

Table S1. Calculation of the 12 LiDAR variables used in this study.

Variables were grouped into four categories that provided information about canopy cover, composition of vertical structure, heterogeneity of vertical structure, and canopy mean height.	
LiDAR data technical parameters.	
LiDAR sensor model	LEICA ALS 50
Flight start date	April-2016
Flight end date	August-2017
Minimum point density (p/m ²)	0.5
Average point density (p/m ²)	1-4.28
RMSE xy (m)	< 0.3
RMSE z (m)	< 0.2
The extraction of the LiDAR data was performed on circular plots with a radius of 53 m (8,834 m ²), obtained from the centre of each plot and equivalent to the square of 75 m x 75 m delimited by the four corners of the SEMICE sampling plots. For the two rectangular grids we calculated 125 m x 45 m areas.	
The horizontal structure of vegetation was estimated from the percentage of first laser returns in the LiDAR point cloud at 0.25, 0.50, 0.75, 1.00, 1.50 and 2.50 m, which is an indicator of canopy cover at each height. The complexity of the vertical structure was estimated, as a percentage, by the relative contribution of each vegetation layer (0.15-0.25 m, 0.25-0.50 m, 0.50-0.75 m, 0.75-1 m, 1-1.50 m, 1.50-2.50 m, > 2.50 m). The contribution of all layers sums 100. Contributions were calculated as the number of laser returns in each stratum divided by the total number of returns, excluding ground points and those at < 0.15 m. Thus, values close to 100 in the strata below 1.50 m indicate open canopies with lower layers comprising most of the total vertical structure, while values close to 100 in the strata above 1.50 m indicate dense tree crowns with limited presence of additional vertical structure at lower layers.	
We also calculated the heterogeneity of canopy height as the standard deviation of height values for first returns in each stratum, where high values indicate a greater heterogeneity and therefore complexity in the vertical structure. Finally, the mean height of vegetation was also estimated for each layer. All processing and spatial analysis was performed with the Free Access Geographical Information System QGIS, version 2.14.22.	