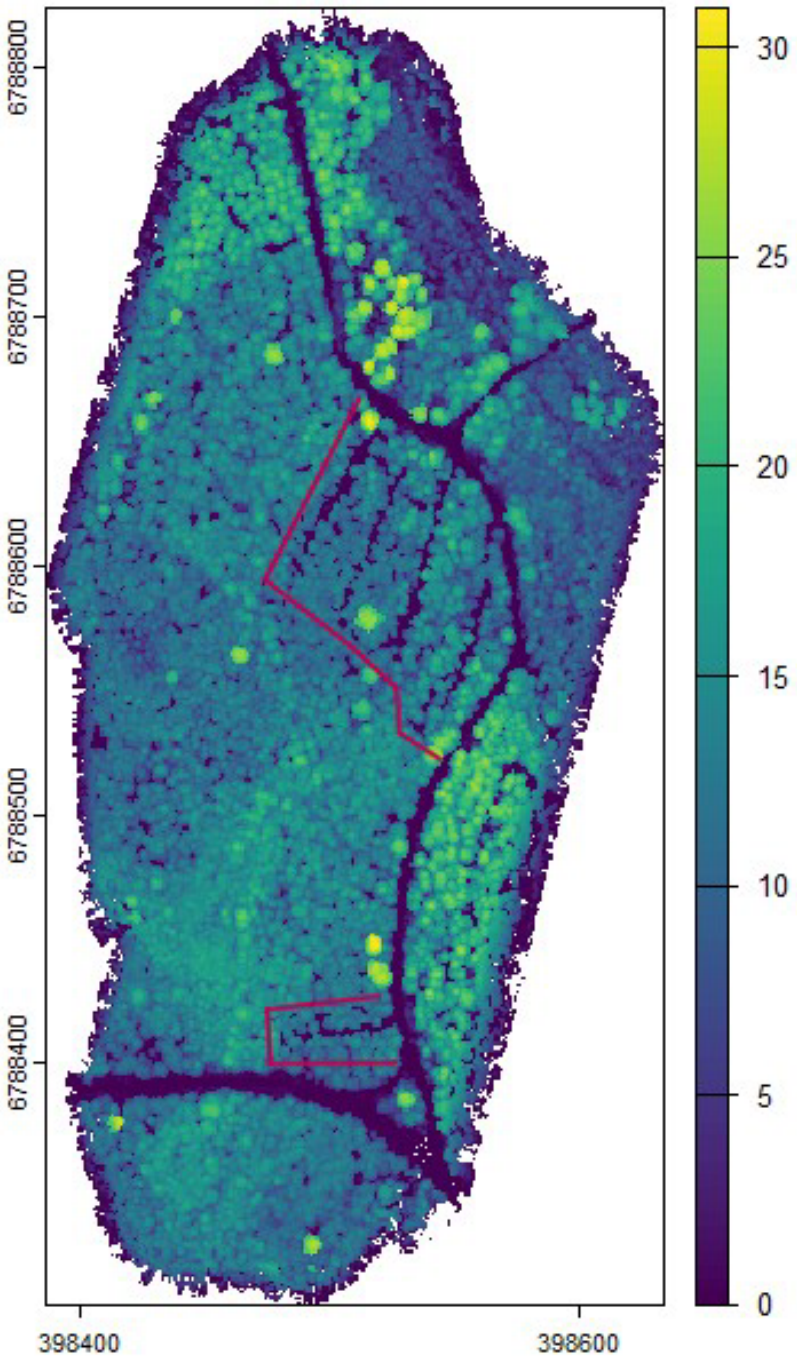
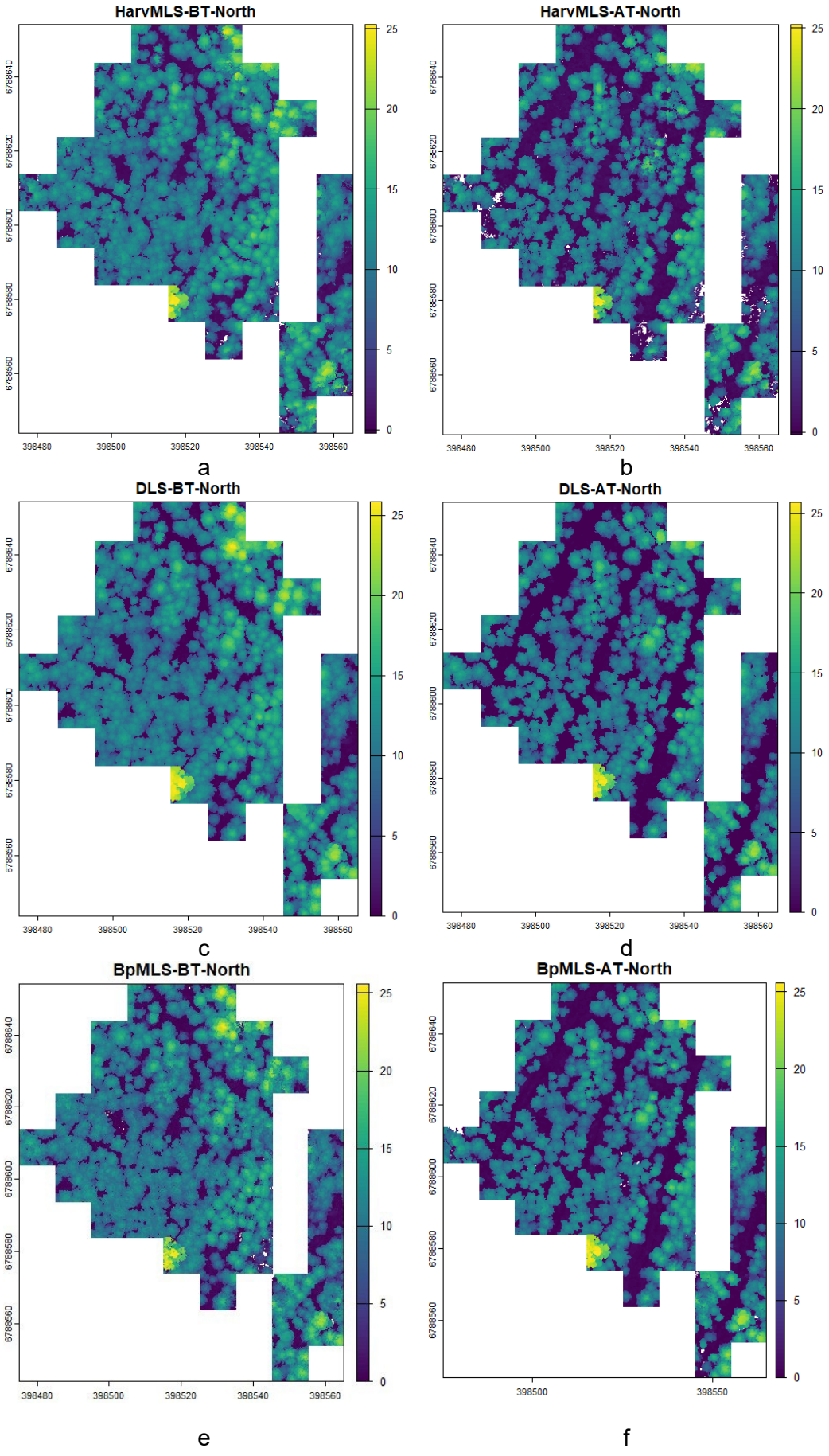
Kafle B., Kankare V., Kaartinen H., Väätäinen K., Hyyti H., Faitli T., Koivumäki N., Hyyppä J., Kukko A., Kärhä K. (2026). Boreal forest structure assessment using harvester-mounted, drone-based and backpack mobile laser scanning systems. Silva Fennica vol. 60 no. 3 article id 25056. https://doi.org/10.14214/sf.25056

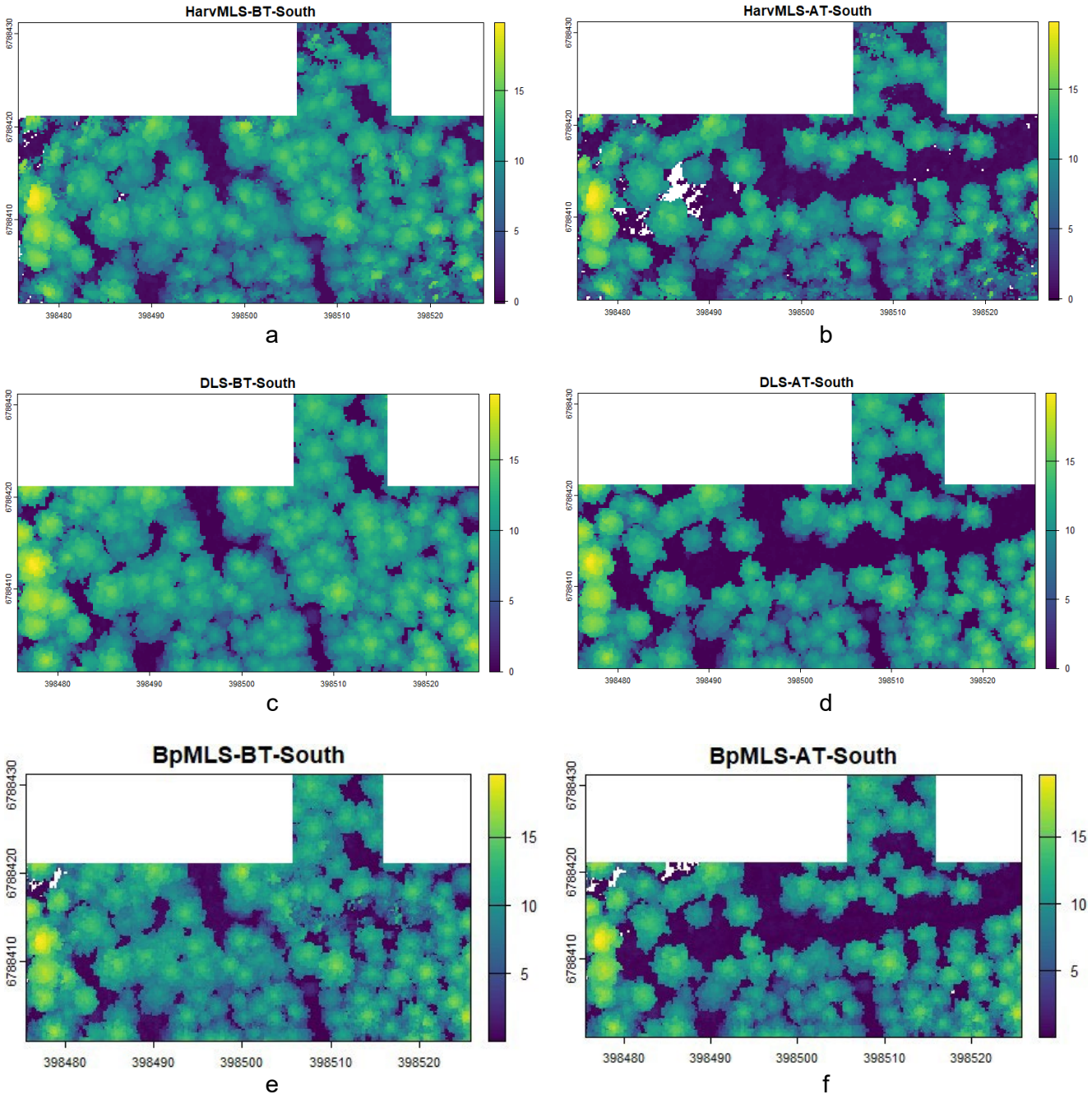
Supplementary file S1



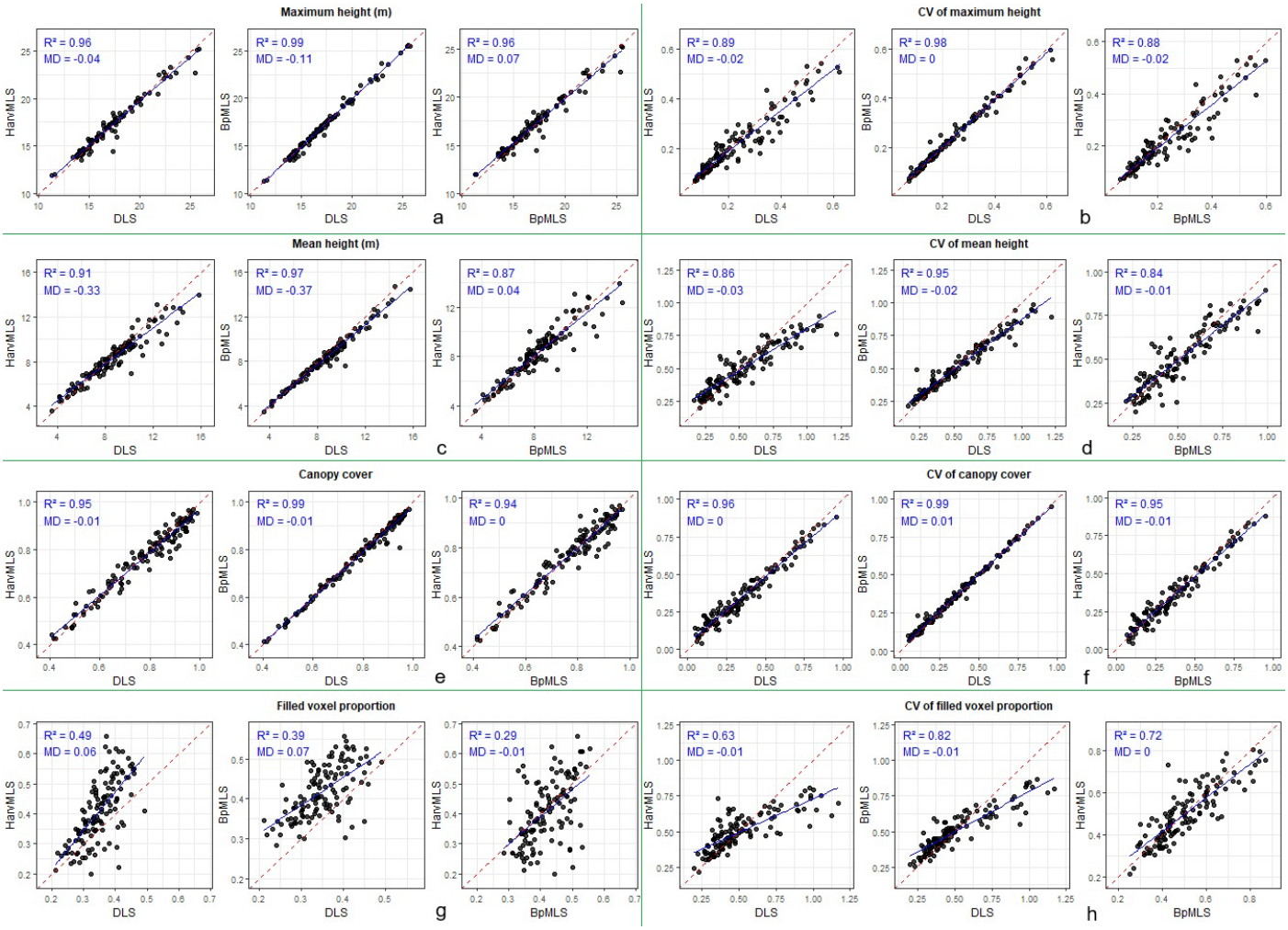
Supplementary Fig. S1. Location of the study area shown by a canopy height model (CHM; 20 cm resolution) derived from drone-based laser scanning (DLS) data and acquired after thinning. The thinned area is outlined in red. The x-axis and y-axis represent easting and northing coordinates (m), respectively.



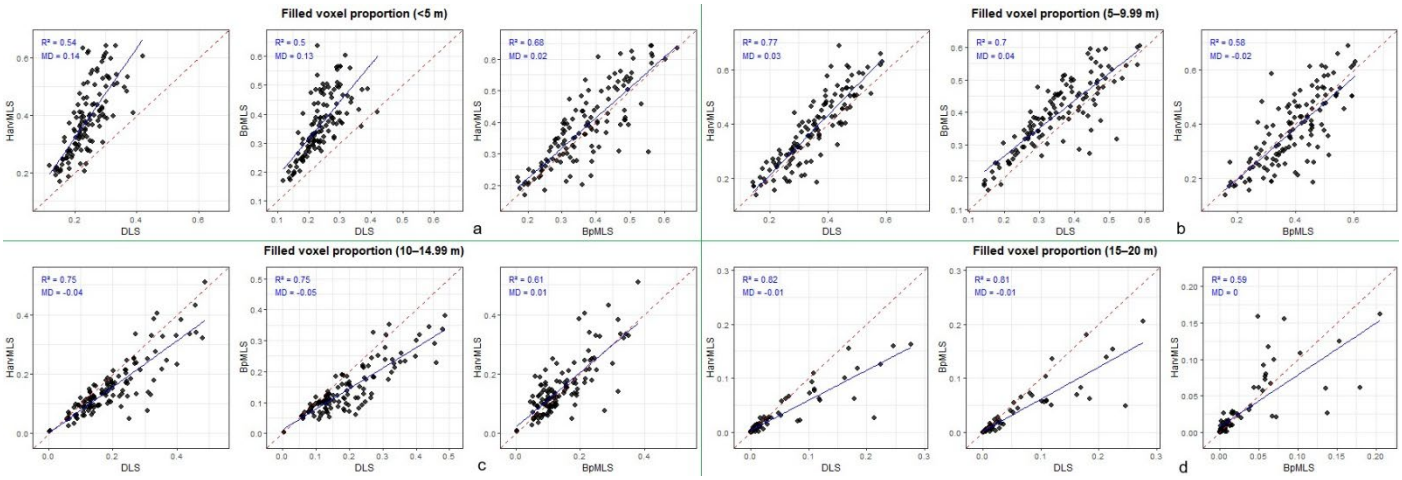
Supplementary Fig. S2. Selected 10 m × 10 m study plots in the northern side shown by a canopy height model (CHM; 20 cm resolution). Forest structure was captured during thinning using two harvester-mounted mobile laser scanners (HarvMLS), and the point clouds were segmented into before thinning (BT; a) and after thinning (AT; b) datasets. Drone-based laser scanner (DLS) and backpack mobile laser scanner (BpMLS) were used to capture the forest structure before thinning (BT) and after thinning (AT) (c-f). Axes show easting and northing coordinates (m).



Supplementary Fig. S3. Selected 10 m × 10 m study plots in the southern side shown by a canopy height model (CHM; 20 cm resolution). Forest structure was captured during thinning using two harvester-mounted mobile laser scanners (HarvMLS), and the point clouds were segmented into before thinning (BT; a) and after thinning (AT; b) datasets. Drone-based laser scanner (DLS) and backpack mobile laser scanner (BpMLS) were used to capture the forest structure before thinning (BT) and after thinning (AT) (c-f). Axes show easting and northing coordinates (m).



Supplementary Fig. S4. Relationship between laser scanning systems in estimating forest structure, expressed as the coefficient of determination (R^2) and mean difference (MD). Structural attributes include maximum height (a), mean height (c), canopy cover (e), and filled voxel proportion (g). Structural complexity attributes include coefficient of variation (CV) of structural attributes: maximum height (b), mean height (d), canopy cover (f), and filled voxel proportion (h).



Supplementary Fig. S5. Relationship between laser scanning systems in estimating filled voxel proportion across different heights: below 5 m (a), 5-9.99 m (b), 10-15 m (c), and 15-20 m (d). The coefficient of determination (R^2) and mean difference (MD) are provided for each comparison.