Martin Wilmking

List of Publications by Year
in descending order

134 papers	8,346 citations	53794 45 h-index	51608 86 g-index
145 all docs	145 docs citations	145 times ranked	9188 citing authors

#	Article	IF	Citations
1	Shrub expansion in tundra ecosystems: dynamics, impacts and research priorities. Environmental Research Letters, 2011, 6, 045509.	5.2	1,021
2	Plant functional trait change across a warming tundra biome. Nature, 2018, 562, 57-62.	27.8	451
3	Climate sensitivity of shrub growth across the tundra biome. Nature Climate Change, 2015, 5, 887-891.	18.8	447
4	Complexity revealed in the greening of the Arctic. Nature Climate Change, 2020, 10, 106-117.	18.8	447
5	Recent climate warming forces contrasting growth responses of white spruce at treeline in Alaska through temperature thresholds. Global Change Biology, 2004, 10, 1724-1736.	9.5	414
6	A synthesis of methane emissions from 71 northern, temperate, and subtropical wetlands. Global Change Biology, 2014, 20, 2183-2197.	9.5	389
7	Establishing a missing link: warm summers and winter snow cover promote shrub expansion into alpine tundra in Scandinavia. New Phytologist, 2010, 186, 890-899.	7.3	272
8	CO₂ flux determination by closed-chamber methods can be seriously biased by inappropriate application of linear regression. Biogeosciences, 2007, 4, 1005-1025.	3.3	254
9	Drought matters â€“ Declining precipitation influences growth of Fagus sylvatica L. and Quercus robur L. in north-eastern Germany. Forest Ecology and Management, 2011, 262, 947-961.	3.2	229
10	Increased temperature sensitivity and divergent growth trends in circumpolar boreal forests. Geophysical Research Letters, 2005, 32, .	4.0	122
11	SoilTemp: A global database of nearâ€surface temperature. Global Change Biology, 2020, 26, 6616-6629.	9.5	122
12	Methods for measuring arctic and alpine shrub growth: A review. Earth-Science Reviews, 2015, 140, 1-13.	9.1	112
13	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. Nature Climate Change, 2020, 10, 555-560.	18.8	106
14	Global assessment of relationships between climate and tree growth. Global Change Biology, 2020, 26, 3212-3220.	9.5	104
15	Longitudinal variation of radial growth at Alaska's northern treelineâ€"recent changes and possible scenarios for the 21st century. Global and Planetary Change, 2005, 47, 282-300.	3.5	102
16	Tree growth influenced by warming winter climate and summer moisture availability in northern temperate forests. Global Change Biology, 2020, 26, 2505-2518.	9.5	101
17	Scientific Merits and Analytical Challenges of Treeâ€Ring Densitometry. Reviews of Geophysics, 2019, 57, 1224-1264.	23.0	98
18	Local adaptations to frost in marginal and central populations of the dominant forest tree <i><scp>F</scp>agus sylvatica </i><scp>L</scp>. as affected by temperature and extreme drought in common garden experiments. Ecology and Evolution, 2014, 4, 594-605.	1.9	97

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19	Divergent tree growth response to recent climatic warming, Lake Clark National Park and Preserve, Alaska. Geophysical Research Letters, 2005, 32, .	4.0	93
20	Climatically controlled reproduction drives interannual growth variability in a temperate tree species. Ecology Letters, 2018, 21, 1833-1844.	6.4	92
21	Climate-change-driven growth decline of European beech forests. Communications Biology, 2022, 5, 163.	4.4	89
22	A 694-year tree-ring based rainfall reconstruction from Himachal Pradesh, India. Climate Dynamics, 2009, 33, 1149-1158.	3.8	88
23	Reconstruction of Summer Temperatures in Interior Alaska from Tree-Ring Proxies: Evidence for Changing Synoptic Climate Regimes. Climatic Change, 2004, 63, 91-120.	3.6	78
24	Correcting the calculation of GleichlÃufigkeit. Dendrochronologia, 2015, 34, 29-30.	2.2	77
25	Rewetting does not return drained fen peatlands to their old selves. Nature Communications, 2021, 12, 5693.	12.8	75
26	Divergent growth responses and increasing temperature limitation of Qinghai spruce growth along an elevation gradient at the northeast Tibet Plateau. Forest Ecology and Management, 2010, 260, 1076-1082.	3.2	74
27	Plant-mediated CH₄ transport and contribution of photosynthates to methanogenesis at a boreal mire: a ¹⁴C pulse-labeling study. Biogeosciences, 2011, 8, 2365-2375.	3.3	72
28	Wetland succession in a permafrost collapse: interactions between fire and thermokarst. Biogeosciences, 2008, 5, 1273-1286.	3.3	70
29	Continuously missing outer rings in woody plants at their distributional margins. Dendrochronologia, 2012, 30, 213-222.	2.2	69
30	The 2018 European heatwave led to stem dehydration but not to consistent growth reductions in forests. Nature Communications, 2022, 13, 28.	12.8	66
31	Do limiting factors at Alaskan treelines shift with climatic regimes?. Environmental Research Letters, 2012, 7, 015505.	5.2	64
32	A comparison of linear and exponential regression for estimating diffusive CH4 fluxes by closed-chambers in peatlands. Soil Biology and Biochemistry, 2010, 42, 507-515.	8.8	58
33	Tundra Trait Team: A database of plant traits spanning the tundra biome. Global Ecology and Biogeography, 2018, 27, 1402-1411.	5.8	57
34	Cross-evaluation of measurements of peatland methane emissions on microform and ecosystem scales using high-resolution landcover classification and source weight modelling. Agricultural and Forest Meteorology, 2011, 151, 864-874.	4.8	56
35	Effect of tree line advance on carbon storage in NW Alaska. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	55
36	Changing climate sensitivity of black spruce (Picea mariana Mill.) in a peatlandâ€"forest landscape in Interior Alaska. Dendrochronologia, 2008, 25, 167-175.	2.2	55

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37	Habitat conditions and phenological tree traits overrule the influence of tree genotype in the needle mycobiomeâ€“<i><scp>P</scp>icea glauca</i> system at an arctic treeline ecotone. New Phytologist, 2016, 211, 1221-1231.	7.3	55
38	Size mattersâ€"a comparison of three methods to assess age- and size-dependent climate sensitivity of trees. Trees - Structure and Function, 2019, 33, 183-192.	1.9	54
39	Global plant trait relationships extend to the climatic extremes of the tundra biome. Nature Communications, 2020, 11, 1351.	12.8	52
40	Changing relationships between tree growth and climate in Northwest China. Plant Ecology, 2009, 201, 39-50.	1.6	50
41	Tuning the Voices of a Choir: Detecting Ecological Gradients in Time-Series Populations. PLoS ONE, 2016, 11, e0158346.	2.5	50
42	Distinct growth phenology but similar daily stem dynamics in three co-occurring broadleaved tree species. Tree Physiology, 2018, 38, 1820-1828.	3.1	50
43	Traditional plant functional groups explain variation in economic but not sizeâ€related traits across the tundra biome. Global Ecology and Biogeography, 2019, 28, 78-95.	5.8	49
44	The surface energy balance and its drivers in a boreal peatland fen of northwestern Russia. Journal of Hydrology, 2014, 511, 359-373.	5.4	48
45	dendrometeR: Analyzing the pulse of trees in R. Dendrochronologia, 2016, 40, 12-16.	2.2	48
46	Low resistance but high resilience in growth of a major deciduous forest tree (Fagus sylvatica L.) in response to late spring frost in southern Germany. Trees - Structure and Function, 2017, 31, 743-751.	1.9	47
47	Background invertebrate herbivory on dwarf birch (Betula glandulosa-nana complex) increases with temperature and precipitation across the tundra biome. Polar Biology, 2017, 40, 2265-2278.	1.2	47
48	Differential radial growth patterns between beech (Fagus sylvatica L.) and oak (Quercus robur L.) on periodically waterlogged soils. Tree Physiology, 2013, 33, 425-437.	3.1	46
49	Global fading of the temperatureâ€"growth coupling at alpine and polar treelines. Global Change Biology, 2021, 27, 1879-1889.	9.5	46
50	From Understanding to Sustainable Use of Peatlands: The WETSCAPES Approach. Soil Systems, 2020, 4, 14.	2.6	45
51	The influence of summer seasonal extremes on dissolved organic carbon export from a boreal peatland catchment: Evidence from one dry and one wet growing season. Science of the Total Environment, 2009, 407, 1373-1382.	8.0	44
52	Common trends in elements? Within- and between-tree variations of wood-chemistry measured by X-ray fluorescence â€" A dendrochemical study. Science of the Total Environment, 2016, 566-567, 1245-1253.	8.0	44
53	Diverging shrub and tree growth from the Polar to the Mediterranean biomes across the European continent. Global Change Biology, 2017, 23, 3169-3180.	9.5	44
54	Evapotranspiration dynamics in a boreal peatland and its impact on the water and energy balance. Journal of Geophysical Research, 2010, 115, .	3.3	42

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55	Lowest drought sensitivity and decreasing growth synchrony towards the dry distribution margin of European beech. Journal of Biogeography, 2020, 47, 1910-1921.	3.0	40
56	Winter matters: Sensitivity to winter climate and cold events increases towards the cold distribution margin of European beech (<i>Fagus sylvatica</i> L.). Journal of Biogeography, 2018, 45, 2779-2790.	3.0	37
57	Tree growth at the end of the 21st century - the extreme years 2018/19 as template for future growth conditions. Environmental Research Letters, 2020, 15, 074022.	5.2	37
58	Different maximum latewood density and blue intensity measurements techniques reveal similar results. Dendrochronologia, 2018, 49, 94-101.	2.2	36
59	The â€œcarbon-neutral universityâ€•â€“ a study from Germany. International Journal of Sustainability in Higher Education, 2018, 19, 130-145.	3.1	34
60	Do we miss the hot spots? â€“ The use of very high resolution aerial photographs to quantify carbon fluxes in peatlands. Biogeosciences, 2008, 5, 1387-1393.	3.3	32
61	Diurnal dynamics of CH₄ from a boreal peatland during snowmelt. Tellus, Series B: Chemical and Physical Meteorology, 2022, 62, 133.	1.6	32
62	Carbon dioxide exchange fluxes of a boreal peatland over a complete growing season, Komi Republic, NW Russia. Biogeochemistry, 2012, 111, 485-513.	3.5	32
63	The biophysical climate mitigation potential of boreal peatlands during the growing season. Environmental Research Letters, 2020, 15, 104004.	5.2	31
64	No change without a cause â€“ why climate change remains the most plausible reason for shrub growth dynamics in Scandinavia. New Phytologist, 2011, 189, 902-908.	7.3	30
65	Straight lines or eccentric eggs? A comparison of radial and spatial ring width measurements and its implications for climate transfer functions. Dendrochronologia, 2014, 32, 313-326.	2.2	30
66	Optimizing cell-anatomical chronologies of Scots pine by stepwise increasing the number of radial tracheid rows includedâ€"Case study based on three Scandinavian sites. Dendrochronologia, 2014, 32, 205-209.	2.2	30
67	Allometric variability of Haloxylon species in Central Asia. Forest Ecology and Management, 2012, 274, 1-9.	3.2	29
68	Dynamic relationships between Picea crassifolia growth and climate at upper treeline in the Qilian Mts., Northeast Tibetan Plateau, China. Dendrochronologia, 2011, 29, 185-199.	2.2	27
69	Peatland pines as a proxy for water table fluctuations: Disentangling tree growth, hydrology and possible human influence. Science of the Total Environment, 2014, 500-501, 52-63.	8.0	26
70	Temperature drives variation in flying insect biomass across a German malaise trap network. Insect Conservation and Diversity, 2022, 15, 168-180.	3.0	26
71	Overestimation of CO₂ respiration fluxes by the closed chamber method in lowâ€turbulence nighttime conditions. Journal of Geophysical Research, 2009, 114, .	3.3	25
72	Stand basal area and solar radiation amplify white spruce climate sensitivity in interior Alaska: Evidence from carbon isotopes and tree rings. Global Change Biology, 2019, 25, 911-926.	9.5	25

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73	Moistureâ€driven shift in the climate sensitivity of white spruce xylem anatomical traits is coupled to largeâ€scale oscillation patterns across northern treeline in northwest North America. Global Change Biology, 2020, 26, 1842-1856.	9.5	25
74	Hydrology-driven ecosystem respiration determines the carbon balance of a boreal peatland. Science of the Total Environment, 2013, 463-464, 675-682.	8.0	24
75	Process-based modeling analyses of Sabina przewalskii growth response to climate factors around the northeastern Qaidam Basin. Science Bulletin, 2011, 56, 1518-1525.	1.7	23
76	Tapping the tree-ring archive for studying effects of resin extraction on the growth and climate sensitivity of Scots pine. Forest Ecosystems, 2017, 4, .	3.1	23
77	Warming-Induced Decline of Picea crassifolia Growth in the Qilian Mountains in Recent Decades. PLoS ONE, 2015, 10, e0129959.	2.5	22
78	Wetter is Better: Rewetting of Minerotrophic Peatlands Increases Plant Production and Moves Them Towards Carbon Sinks in a Dry Year. Ecosystems, 2021, 24, 1093-1109.	3.4	21
79	No systematic effects of sampling direction on climate-growth relationships in a large-scale, multi-species tree-ring data set. Dendrochronologia, 2019, 57, 125624.	2.2	20
80	Effects of Climate, Site Conditions, and Seed Quality on Recent Treeline Dynamics in NW Russia: Permafrost and Lack of Reproductive Success Hamper Treeline Advance?. Ecosystems, 2012, 15, 1053-1064.	3.4	19
81	New insights for the interpretation of ancient bog oak chronologies? Reactions of oak (Quercus) Tj ETQq1 1 0.784314 rgBT /Overlock 417, 534-543.	2.3	19
82	Growing faster, longer or both? Modelling plastic response of <i>Juniperus communis</i> growth phenology to climate change. Global Ecology and Biogeography, 2021, 30, 2229-2244.	5.8	19
83	Limitation by vapour pressure deficit shapes different intraâ€annual growth patterns of diffuseâ€•and ringâ€porous temperate broadleaves. New Phytologist, 2022, 233, 2429-2441.	7.3	19
84	An 810â€year history of cold season temperature variability for northern Poland. Boreas, 2018, 47, 443-453.	2.4	18
85	Removing the no-analogue bias in modern accelerated tree growth leads to stronger medieval drought. Scientific Reports, 2019, 9, 2509.	3.3	18
86	Can shrubs help to reconstruct historical glacier retreats?. Environmental Research Letters, 2012, 7, 044031.	5.2	17
87	Reconciling the community with a conceptâ€"The uniformitarian principle in the dendro-sciences. Dendrochronologia, 2017, 44, 211-214.	2.2	17
88	Combining Dendrometer Series and Xylogenesis Imageryâ€"DevX, a Simple Visualization Tool to Explore Plant Secondary Growth Phenology. Frontiers in Forests and Global Change, 2019, 2, .	2.3	17
89	Reduced above-ground growth and wood density but increased wood chemical concentrations of Scots pine on relict charcoal hearths. Science of the Total Environment, 2020, 717, 137189.	8.0	16
90	High frequency growth variability of White spruce clones does not differ from non-clonal trees at Alaskan treelines. Dendrochronologia, 2017, 44, 187-192.	2.2	16

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91	Ecological factors limiting occurrence of corticolous myxomycetesÂâ€“ a case study from Alaska. Fungal Ecology, 2016, 21, 16-23.	1.6	15
92	Treeline advances and associated shifts in the ground vegetation alter fine root dynamics and mycelia production in the South and Polar Urals. Oecologia, 2017, 183, 571-586.	2.0	15
93	Variability of soil carbon stocks in a mixed deciduous forest on hydromorphic soils. Geoderma, 2017, 307, 8-18.	5.1	15
94	Visualizing Individual Tree Differences in Tree-Ring Studies. Forests, 2018, 9, 216.	2.1	15
95	Increasing climate sensitivity of beech and pine is not mediated by adaptation and soil characteristics along a precipitation gradient in northeastern Germany. Dendrochronologia, 2021, 67, 125834.	2.2	15
96	Productivity and carbon sequestration of Populus euphratica at the Amu River, Turkmenistan. Forestry, 2013, 86, 429-439.	2.3	14
97	Shrubs tracing sea surface temperatureâ€"Calluna vulgaris on the Faroe Islands. International Journal of Biometeorology, 2015, 59, 1567-1575.	3.0	14
98	Drought sensitivity of beech on a shallow chalk soil in northeastern Germany â€“ a comparative study. Forest Ecosystems, 2016, 3, .	3.1	14
99	Wood anatomy of Juniperus communis: a promising proxy for palaeoclimate reconstructions in the Arctic. Polar Biology, 2017, 40, 977-988.	1.2	14
100	Climate Regimes Override Micro-Site Effects on the Summer Temperature Signal of Scots Pine at Its Northern Distribution Limits. Frontiers in Plant Science, 2018, 9, 1597.	3.6	14
101	The needle mycobiome of Picea glauca â€“ A dynamic system reflecting surrounding environment and tree phenological traits. Fungal Ecology, 2019, 41, 177-186.	1.6	14
102	Identification of linear relationships from noisy data using errors-in-variables modelsâ€"relevance for reconstruction of past climate from tree-ring and other proxy information. Climatic Change, 2011, 105, 155-177.	3.6	13
103	Divergent responses to permafrost and precipitation reveal mechanisms for the spatial variation of two sympatric spruce. Ecosphere, 2021, 12, e03622.	2.2	12
104	Species-specific effects of thermal stress on the expression of genetic variation across a diverse group of plant and animal taxa under experimental conditions. Heredity, 2021, 126, 23-37.	2.6	11
105	Higher Winter-Spring Temperature and Winter-Spring/Summer Moisture Availability Increase Scots Pine Growth on Coastal Dune Microsites Around the South Baltic Sea. Frontiers in Forests and Global Change, 2020, 3, .	2.3	11
106	Russian boreal peatlands dominate the natural European methane budget. Environmental Research Letters, 2016, 11, 014004.	5.2	10
107	Shrubs shed light on 20th century Greenland Ice Sheet melting. Boreas, 2017, 46, 667-677.	2.4	10
108	Influence of larval outbreaks on the climate reconstruction potential of an Arctic shrub. Dendrochronologia, 2018, 49, 36-43.	2.2	10

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109	A Unifying Concept for Growth Trends of Trees and Forests â€“ The â€œPotential Natural Forestâ€. Frontiers in Forests and Global Change, 2020, 3, .	2.3	10
110	Mask, Train, Repeat! Artificial Intelligence for Quantitative Wood Anatomy. Frontiers in Plant Science, 2021, 12, 767400.	3.6	10
111	Population structure and the influence of microenvironment and genetic similarity on individual growth at Alaskan white spruce treelines. Science of the Total Environment, 2021, 798, 149267.	8.0	8
112	Jet stream position explains regional anomalies in European beech forest productivity and tree growth. Nature Communications, 2022, 13, 2015.	12.8	8
113	Do small landforms have large effects? A review on the legacies of pre-industrial charcoal burning. Geomorphology, 2022, , 108332.	2.6	8
114	An Ensemble Weighting Approach for Dendroclimatology: Drought Reconstructions for the Northeastern Tibetan Plateau. PLoS ONE, 2014, 9, e86689.	2.5	7
115	Can We Use Tree Rings of Black Alder to Reconstruct Lake Levels? A Case Study for the Mecklenburg Lake District, Northeastern Germany. PLoS ONE, 2015, 10, e0137054.	2.5	7
116	Climate sensitivity is affected by growth differentiation along the length of Juniperus communis L. shrub stems in the Ural Mountains. Dendrochronologia, 2018, 49, 29-35.	2.2	7
117	Environment drives spatiotemporal patterns of clonality in white spruce (Picea glauca) in Alaska. Canadian Journal of Forest Research, 2018, 48, 1577-1586.	1.7	7
118	Modeling spatial variability of white spruce (Picea glauca) growth responses to Climate Change at and below treeline in Alaska - A case study from two National Parks. Erdkunde, 2006, 2, 113-126.	0.8	7
119	Temperature reconstruction in the Ob River valley based on ring widths of three coniferous tree species. Dendrochronologia, 2012, 30, 302-309.	2.2	6
120	Three microsatellite multiplex PCR assays allowing high resolution genotyping of white spruce, Picea glauca. Silvae Genetica, 2014, 63, 230-233.	0.8	6
121	Xylem Anatomical Variability in White Spruce at Treeline Is Largely Driven by Spatial Clustering. Frontiers in Plant Science, 2020, 11, 581378.	3.6	6
122	Expansion of Juniperus sibirica Burgsd. as a response to climate change and associated effect on mountain tundra vegetation in the Northern Urals. Journal of Mountain Science, 2020, 17, 2339-2353.	2.0	6
123	Does slope exposure affect frost ring formation in Picea obovata growing at treeline in the Southern Urals?. Silva Fennica, 2016, 50, .	1.3	6
124	Drivers of stem radial variation and its pattern in peatland Scots pines: A pilot study. Dendrochronologia, 2018, 47, 30-37.	2.2	5
125	Does sex matter? Gender-specificity and its influence on site-chronologies in the common dioecious shrub Juniperus communis. Dendrochronologia, 2018, 49, 118-126.	2.2	5
126	Confessions of solitary oaks: We grow fast but we fear the drought. Dendrochronologia, 2019, 55, 43-49.	2.2	5

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127	Changes in wood anatomical traits in Scots pine under different climate-change scenarios. IAWA Journal, 2020, 41, 202-218.	2.7	4
128	Changing relationships between tree growth and climate in Northwest China. , 2008, , 39-50.		3
129	An Early Tree-line Experiment by a Wilderness Advocate : Bob Marshall's Legacy in the Brooks Range, Alaska. Arctic, 2004, 57, .	0.4	3
130	Growth and Wood Trait Relationships of Alnus glutinosa in Peatland Forest Stands With Contrasting Water Regimes. Frontiers in Plant Science, 2021, 12, 788106.	3.6	3
131	Stationarity of climate-growth response is only marginally influenced by the soil moisture regime in Western Siberia. Dendrochronologia, 2021, 69, 125873.	2.2	2
132	Short-Term Effects of Droughts and Cold Winters on the Growth of Scots Pine at Coastal Sand Dunes around the South Baltic Sea. Forests, 2022, 13, 477.	2.1	1
133	Data on the occurrence of corticolous myxomycetes from Denali National Park, Alaska. Data in Brief, 2016, 7, 1196-1198.	1.0	0
134	Direct and Indirect Effects of Environmental Limitations on White Spruce Xylem Anatomy at Treeline. Frontiers in Plant Science, 2021, 12, 748055.	3.6	0