-1980, changed by XXoC, while changed by XXoC

Supplemental Table 1: Gain and loss of the analyzed tree genera since the pre-settlement era. The first three columns are percentages relative to the total area occupied by the taxon in the pre-settlement and modern eras. Modern and Historical indicate represent range area (100s of km2) occupied by the tree taxon for the pre-settlement or modern era. Taxa are sorted by the percent area lost (Column 3). In this analysis, all PLS and FIA grid cells were used and a taxon was assumed have been gained/lost for a given grid cell if that grid cell had data in one time period but not the other.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Percent | | | Area (100km2) | |
| Taxon | Gain | Loss | Presence | Modern | Historical |
| ***Larix*** | 0.4 | 80.5 | 19.1 | 54 | 275 |
| ***Pinus*** | 3.9 | 51.9 | 44.2 | 130 | 259 |
| ***Picea*** | 3.6 | 52.3 | 44.1 | 102 | 205 |
| ***Abies*** | 4.4 | 50.1 | 45.5 | 96 | 185 |
| ***Tsuga*** | 0.6 | 67.4 | 32 | 47 | 142 |
| ***Thuja/Juniperus*** | 4 | 52.9 | 43.1 | 96 | 196 |
| ***Populus*** | 16.5 | 36.5 | 47 | 220 | 289 |
| ***Acer*** | 8 | 30.7 | 61.3 | 209 | 277 |
| ***Betula*** | 3.3 | 45.8 | 50.8 | 165 | 295 |
| ***Fagus*** | 0.8 | 73.2 | 26 | 22 | 82 |
| ***Ostrya/Carpinus*** | 3.7 | 90.5 | 5.8 | 13 | 136 |
| ***Tilia*** | 11.5 | 55.1 | 33.5 | 101 | 198 |
| ***Fraxinus*** | 12.7 | 48.9 | 38.4 | 143 | 245 |
| ***Ulmus*** | 6.9 | 73.1 | 20 | 68 | 234 |
| ***Quercus*** | 9 | 46 | 44.9 | 159 | 268 |

**Supplemental Table 2:** As Supplemental Table 1, except that in this analysis, all estimates are restricted to the subset of gridcells that had observations in both the PLS and FIA datasets. See also Supplemental Figure 1.

XX INSERT ST2 HERE

**Supplemental Table 3:** As Table 1 in the main text, except that the compounding (), confounding (-), and counteracting () assessments are based on a modern climate normal for 1950-1980 instead of 1990-2014. See also Supplemental Figures 2, 3.

XX INSERT ST3 HERE

**Supplemental Figure 1**: As Figure 3 in the main text, except that all estimates of gains, losses, and presences are restricted to the subset of gridcells that had observations in both the PLS and FIA datasets. See also Supplemental Table 2.

XX INSERT SF1 HERE

**Supplemental Figure 2**: As Figure 4 in the main text, except that the modern climate normal is for 1950-1980 instead of 1990-2014.

XX INSERT SF2 HERE

**Supplemental Figure 3**: As Figure 5 in the main text, except that the modern climate normal is for 1950-1980 instead of 1990-2014.

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