Supplementary information for

FineKarstAGB: A 30 m resolution aboveground biomass dataset for Southwest China derived by upscaling plot-level inventory using sub-meter GaoFen satellite data

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The supplementary materials include:

Table S1

Figures S1–S4

References

Table S1. Provincial statistics of image tiles and tree counts in Southwest China

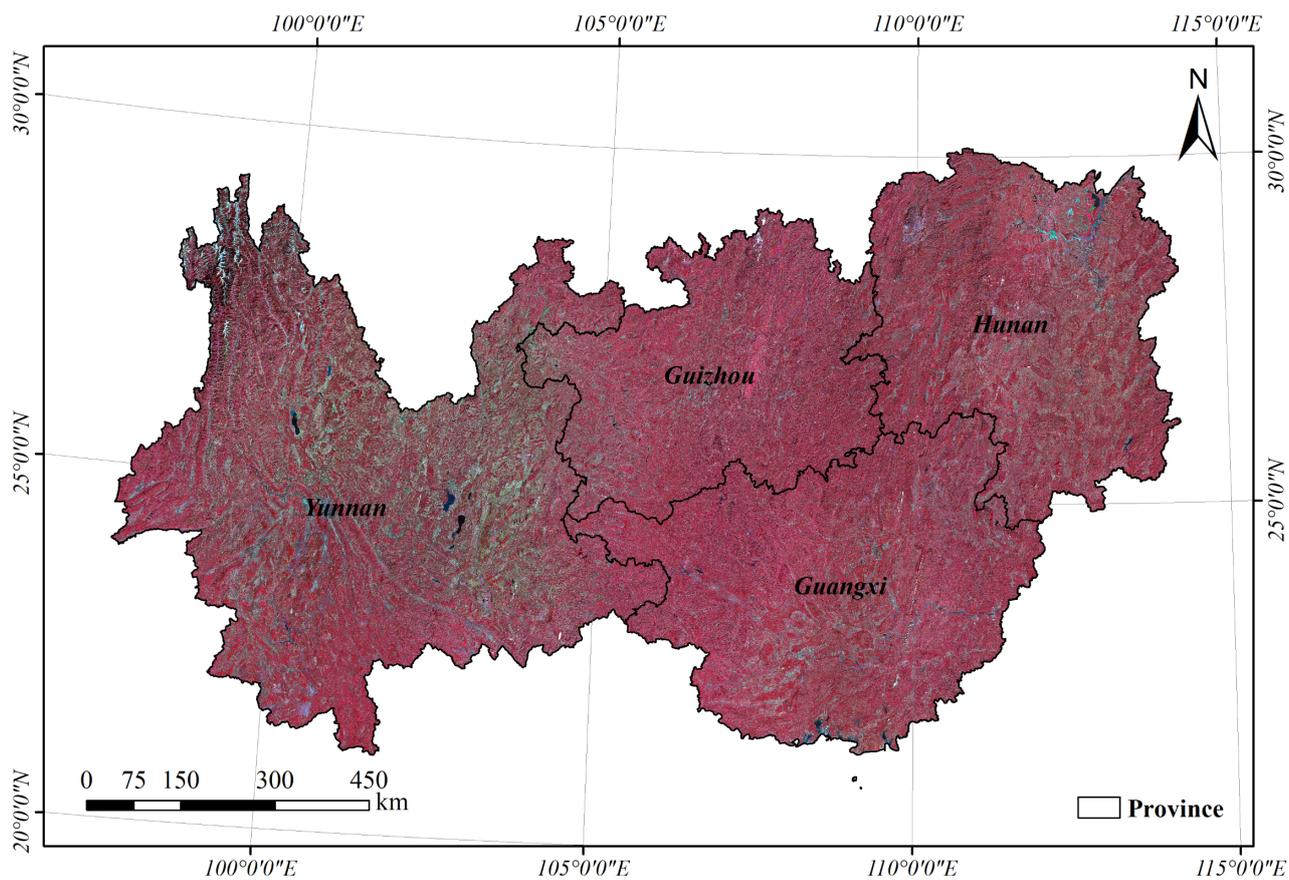| Province	Image Tiles	Tree Counts (billion)
Yunnan	5208	7.68
Guizhou	2392	5.25
Guangxi	3075	3.85
Hunan	2973	4.23
Total	13648	21.01

Figure S1. Mosaic of GaoFen imagery over the study area, consisting of 13,648 image tiles (visualized using near-infrared, red, and green bands).

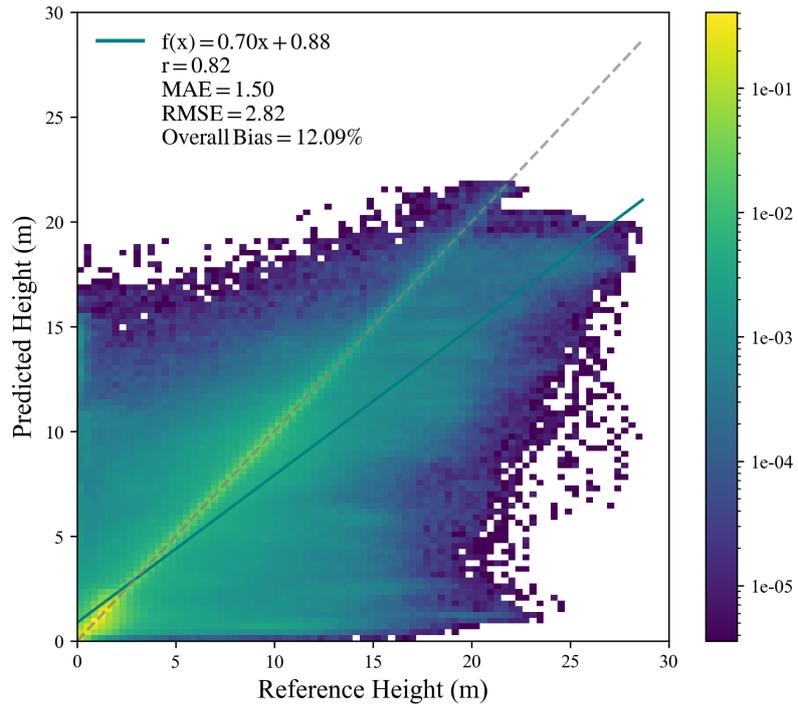**Figure S2.** Accuracy assessment of the canopy height dataset against UAV LiDAR–derived CHM (sourced from the LIDARNET (http://lidar.pku.edu.cn) and number of pixels, n = 2,842,726).
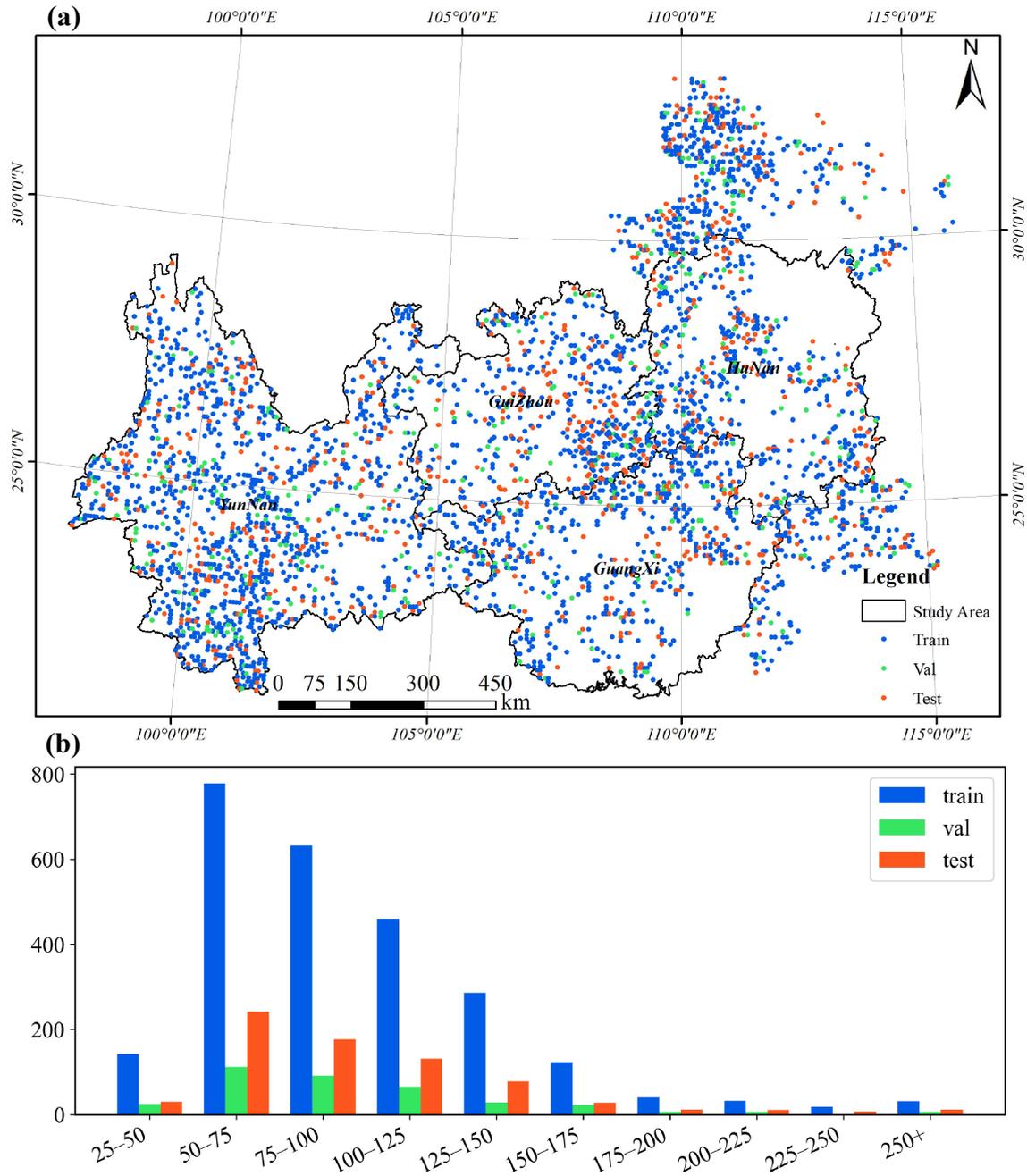
Figure S3. Overview of National Forest Inventory (NFI) data. (a) Spatial distribution of NFI plots. (b) Frequency distribution of train/val/test set by AGB interval.
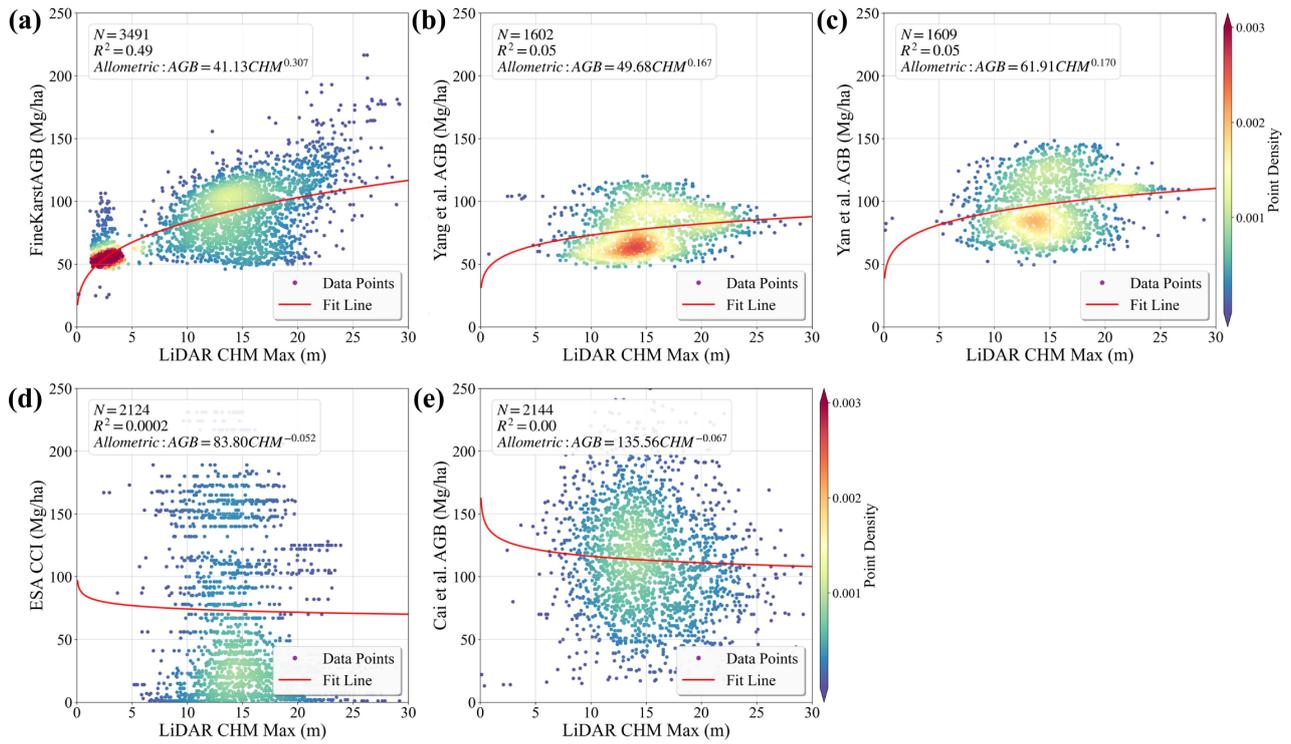
Figure S4. Evaluation of our AGB dataset comparing it against UAV LiDAR CHM data (maximum). Results are shown for (a) FineKarstAGB (Ours), (b) Yang et al. (2023), (c) Yan et al. (2023), (d) ESA CCI and (e) Cai et al. (2024)
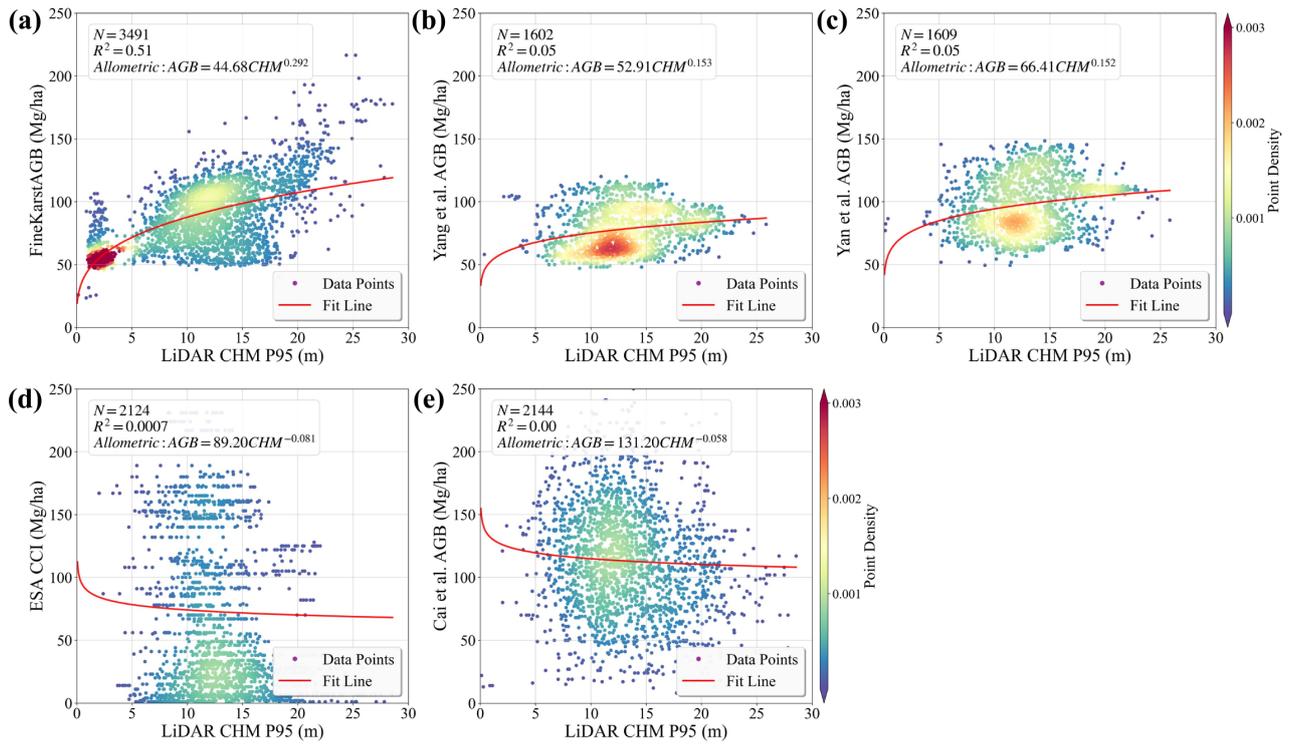
Figure S5. Evaluation of our AGB dataset comparing it against UAV LiDAR CHM data (the 95th percentile). Results are shown for (a) FineKarstAGB (Ours), (b) Yang et al. (2023), (c) Yan et al. (2023), (d) ESA CCI and (e) Cai et al. (2024)

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