

Supplementary materials

Modeling the Radial Stem Growth of the Pine (*Pinus sylvestris* L.) Forests Using the Satellite-Derived NDVI and LST (MODIS/AQUA) Data

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Table 1. Average values of TRW FD (mm) for all sample plots.

Year	Sample plot			
	No. 1	No. 2	No. 3	No. 4
1987	-0.24	0.31	28.90	0.01
1988	0.02	0.44	39.11	0.27
1989	-0.01	-0.86	42.10	-0.25
1990	-0.07	-0.18	70.99	0.11
1991	-0.09	0.06	59.93	-0.15
1992	-0.02	-0.03	35.24	0.11
1993	0.03	0.24	24.06	-0.01
1994	0.17	0.13	31.45	-0.03
1995	-0.20	-0.03	25.77	-0.16
1996	-0.37	-0.26	31.93	-0.02
1997	0.26	-0.11	24.29	-0.10
1998	-0.13	0.03	29.40	0.01
1999	-0.34	-0.42	21.78	-0.02
2000	0.16	-0.04	29.16	0.08
2001	-0.15	-0.01	28.44	-0.02
2002	0.14	0.63	19.57	0.08
2003	0.06	0.17	23.94	0.06
2004	0.05	-0.03	18.30	0.01
2005	0.10	0.03	28.32	0.18
2006	-0.16	-0.18	23.90	-0.13
2007	0.30	0.71	24.58	0.02
2008	-0.18	-0.28	25.26	0.01
2009	0.02	0.07	26.92	-0.06
2010	-0.18	-0.56	27.17	-0.16
2011	0.20	0.35	30.03	0.05
2012	-0.07	-0.54	26.91	-0.23
2013	0.08	0.16	23.54	0.05
2014	0.11	0.19	23.08	-0.01
2015	-0.45	-0.21	22.16	0.15

Table S2. Parameters of regression equation for seasonal dynamics of LST*.

year	sample plot	parameters			R ²	F test	F crit for p=0.05
		b1	b2	b3			
2003	1	-0.00258	0.97	206.87	0.74	31.85	3.37
2004		-0.00231	0.90	209.60	0.87	88.60	3.32
2005		-0.00276	1.05	196.41	0.81	40.11	3.44
2006		-0.00224	0.85	214.10	0.68	21.20	3.42
2007		-0.00191	0.71	229.88	0.74	34.89	3.34
2008		-0.00170	0.63	235.93	0.77	46.92	3.32
2009		-0.00178	0.68	229.48	0.67	20.11	3.42
2010		-0.00267	1.02	198.15	0.64	13.39	3.55
2011		-0.00137	0.50	249.46	0.63	19.74	3.35
2012		-0.00232	0.88	213.15	0.80	44.33	3.37
2013		-0.00202	0.77	220.30	0.75	30.19	3.4
2014		-0.00247	0.85	225.37	0.89	86.63	3.39
2015		-0.00221	0.78	229.00	0.83	56.88	3.35
2003	2	-0.00055	0.12	293.32	0.32	2.65	3.74
2004		-0.00019	0.00	300.50	0.52	6.45	3.68
2005		-0.00318	1.24	175.71	0.60	8.41	3.74
2006		0.00071	-0.42	348.88	0.57	7.48	3.74
2007		-0.00410	1.62	136.19	0.44	4.02	3.81
2008		-0.00169	0.59	243.80	0.58	6.87	3.81
2009		-0.00276	1.03	197.45	0.35	2.81	3.81
2010		-0.00013	-0.04	306.40	0.44	3.20	3.98
2011		-0.00066	0.12	294.58	0.72	14.47	3.74
2012		-0.00178	0.60	247.03	0.40	3.56	3.74
2013		-0.00298	1.11	190.98	0.81	22.04	3.81
2014		-0.00350	1.21	195.24	0.88	42.13	3.68
2015		-0.00055	0.14	287.95	0.36	3.31	3.68
2003	3	-0.00172	0.59	244.56	0.56	9.38	3.55
2004		-0.00106	0.35	266.39	0.59	10.71	3.55
2005		-0.00219	0.83	215.46	0.75	21.69	3.55
2006		-0.00136	0.43	261.31	0.80	27.66	3.59
2007		-0.00247	0.96	201.46	0.64	14.36	3.52
2008		-0.00255	0.94	207.38	0.68	17.67	3.52
2009		-0.00217	0.83	213.17	0.63	12.64	3.55
2010		-0.00112	0.37	263.82	0.73	16.71	3.63
2011		-0.00154	0.57	240.00	0.37	4.59	3.52
2012		-0.00268	1.03	196.70	0.52	8.40	3.52
2013		-0.00240	0.91	207.05	0.84	37.38	3.59
2014		-0.00304	1.07	202.27	0.81	33.11	3.52
2015		-0.00141	0.49	253.91	0.52	7.14	3.63
2003	4	-0.00040	0.10	290.53	0.12	0.58	3.89
2004		-0.00100	0.36	262.72	0.36	3.09	3.74
2005		-0.00351	1.36	165.40	0.63	9.85	3.68
2006		-0.00083	0.20	285.06	0.71	15.78	3.63
2007		-0.00372	1.47	151.48	0.75	21.37	3.59
2008		-0.00257	0.95	205.98	0.62	9.23	3.74
2009		-0.00283	1.08	190.55	0.48	5.61	3.68
2010		-0.00100	0.33	268.14	0.49	4.85	3.81
2011		-0.00185	0.61	244.59	0.40	3.41	3.81
2012		0.00048	-0.32	338.50	0.60	8.16	3.74
2013		-0.00262	0.97	204.42	0.89	43.07	3.74
2014		-0.00237	0.79	231.70	0.89	64.25	3.52
2015		-0.00137	0.47	256.72	0.32	2.31	3.81

*Regressions with non-significant, at $p < 0.05$, F-test values are in bold type.

Table S3. Parameters of regression equation for seasonal dynamics of NDVI.

year	sample plot	parameters			R ²	F test	F crit for p=0.05
		b1	b2	b3			
2003	1	-1.7E-05	0.007	0.049	0.585	21.85	3.28
2004		-1.3E-05	0.005	0.242	0.829	89.88	3.23
2005		-2.3E-05	0.008	-0.042	0.923	173.86	3.29
2006		-2.2E-05	0.009	-0.212	0.883	105.19	3.30
2007		-1.4E-05	0.005	0.222	0.502	14.59	3.29
2008		-1.1E-05	0.004	0.320	0.674	37.24	3.24
2009		-2.1E-05	0.008	-0.032	0.853	81.31	3.30
2010		-3.6E-05	0.015	-0.692	0.951	231.07	3.35
2011		-1.6E-05	0.007	0.066	0.688	31.93	3.29
2012		-1.8E-05	0.008	-0.075	0.821	64.19	3.30
2013		-2.1E-05	0.008	-0.128	0.808	65.23	3.28
2014		-1.8E-05	0.007	0.001	0.858	90.44	3.28
2015		-1.6E-05	0.006	0.210	0.840	91.94	3.24
2003	2	-6.2E-05	0.024	-1.537	0.849	47.65	3.49
2004		-6.1E-05	0.025	-1.601	0.915	107.77	3.42
2005		-7E-05	0.028	-1.946	0.960	226.55	3.44
2006		-6.1E-05	0.025	-1.827	0.921	111.19	3.44
2007		-7.6E-05	0.030	-2.068	0.953	193.71	3.44
2008		-7.9E-05	0.031	-2.246	0.946	147.55	3.49
2009		-6.8E-05	0.027	-1.800	0.930	112.68	3.49
2010		-0.0001	0.045	-3.670	0.984	453.05	3.55
2011		-6.8E-05	0.027	-1.822	0.959	233.65	3.42
2012		-6.6E-05	0.027	-1.846	0.889	67.97	3.49
2013		-7.5E-05	0.031	-2.344	0.898	74.58	3.49
2014		-6.1E-05	0.025	-1.655	0.951	192.71	3.42
2015		-5.8E-05	0.022	-1.286	0.692	19.12	3.49
2003	3	-3.5E-05	0.014	-0.623	0.665	22.85	3.37
2004		-3.8E-05	0.016	-0.787	0.901	109.33	3.35
2005		-3.8E-05	0.016	-0.851	0.810	46.88	3.39
2006		-4.2E-05	0.018	-1.156	0.861	68.24	3.39
2007		-3.2E-05	0.012	-0.478	0.920	143.65	3.34
2008		-2.7E-05	0.010	-0.361	0.705	31.14	3.33
2009		-3.4E-05	0.014	-0.664	0.908	103.34	3.40
2010		-4.6E-05	0.020	-1.473	0.873	62.06	3.47
2011		-3E-05	0.011	-0.442	0.836	58.55	3.37
2012		-3E-05	0.012	-0.481	0.868	65.71	3.42
2013		-3.8E-05	0.016	-1.033	0.837	48.67	3.44
2014		-3.2E-05	0.013	-0.503	0.942	193.86	3.35
2015		-4.2E-05	0.016	-0.808	0.834	52.83	3.40
2003	4	-9.5E-05	0.036	-2.653	0.936	102.85	3.59
2004		-6E-05	0.024	-1.570	0.821	39.07	3.49
2005		-5.9E-05	0.023	-1.518	0.857	47.80	3.52
2006		-4.4E-05	0.018	-1.219	0.754	29.09	3.44
2007		-4.2E-05	0.017	-0.950	0.882	82.33	3.39
2008		-5.3E-05	0.021	-1.292	0.769	28.25	3.49
2009		-4.8E-05	0.018	-1.053	0.725	22.41	3.49
2010		-7E-05	0.028	-2.117	0.902	78.44	3.49
2011		-6.7E-05	0.025	-1.612	0.894	71.41	3.49
2012		-6.3E-05	0.025	-1.801	0.963	235.01	3.47
2013		-6.4E-05	0.027	-1.995	0.951	166.45	3.49
2014		-3.3E-05	0.014	-0.790	0.790	43.15	3.37
2015		-7.5E-05	0.029	-1.996	0.976	322.98	3.52

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