Carbon Pools in R

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Theory behind the statistical function

The quantile function calculates quantiles based on a specified probability distribution. The formula for calculating the quantiles is based on the definition of quantiles and the probability distribution.

The formula for the quantile at probability p (where p is a value between 0 and 1) is defined as:

Where:

* is the quantile at probability .
* is the -th order statistic, which is the data point just below the -th percentile.
* is the -th order statistic, which is the data point just above the -th percentile.
* is the fractional part of the index (i.e., the decimal portion).

The quantile function in R uses linear interpolation to calculate quantiles. It estimates the quantiles by finding the order statistics and based on the specified , and then performs the linear interpolation using the formula above to estimate the quantile value.

In simpler terms, the quantile function finds the two data points that bound the specified quantile, calculates a weighted average of those points, and returns the estimated quantile value. This allows you to divide your data into segments based on the specified probabilities (e.g., quartiles at ).

Table 1. Tables of deadwood decay classes per tree genus or tree functional type aggregated.

| Species | Decay Class 1 | Decay Class 2 | Decay Class 3 | Decay Class 4 | Decay Class 5 |
| --- | --- | --- | --- | --- | --- |
| Abies | 343 | 305 | 247 | 174 | 149 |
| Alnus | 422 | 359 | 286 | 197 | 120 |
| Deciduous | 523 | 442 | 345 | 241 | 152 |
| Carpinus | 428 | 392 | 336 | 211 | 140 |
| Conifer | 374 | 334 | 271 | 198 | 160 |
| Fagus | 520 | 379 | 261 | 229 | 220 |
| Fraxinus | 452 | 403 | 392 | 227 | 151 |
| Picea | 381 | 340 | 270 | 190 | 157 |
| Pinus | 379 | 334 | 277 | 214 | 165 |
| Quercus | 614 | 518 | 397 | 300 | 195 |

Tables of deadwood decay classes per tree genus or tree functional type aggregated. All the values are expressed as dry biomass per volume . The Decay Classes are a function of time, from the most recent wood decay stage to the oldest.

## Including Plots

You can also embed plots, for example:

