Supplementary data

Table S1. Individual tree volume models for three tree species[93].

Species	Individual tree volume model	Source
Korean pine	$V_{individual}=0.00007616D_{lun}^{1.89948264}H^{0.86116962}$ $D_{lun}=-0.49805+0.98158D$ $H=21.331961-301.986783/(D_{lun}+14)$	Tree volume tables of China (2017)
Korean larch	$V_{individual}=0.00005228D_{lun}^{1.57561364}H^{1.36856283}$ $D_{lun}=-0.34995+0.97838D$ $H=34.129639-641.807935/(D_{lun}+18)$	Tree volume tables of China (2017)
Mongolian pine	$V_{individual}=0.00008472D_{lun}^{1.97420228}H^{0.74561762}$ $D_{lun}=-0.39467+0.98006D$ $H=32.244561-956.676579/(D_{lun}+31)$	Tree volume tables of China (2017)

Note: $V_{individual}$ is individual tree volume, D_{lun} is diameter gauge, H is total tree height and D is the diameter at breast height.

Table S2. Allometric equations for the calculation of stand total and component biomass for each tree species [94, 95].

Species	Equation	Source
Pinus koraiensis Siebold & Zucc.	$\ln(W_r)=-3.1761+2.1982\times\ln(D)$ $\ln(W_s)=-2.4288+2.2705\times\ln(D)$ $\ln(W_b)=-6.6390+3.2250\times\ln(D)$ $\ln(W_n)=-5.2841+2.5952\times\ln(D)$	Dong (2015)
Larix olgensisi A. Henry	$\ln(W_r)=-5.3510+2.9914\times\ln(D)$ $\ln(W_s)=-3.7797+2.8778\times\ln(D)$ $\ln(W_b)=-3.7266+2.1147\times\ln(D)$ $\ln(W_n)=-2.3186+1.2549\times\ln(D)$	Dong (2015)
Pinus sylvestris var. *mongolica* Litv.	$\ln(W_r)=-2.6309+1.9513\times\ln(D)$ $\ln(W_s)=-3.5715+2.7203\times\ln(D)$ $\ln(W_b)=-4.8200+2.5112\times\ln(D)$ $\ln(W_n)=-3.9112+2.0327\times\ln(D)$	Dong (2015)
Betula platyphylla Sukaczev	$\ln(W_r)=-2.9527+2.2634\times\ln(D)$	Dong (2015)

Quercus mongolica Fisch. ex Ledeb.	$\ln(W_s)=-2.3549+2.4096\times\ln(D)$ $\ln(W_b)=-5.7625+3.0656\times\ln(D)$ $\ln(W_n)=-5.9711+2.5871\times\ln(D)$ $\ln(W_r)=-3.0409+2.2943\times\ln(D)$ $\ln(W_s)=-2.5856+2.4856\times\ln(D)$ $\ln(W_b)=-6.997+3.522\times\ln(D)$ $\ln(W_n)=-5.146+2.3185\times\ln(D)$ $\ln(W_r)=-2.4058+1.9782\times\ln(D)$	Dong (2015)
Juglans mandshurica Maxim	$\ln(W_s)=-3.4542+2.7104\times\ln(D)$ $\ln(W_b)=-4.0735+2.4477\times\ln(D)$ $\ln(W_n)=-5.0456+2.2577\times\ln(D)$ $\ln(W_r)=-2.5521+1.9964\times\ln(D)$	Dong (2015)
Tilia tuan Szyszyl.	$\ln(W_s)=-3.2077+2.6150\times\ln(D)$ $\ln(W_b)=-5.0391+2.5667\times\ln(D)$ $\ln(W_n)=-4.6863+1.9161\times\ln(D)$ $\ln(W_r)=-4.6491+2.7908\times\ln(D)$	Dong (2015)
Fraxinus mandshurica Rupr.	$\ln(W_s)=-2.8496+2.5406\times\ln(D)$ $\ln(W_b)=-5.5012+2.9299\times\ln(D)$ $\ln(W_n)=-5.2438+2.3450\times\ln(D)$ $\ln(W_r)=-2.7688+2.1452\times\ln(D)$	Dong (2015)
Ulmus pumila L.	$\ln(W_s)=-2.6707+2.4413\times\ln(D)$ $\ln(W_b)=-3.0159+2.0328\times\ln(D)$ $\ln(W_n)=-3.4241+1.7038\times\ln(D)$ $\ln(W_r)=-3.4915+2.469\times\ln(D)$	Dong (2015)
Acer elegantulum W. P. Fang & P. L. Chiu	$\ln(W_s)=-2.2812+2.3766\times\ln(D)$ $\ln(W_b)=-3.3225+2.2742\times\ln(D)$ $\ln(W_n)=-3.3137+1.7074\times\ln(D)$ $\ln(W_r)=-3.969+2.402\times\ln(D)$	Dong (2015)
Populus przewalskii Maxim.	$\ln(W_s)=-2.2319+2.345\times\ln(D)$ $\ln(W_b)=-6.7768+3.2079\times\ln(D)$ $\ln(W_n)=-6.4023+2.5459\times\ln(D)$ $\log_{10}W_r=1.024+2.617\times\log_{10}D$	Dong (2015)
Phellodendron amurense Rupr.	$\log_{10}W_s=2.046+2.168\times\log_{10}D$ $\log_{10}W_b=0.455+2.873\times\log_{10}D$ $\log_{10}W_n=0.289+2.479\times\log_{10}D$	Wang (2006)

All the allometric equations of the dominant species in our study were obtained from published references. Where W_r, W_s, W_b, W_n are belowground, stem, branch, and needle biomass.

Reference

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