Supplementary Materials. Detailed results from the piecewise linear regression analysis of the various sap flow methods against gravimetric measurements of sap flow. SRFM: slow rates of flow method (also known as the heat ratio method, HRM), see equation 4; Tmax_Coh and Cohen's Tmax Method: see equation 2; Tmax_Klu and Kluitenberg's Tmax method: see equation 3; k_{Vand} and k_{Hogg}: sapwood thermal diffusivity, see equation 5; Slope was determined from the linear regression curve and Error is based on the deviation of this slope from 1; RMSE is the root mean square error of the linear regression (smaller values indicate a more accurate model); n is sample size; V_h is heat velocity; $V_{m\_critical}$ *a priori* Method was determined on heat velocity (cm/hr) data: see equation 10; $V_{m\_critical}$ *posteriori* Method was determined via a breakpoint analysis on sap flux density ($cm^3/cm^2/hr$) data.

Method	Tmax Method	*k* Method	Slope	R^2	RMSE	Error	n	Min. V_h (cm/hr)	Max. V_h (cm/hr)	$V_{m\_critical}$ Method	$V_{m\_critical}$ Value
SRFM (k_{Hogg})		Hogg	0.366	0.458	31.149	63.4 %	300	0.020	32.383		
SRFM (k_{Vand})		Vand	0.509	0.458	27.453	49.1 %	300	0.028	45.063		
Tmax_Coh (k_{Hogg})	Cohen's	Hogg	1.213	0.841	19.754	21.3 %	221	4.256	145.039		
Tmax_Coh (k_{Vand})	Cohen's	Vand	1.005	0.807	12.816	0.5 %	151	4.419	135.880		
Tmax_Klu (k_{Hogg})	Kluitenberg's	Hogg	1.355	0.861	24.340	35.5 %	225	2.049	168.578		
Tmax_Klu (k_{Vand})	Kluitenberg's	Vand	1.178	0.885	14.300	17.8 %	158	7.960	159.667		
DMA_Coh (k_{Hogg}) *a priori*	Cohen's	Hogg	1.148	0.842	17.839	14.8 %	300	0.020	145.039	*a priori*	16.928 (cm/hr)
DMA_Coh (k_{Vand}) *a priori*	Cohen's	Vand	0.984	0.888	11.896	1.6 %	292	0.028	135.880	*a priori*	22.817 (cm/hr)
DMA_Klu (k_{Hogg}) *a priori*	Kluitenberg's	Hogg	1.285	0.852	22.130	28.5 %	300	0.020	168.578	*a priori*	15.812 (cm/hr)

DMA_Klu (k_{Vand}) *a priori*	Kluitenberg's	Vand	1.107	0.887	14.208	10.7 %	298	0.028	159.667	*a priori*	24.588 (cm/hr)
DMA_Coh (k_{Hogg}) *posteriori*	Cohen's	Hogg	1.116	0.935	11.375	11.6 %	300	0.020	145.039	*posteriori*	32.540 ($cm^3/cm^2/hr$)
DMA_Coh (k_{Vand}) *posteriori*	Cohen's	Vand	0.988	0.918	10.446	1.2 %	300	0.028	135.880	*posteriori*	32.540 ($cm^3/cm^2/hr$)
DMA_Klu (k_{Hogg}) *posteriori*	Kluitenberg's	Hogg	1.240	0.940	15.526	24.0 %	300	0.020	168.578	*posteriori*	32.540 ($cm^3/cm^2/hr$)
DMA_Klu (k_{Vand}) *posteriori*	Kluitenberg's	Vand	1.110	0.932	11.526	11.0 %	300	0.028	159.667	*posteriori*	32.540 ($cm^3/cm^2/hr$)