



Figure S1. Sapwood determination procedure. Extraction of wood core samples were with an increment borer from four azimuths of the tree (left), application of color dye on the samples (center) and sapwood area determination based on the color difference (right).

Table S1. Sample of trees (N), tree circumference (Circum.), bark depth (bark), diameter (D), and north, south, east and west sapwood depths, all expressed in cm.

N	Circum.	Bark	D	North dx	South dx	East dx	West dx	Variance
Tree 1	120	2.3	16.80	14.50	14.50	14.60	14.30	0.02
Tree 2	109	2.5	14.85	11.85	12.10	12.05	11.95	0.01
Tree 3	93	2	12.80	10.60	10.20	10.35	10.60	0.04

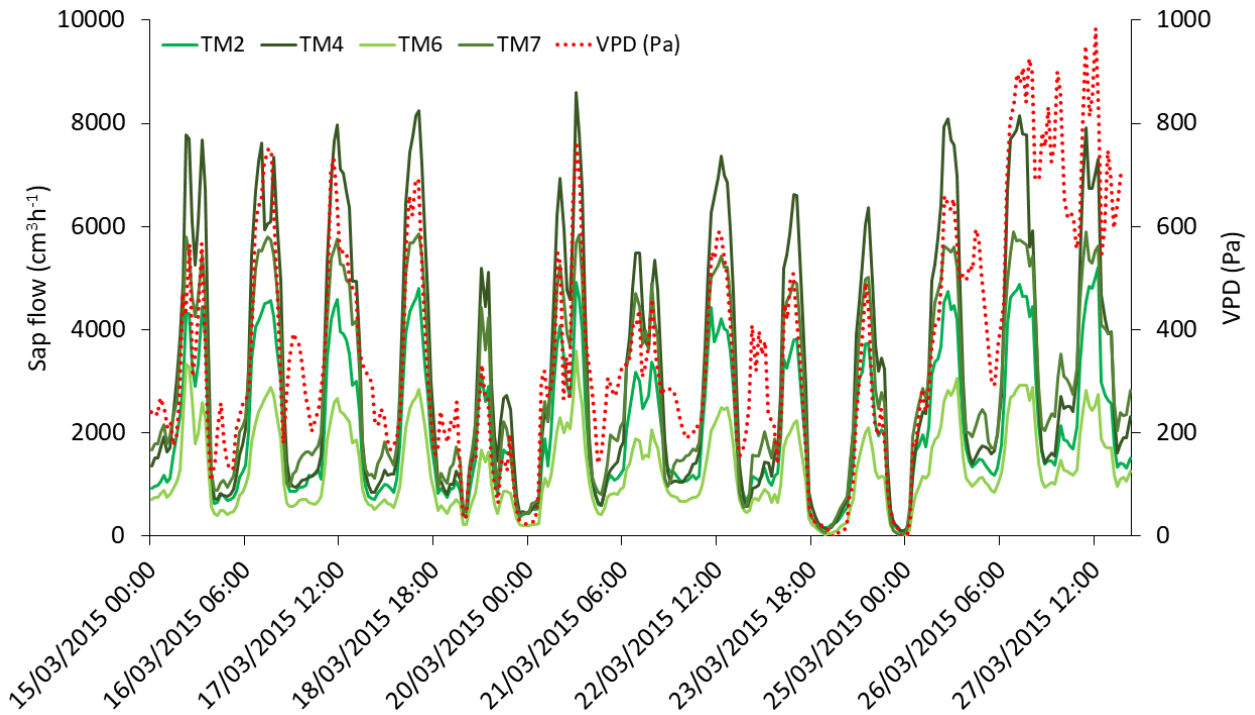


Figure S2. Example of the sapflow observations selected for zero flow determination (23/03/2015 and 25/03/2015) during periods of no biophysical driving force, i.e. near zero VPD and soil moisture above the field capacity ($\theta > 20\%$) (data not shown).

Table S2. The fresh and dry weight, volume (V), basic density of freshwood (p), basic density of dry wood and the water content (mc) of sapwood for the selected *Pinus brutia* trees.

Tree	Fresh weight (g)	Dry weight (g)	V (cm ³)	p (g/cm ³)	pb (g/cm ³)	mc
1	2.24	1.24	2.50	0.90	0.50	0.81
2	2.17	1.41	2.67	0.81	0.53	0.54
3	1.96	1.49	2.29	0.86	0.65	0.32
4	2.49	1.58	3.02	0.83	0.52	0.58
5	1.83	1.02	2.08	0.88	0.49	0.80
6	3.29	2.04	3.33	0.99	0.61	0.61
7	1.82	1.17	1.87	0.97	0.63	0.55
8	1.82	1.17	1.85	0.98	0.63	0.55
9	2.06	1.12	2.40	0.86	0.47	0.84
10	1.86	1.03	2.04	0.91	0.50	0.80

Table S3. Installation and reinstallation dates for each tree. Reinstallations were done either for excessive wounding or sensor failure- maintenance.

Installations	TM1	TM2	TM3	TM4	TM5	TM6	TM7	TM8
1	20/10/2015	26/12/2014	20/10/2015	10/12/2014	20/10/2015	17/11/2014	10/12/2014	20/10/2015
2	15/07/2016	20/07/2015	17/07/2017	24/02/2016	02/11/2016	20/07/2015	18/02/2016	02/11/2016
3	11/09/2017	31/05/2016	07/08/2017	11/08/2017	14/08/2017	28/02/2016	30/08/2016	14/08/2017
4		22/05/2017		02/11/2017	21/12/2017	10/07/2017	02/01/2017	09/10/2017

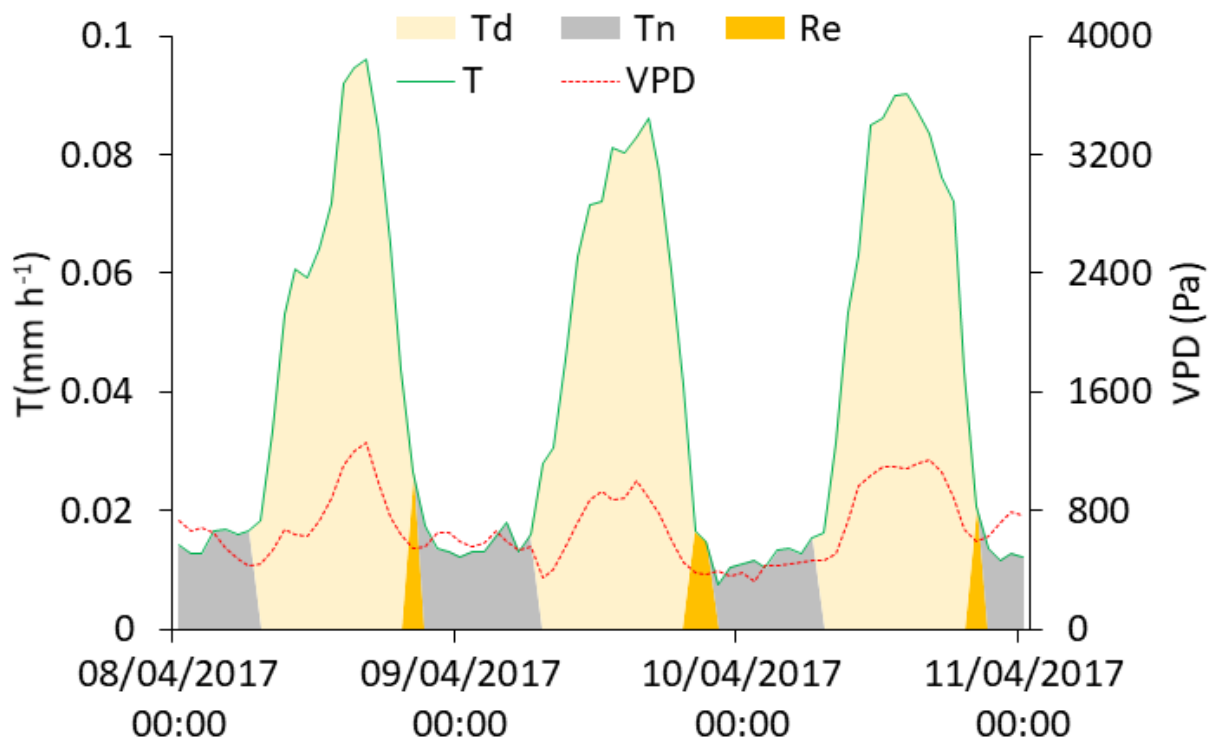
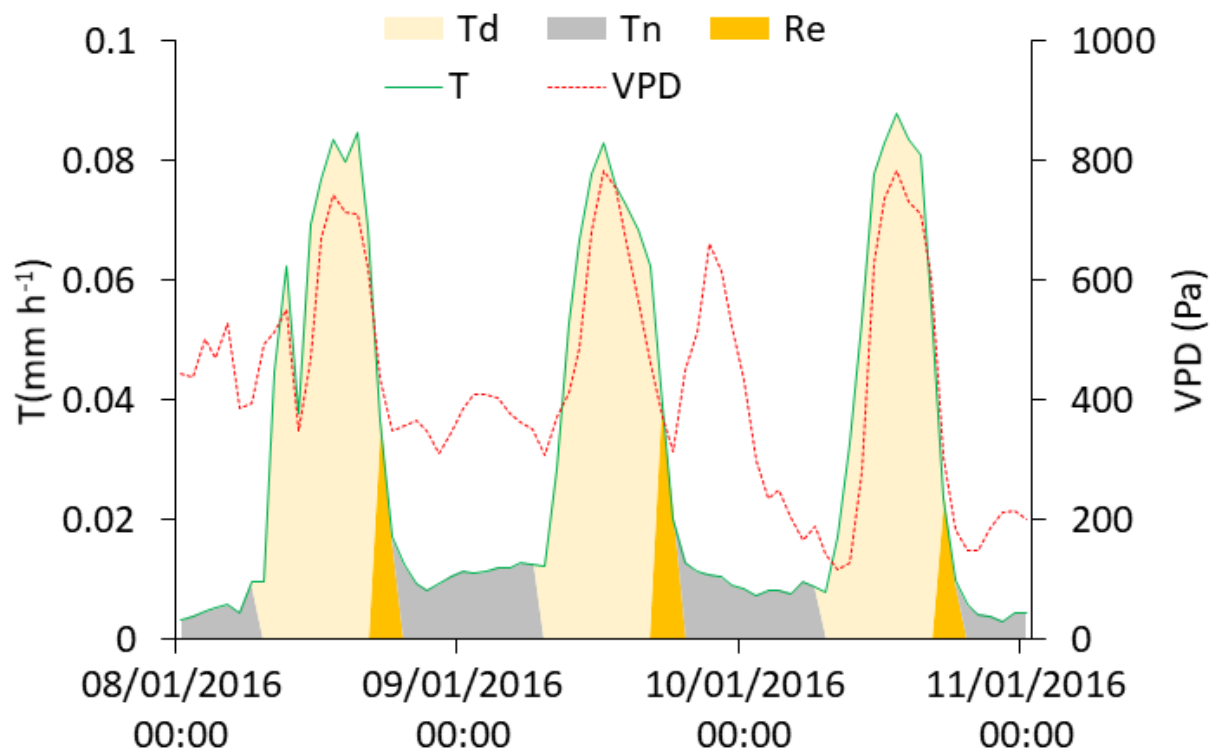


Figure S3. Transpiration (T) and VPD for selected periods (07/04/2015-10/04/2015, 08/01/2016-11/01/2016, 25/02/2015-28/02/2015). The light orange, orange and grey shaded areas show the daytime transpiration (Td), stem refilling (Re) and nocturnal transpiration (Tn), respectively.