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Supplementary Information of

Assessing the role of terrestrial ecosystems in Finland's total CO₂ balance through a comparison of top-down and bottom-up estimates

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Fig S1. Linear regression between ORCHIDEE-N and CarboScopeRegional from V2021 model ensembles, including the r^2 values. The estimates are grouped to southern Finland (yellow), central Finland (green) and northern Finland (blue). The maps illustrate the difference between bottom-up and inversion CO₂ fluxes across all grid cells, red values indicating more positive values (smaller sink) in inversion fluxes. In addition, the maps delineate the spatial distribution of grid cells in each resolution that satisfy the specified criterion for forest fraction.



Fig S2. Linear regression between PREBAS and CIF or LUMIA from V2021 model ensembles, including the r^2 values. The estimates are grouped to southern Finland (yellow), central Finland (green) and northern Finland (blue). The maps illustrate the difference between bottom-up and inversion CO₂ fluxes across all grid cells, red values indicating more positive values (smaller sink) in inversion fluxes. In addition, the maps delineate the spatial distribution of grid cells in each resolution that satisfies the specified criterion for forest fraction.



Fig S3. Linear regression between ORCHIDEE-N and CIF or LUMIA from V2021 model ensembles, including the r^2 values. The estimates are grouped to southern Finland (yellow), central Finland (green) and northern Finland (blue). The maps illustrate the difference between bottom-up and inversion CO₂ fluxes across all grid cells, red values indicating more positive values (smaller sink) in inversion fluxes. In addition, the maps delineate the spatial distribution of grid cells in each resolution that satisfy the specified criterion for forest fraction.