GÃ¼nter Hoch

List of Publications by Year
in descending order

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95	8,666	31976	45317
papers	citations	53 h-index	90 g-index

106	106	106	6966
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Non-structural carbon compounds in temperate forest trees. Plant, Cell and Environment, 2003, 26, 1067-1081.	5.7	625
2	Physiological mechanisms of droughtâ€induced tree mortality are far from being resolved. New Phytologist, 2010, 186, 274-281.	7.3	535
3	A first assessment of the impact of the extreme 2018 summer drought on Central European forests. Basic and Applied Ecology, 2020, 45, 86-103.	2.7	482
4	Dynamics of nonâ€structural carbohydrates in terrestrial plants: a global synthesis. Ecological Monographs, 2016, 86, 495-516.	5.4	458
5	Altitudinal increase of mobile carbon pools in Pinus cembra suggests sink limitation of growth at the Swiss treeline. Oikos, 2002, 98, 361-374.	2.7	339
6	The carbon charging of pines at the climatic treeline: a global comparison. Oecologia, 2003, 135, 10-21.	2.0	280
7	Does carbon storage limit tree growth?. New Phytologist, 2014, 201, 1096-1100.	7.3	212
8	Global patterns of mobile carbon stores in trees at the highâ€elevation tree line. Global Ecology and Biogeography, 2012, 21, 861-871.	5.8	175
9	Where, why and how? Explaining the lowâ€temperature range limits of temperate tree species. Journal of Ecology, 2016, 104, 1076-1088.	4.0	171
10	Standardized protocols and procedures can precisely and accurately quantify non-structural carbohydrates. Tree Physiology, 2018, 38, 1764-1778.	3.1	171
11	Source/sink removal affects mobile carbohydrates in Pinus cembra at the Swiss treeline. Trees - Structure and Function, 2002, 16, 331-337.	1.9	165
12	Non-structural carbohydrates in woody plants compared among laboratories. Tree Physiology, 2015, 35, tpv073.	3.1	163
13	Mechanisms of woody-plant mortality under rising drought, CO2 and vapour pressure deficit. Nature Reviews Earth & Environment, 2022, 3, 294-308.	29.7	163
14	Growth, demography and carbon relations of Polylepis trees at the world's highest treeline. Functional Ecology, 2005, 19, 941-951.	3.6	161
15	Heightâ€related growth declines in ponderosa pine are not due to carbon limitation. Plant, Cell and Environment, 2009, 32, 22-30.	5.7	155
16	A test of the growthâ€limitation theory for alpine tree line formation in evergreen and deciduous taxa of the eastern Himalayas. Functional Ecology, 2008, 22, 213-220.	3.6	145
17	European deciduous trees exhibit similar safety margins against damage by spring freeze events along elevational gradients. New Phytologist, 2013, 200, 1166-1175.	7.3	144
18	Increased spring freezing vulnerability for alpine shrubs under early snowmelt. Oecologia, 2014, 175, 219-229.	2.0	139

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19	Drought stress, growth and nonstructural carbohydrate dynamics of pine trees in a semi-arid forest. Tree Physiology, 2014, 34, 981-992.	3.1	136
20	Quantification and monosaccharide composition of hemicelluloses from different plant functional types. Plant Physiology and Biochemistry, 2010, 48, 1-8.	5.8	132
21	Elevational adaptation and plasticity in seedling phenology of temperate deciduous tree species. Oecologia, 2013, 171, 663-678.	2.0	122
22	Identifying differences in carbohydrate dynamics of seedlings and mature trees to improve carbon allocation in models for trees and forests. Environmental and Experimental Botany, 2018, 152, 7-18.	4.2	115
23	The snow and the willows: earlier spring snowmelt reduces performance in the lowâ€lying alpine shrub Salix herbacea. Journal of Ecology, 2016, 104, 1041-1050.	4.0	110
24	Small-scale patterns in snowmelt timing affect gene flow and the distribution of genetic diversity in the alpine dwarf shrub Salix herbacea. Heredity, 2014, 113, 233-239.	2.6	101
25	The Response of the Alpine Dwarf Shrub Salix herbacea to Altered Snowmelt Timing: Lessons from a Multi-Site Transplant Experiment. PLoS ONE, 2015, 10, e0122395.	2.5	101
26	The amount of parenchyma and living fibers affects storage of nonstructural carbohydrates in young stems and roots of temperate trees. American Journal of Botany, 2016, 103, 603-612.	1.7	100
27	Evolutionary potential in the Alpine: trait heritabilities and performance variation of the dwarf willow Salix herbacea from different elevations and microhabitats. Ecology and Evolution, 2016, 6, 3940-3952.	1.9	98
28	Fruit-bearing branchlets are carbon autonomous in mature broad-leaved temperate forest trees. Plant, Cell and Environment, 2005, 28, 651-659.	5.7	95
29	Growth and carbon relations of tree line forming conifers at constant vs. variable low temperatures. Journal of Ecology, 2009, 97, 57-66.	4.0	94
30	Fruit production in three masting tree species does not rely on stored carbon reserves. Oecologia, 2013, 171, 653-662.	2.0	93
31	A Test of Treeline Theory on a Montane Permafrost Island. Arctic, Antarctic, and Alpine Research, 2006, 38, 113-119.	1.1	88
32	Cell wall hemicelluloses as mobile carbon stores in nonâ€reproductive plant tissues. Functional Ecology, 2007, 21, 823-834.	3.6	86
33	Short-term dynamics of nonstructural carbohydrates and hemicelluloses in young branches of temperate forest trees during bud break. Tree Physiology, 2009, 29, 901-911.	3.1	84
34	Earlier leafâ€out rather than difference in freezing resistance puts juvenile trees at greater risk of damage than adult trees. Journal of Ecology, 2014, 102, 981-988.	4.0	83
35	Tree carbon allocation dynamics determined using a carbon mass balance approach. New Phytologist, 2015, 205, 147-159.	7.3	82
36	Rapid hydraulic collapse as cause of drought-induced mortality in conifers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	80

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37	Coordination between growth, phenology and carbon storage in three coexisting deciduous tree species in a temperate forest. Tree Physiology, 2016, 36, 847-855.	3.1	76
38	End of season carbon supply status of woody species near the treeline in western China. Basic and Applied Ecology, 2006, 7, 370-377.	2.7	75
39	Carbon Reserves as Indicators for Carbon Limitation in Trees. Progress in Botany Fortschritte Der Botanik, 2015, , 321-346.	0.3	70
40	Living on next to nothing: tree seedlings can survive weeks with very low carbohydrate concentrations. New Phytologist, 2018, 218, 107-118.	7.3	69
41	The handbook for standardized field and laboratory measurements in terrestrial climate change experiments and observational studies (ClimEx). Methods in Ecology and Evolution, 2020, 11, 22-37.	5.2	68
42	Tree recruitment of European tree species at their current upper elevational limits in the Swiss Alps. Journal of Biogeography, 2012, 39, 1439-1449.	3.0	67
43	Early season temperature controls cambial activity and total tree ring width at the alpine treeline. Plant Ecology and Diversity, 2013, 6, 365-375.	2.4	67
44	Plant respiration: Controlled by photosynthesis or biomass?. Global Change Biology, 2020, 26, 1739-1753.	9.5	66
45	Homeostatic levels of nonstructural carbohydrates after 13Âyr of drought and irrigation in Pinus sylvestris. New Phytologist, 2018, 219, 1314-1324.	7.3	65
46	Nearâ€infrared spectroscopy (<scp>NIRS</scp>) predicts nonâ€structural carbohydrate concentrations in different tissue types of a broad range of tree species. Methods in Ecology and Evolution, 2015, 6, 1018-1025.	5.2	63
47	Single-provenance mature conifers show higher non-structural carbohydrate storage and reduced growth in a drier location. Tree Physiology, 2017, 37, 1001-1010.	3.1	60
48	Physiological minimum temperatures for root growth in seven common European broad-leaved tree species. Tree Physiology, 2014, 34, 302-313.	3.1	59
49	With a little help from my friends: Community facilitation increases performance in the dwarf shrub Salix herbacea. Basic and Applied Ecology, 2015, 16, 202-209.	2.7	59
50	Convergence of leafâ€out towards minimum risk of freezing damage in temperate trees. Functional Ecology, 2016, 30, 1480-1490.	3.6	59
51	Variation of mobile carbon reserves in trees at the alpine treeline ecotone is under environmental control. New Phytologist, 2012, 195, 794-802.	7.3	58
52	Tracing fresh assimilates through Larix decidua exposed to elevated <scp>CO</scp>₂ and soil warming at the alpine treeline using compoundâ€specific stable isotope analysis. New Phytologist, 2013, 197, 838-849.	7.3	55
53	Similar variation in carbon storage between deciduous and evergreen treeline species across elevational gradients. Annals of Botany, 2013, 112, 623-631.	2.9	55
54	High carbon storage in carbonâ€limited trees. New Phytologist, 2019, 222, 171-182.	7.3	54

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55	Purification and Characterization of Stachyose Synthase from Lentil (Lens culinaris) Seeds: Galactopinitol and Stachyose Synthesis. Archives of Biochemistry and Biophysics, 1999, 366, 75-81.	3.0	53
56	Rhizosphere activity in an old-growth forest reacts rapidly to changes in soil moisture and shapes whole-tree carbon allocation. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 24885-24892.	7.1	50
57	Dying piece by piece: carbohydrate dynamics in aspen (Populus tremuloides) seedlings under severe carbon stress. Journal of Experimental Botany, 2017, 68, 5221-5232.	4.8	49
58	No role for xylem embolism or carbohydrate shortage in temperate trees during the severe 2015 drought. Journal of Ecology, 2019, 107, 334-349.	4.0	46
59	Defoliation reduces growth but not carbon reserves in Mediterranean Pinus pinaster trees. Trees - Structure and Function, 2015, 29, 1187-1196.	1.9	44
60	Lack of hydraulic recovery as a cause of postâ€drought foliage reduction and canopy decline in European beech. New Phytologist, 2022, 234, 1195-1205.	7.3	40
61	Genetic vs. nonâ€genetic responses of leaf morphology and growth to elevation in temperate tree species. Functional Ecology, 2014, 28, 243-252.	3.6	39
62	Linkage of root morphology to anatomy with increasing nitrogen availability in six temperate tree species. Plant and Soil, 2018, 425, 189-200.	3.7	39
63	Losing half the conductive area hardly impacts the water status of mature trees. Scientific Reports, 2018, 8, 15006.	3.3	39
64	No carbon â€œbet hedgingâ€•in pine seedlings under prolonged summer drought and elevated <scp>CO</scp>₂. Journal of Ecology, 2018, 106, 31-46.	4.0	36
65	Leaf traits, shoot growth and seed production in mature Fagus sylvatica trees after 8 years of CO2 enrichment. Annals of Botany, 2011, 107, 1405-1411.	2.9	33
66	Reciprocal root-shoot cooling and soil fertilization effects on the seasonal growth of two treeline conifer species. Plant Ecology and Diversity, 2013, 6, 21-30.	2.4	33
67	Elevated CO2 compensates for drought effects in lemon saplings via stomatal downregulation, increased soil moisture, and increased wood carbon storage. Environmental and Experimental Botany, 2018, 148, 117-127.	4.2	33
68	Hemicellulose concentration and composition in plant cell walls under extreme carbon source-sink imbalances. Physiologia Plantarum, 2010, 139, 241-55.	5.2	31
69	Fast acclimation of freezing resistance suggests no influence of winter minimum temperature on the range limit of European beech. Tree Physiology, 2016, 36, 490-501.	3.1	31
70	Growth reduction after defoliation is independent of <scp>CO</scp>₂ supply in deciduous and evergreen young oaks. New Phytologist, 2017, 214, 1479-1490.	7.3	29
71	Soil nutrients and lowered source:sink ratio mitigate effects of mild but not of extreme drought in trees. Environmental and Experimental Botany, 2020, 169, 103905.	4.2	28
72	Soil nutrient availability alters tree carbon allocation dynamics during drought. Tree Physiology, 2021, 41, 697-707.	3.1	28

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73	13C Labelling Reveals Different Contributions of Photoassimilates from Infructescences for Fruiting in Two Temperate Forest Tree Species. Plant Biology, 2006, 8, 606-614.	3.8	27
74	Endogenous circadian rhythms in pigment composition induce changes in photochemical efficiency in plant canopies. Plant, Cell and Environment, 2017, 40, 1153-1162.	5.7	26
75	Latitude and Weather Influences on Sun Light Quality and the Relationship to Tree Growth. Forests, 2019, 10, 610.	2.1	26
76	Growth and carbon relations of temperate deciduous tree species at their upper elevation range limit. Journal of Ecology, 2014, 102, 1537-1548.	4.0	25
77	A bottom-up quantification of foliar mercury uptake fluxes across Europe. Biogeosciences, 2020, 17, 6441-6456.	3.3	24
78	Night and day â€“ Circadian regulation of night-time dark respiration and light-enhanced dark respiration in plant leaves and canopies. Environmental and Experimental Botany, 2017, 137, 14-25.	4.2	23
79	Carbon Storage in Trees: Does Relative Carbon Supply Decrease with Tree Size?. Tree Physiology, 2011, , 287-306.	2.5	22
80	Bud freezing resistance in alpine shrubs across snow depth gradients. Environmental and Experimental Botany, 2015, 118, 95-101.	4.2	20
81	Physiological and climate controls on foliar mercury uptake by European tree species. Biogeosciences, 2022, 19, 1335-1353.	3.3	18
82	Unrestricted quality of seeds in European broad-leaved tree species growing at the cold boundary of their distribution. Annals of Botany, 2012, 109, 473-480.	2.9	17
83	Revisiting the relative growth rate hypothesis for gymnosperm and angiosperm species coâ€occurrence. American Journal of Botany, 2019, 106, 101-112.	1.7	17
84	The carbon supply ofPicea abiestrees at a Swiss montane permafrost site. Plant Ecology and Diversity, 2008, 1, 13-20.	2.4	15
85	Flexibility of nitrogen metabolism in the tropical C3Â–crassulacean acid metabolism tree species Clusia minor. Functional Plant Biology, 2002, 29, 741.	2.1	15
86	Reaching Natural Growth: The Significance of Light and Temperature Fluctuations in Plant Performance in Indoor Growth Facilities. Plants, 2020, 9, 1312.	3.5	13
87	TreeNetâ€“The Biological Drought and Growth Indicator Network. Frontiers in Forests and Global Change, 2021, 4, .	2.3	13
88	Dynamic ²H irrigation pulse labelling reveals rapid infiltration and mixing of precipitation in the soil and speciesâ€specific water uptake depths of trees in a temperate forest. Ecohydrology, 2021, 14, e2322.	2.4	12
89	Spring patterns of freezing resistance and photosynthesis of two leaf phenotypes of Hedera helix. Basic and Applied Ecology, 2014, 15, 543-550.	2.7	10
90	Reaching Natural Growth: Light Quality Effects on Plant Performance in Indoor Growth Facilities. Plants, 2020, 9, 1273.	3.5	8

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91	Climate Change Modulates Multitrophic Interactions Between Maize, A Root Herbivore, and Its Enemies. Journal of Chemical Ecology, 2021, 47, 889-906.	1.8	6
92	Negative effects of low root temperatures on water and carbon relations in temperate tree seedlings assessed by dual isotopic labelling. Tree Physiology, 2022, , .	3.1	5
93	Trunk radial growth, water and carbon relations of mature apple trees on two size-controlling rootstocks during severe summer drought. Tree Physiology, 2022, 42, 289-303.	3.1	4
94	Whole-Tree Response of Non-Structural Carbohydrates, Carbon and Nitrogen Concentrations in Two Temperate Tree Species to 10-Year Nitrogen Fertilization. Forests, 2022, 13, 302.	2.1	4
95	Effect of Asynchronous Light and Temperature Fluctuations on Plant Traits in Indoor Growth Facilities. Agronomy, 2021, 11, 755.	3.0	1