



Figure S1: Learning rates (ETA) and mean RMSE values obtained across 1000 iterations during the 3-folds validation process carried out with the XGboost gradient boosting algorithm. For AGB estimation TLS volume was used as single predictor, while for GB estimation TLS volume and NDVI were used. Optimal values were ETA= 0.05 for AGB and 0.1 for GB in the 3D convex hull approach, ETA=0.05 for AGB and 0.3 for GB in voxel method at 5 cm of spatial resolution and ETA= 0.2 for AGB and 0.05 for GB in the raster approach at 2 cm resolution. RMSE values were stable under 300 iterations in all cases, so XGboost was carried out under 300 iterations.