Arthur Gessler

List of Publications by Year in descending order

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253 papers

16,148 citations

69 h-index 23533 111 g-index

264 all docs

264 docs citations

264 times ranked 13695 citing authors

#	Article	IF	CITATIONS
1	A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. Nature Ecology and Evolution, 2017, 1, 1285-1291.	7.8	739
2	Physiological Responses of Forest Trees to Heat and Drought. Plant Biology, 2006, 8, 556-571.	3.8	379
3	Stable isotopes in tree rings: towards a mechanistic understanding of isotope fractionation and mixing processes from the leaves to the wood. Tree Physiology, 2014, 34, 796-818.	3.1	359
4	Research frontiers for improving our understanding of droughtâ€induced tree and forest mortality. New Phytologist, 2018, 218, 15-28.	7.3	334
5	Biodiversity effects on ecosystem functioning in a 15-year grassland experiment: Patterns, mechanisms, and open questions. Basic and Applied Ecology, 2017, 23, 1-73.	2.7	307
6	Carbon allocation and carbon isotope fluxes in the plant-soil-atmosphere continuum: a review. Biogeosciences, 2011, 8, 3457-3489.	3.3	289
7	Drought effects on allocation of recent carbon: from beech leaves to soil CO ₂ efflux. New Phytologist, 2009, 184, 950-961.	7.3	280
8	Root traits as drivers of plant and ecosystem functioning: current understanding, pitfalls and future research needs. New Phytologist, 2021, 232, 1123-1158.	7.3	277
9	Field and laboratory experiments on net uptake of nitrate and ammonium by the roots of spruce (Picea) Tj ETQq1	1.0.78431 7.3	14 rgBT /0ve 275
10	The role of nutrients in droughtâ€induced tree mortality and recovery. New Phytologist, 2017, 214, 513-520.	7.3	252
11	Biodiversity and ecosystem functioning relations in European forests depend on environmental context. Ecology Letters, 2017, 20, 1414-1426.	6.4	244
12	Nitrogen balance in forest soils: nutritional limitation of plants under climate change stresses. Plant Biology, 2009, 11, 4-23.	3.8	233
13	Global climate change and tree nutrition: influence of water availability. Tree Physiology, 2010, 30, 1221-1234.	3.1	233
14	Tree diversity does not always improve resistance of forest ecosystems to drought. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 14812-14815.	7.1	228
15	Pulse-labelling trees to study carbon allocation dynamics: a review of methods, current knowledge and future prospects. Tree Physiology, 2012, 32, 776-798.	3.1	223
16	A starting guide to root ecology: strengthening ecological concepts and standardising root classification, sampling, processing and trait measurements. New Phytologist, 2021, 232, 973-1122.	7.3	216
17	Tracing carbon and oxygen isotope signals from newly assimilated sugars in the leaves to the treeâ€ring archive. Plant, Cell and Environment, 2009, 32, 780-795.	5.7	207
18	Biotic homogenization can decrease landscape-scale forest multifunctionality. Proceedings of the		

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19	Jack-of-all-trades effects drive biodiversity–ecosystem multifunctionality relationships in European forests. Nature Communications, 2016, 7, 11109.	12.8	185
20	A novel comparative research platform designed to determine the functional significance of tree species diversity in European forests. Perspectives in Plant Ecology, Evolution and Systematics, 2013, 15, 281-291.	2.7	179
21	Seasonal transfer of oxygen isotopes from precipitation and soil to the tree ring: source water versus needle water enrichment. New Phytologist, 2014, 202, 772-783.	7.3	171
22	Recovery of trees from drought depends on belowground sink control. Nature Plants, 2016, 2, 16111.	9.3	170
23	Longâ€term study of root biomass in a biodiversity experiment reveals shifts in diversity effects over time. Oikos, 2014, 123, 1528-1536.	2.7	165
24	Contrasting resistance and resilience to extreme drought and late spring frost in five major European tree species. Global Change Biology, 2019, 25, 3781-3792.	9.5	152
25	Stable Isotope Composition of Organic Compounds Transported in the Phloem of European Beech ― Evaluation of Different Methods of Phloem Sap Collection and Assessment of Gradients in Carbon Isotope Composition during Leafâ€ŧoâ€ 5 tem Transport. Plant Biology, 2004, 6, 721-729.	3.8	150
26	Highâ€resolution isotope measurements resolve rapid ecohydrological dynamics at the soil–plant interface. New Phytologist, 2016, 210, 839-849.	7.3	149
27	Soluble N compounds in trees exposed to high loads of N: a comparison of spruce (Picea abies) and beech (Fagus sylvatica) grown under field conditions. New Phytologist, 1996, 134, 103-114.	7.3	142
28	Temporal dynamics of the carbon isotope composition in a Pinus sylvestris stand: from newly assimilated organic carbon to respired carbon dioxide. Oecologia, 2008, 156, 737-750.	2.0	140
29	Progress and challenges in using stable isotopes to trace plant carbon and water relations across scales. Biogeosciences, 2012, 9, 3083-3111.	3.3	138
30	The long way downare carbon and oxygen isotope signals in the tree ring uncoupled from canopy physiological processes?. Tree Physiology, 2011, 31, 1088-1102.	3.1	137
31	Short-term variation in the isotopic composition of organic matter allocated from the leaves to the stem of Pinus sylvestris: effects of photosynthetic and postphotosynthetic carbon isotope fractionation. Global Change Biology, 2006, 12, 1922-1939.	9.5	133
32	Experimental evidence for diel variations of the carbon isotope composition in leaf, stem and phloem sap organic matter in <i>Ricinus communis</i>). Plant, Cell and Environment, 2008, 31, 941-953.	5.7	130
33	Plant Sulfite Oxidase as Novel Producer of H2O2. Journal of Biological Chemistry, 2006, 281, 6884-6888.	3.4	128
34	Girdling Affects Ectomycorrhizal Fungal (EMF) Diversity and Reveals Functional Differences in EMF Community Composition in a Beech Forest. Applied and Environmental Microbiology, 2010, 76, 1831-1841.	3.1	126
35	On the metabolic origin of the carbon isotope composition of CO ₂ evolved from darkened lightâ€acclimated leaves in <i>Ricinus communis</i> . New Phytologist, 2009, 181, 374-386.	7.3	125
36	Drought affects the competitive interactions between Fagus sylvatica seedlings and an early successional species, Rubus fruticosus: responses of growth, water status and delta13C composition. New Phytologist, 2001, 151, 427-435.	7.3	121

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37	Photosynthetic carbon isotope discrimination and its relationship to the carbon isotope signals of stem, soil and ecosystem respiration. New Phytologist, 2010, 188, 576-589.	7.3	119
38	Soluble N compounds in trees exposed to high loads of N: a comparison between the roots of Norway spruce (Picea abies) and beech (Fagus sylvatica) trees grown under field conditions. New Phytologist, 1998, 138, 385-399.	7.3	115
39	\hat{l} 13C of organic matter transported from the leaves to the roots in Eucalyptus delegatensis: short-term variations and relation to respired CO2. Functional Plant Biology, 2007, 34, 692.	2.1	113
40	The effect of drought on C and N stable isotopes in different fractions of leaves, stems and roots of sensitive and tolerant beech ecotypes. Plant, Cell and Environment, 2006, 29, 823-835.	5.7	109
41	Growth and resilience responses of Scots pine to extreme droughts across Europe depend on predrought growth conditions. Global Change Biology, 2020, 26, 4521-4537.	9.5	105
42	Carbon isotopic composition and oxygen isotopic enrichment in phloem and total leaf organic matter of European beech (Fagus sylvatica L.) along a climate gradient. Plant, Cell and Environment, 2006, 29, 1492-1507.	5.7	104
43	Nitrogen deposition is the most important environmental driver of growth of pure, even-aged and managed European forests. Forest Ecology and Management, 2020, 458, 117762.	3.2	102
44	Nitrogen uptake and metabolism inPopulusÂ×Âcanescensas affected by salinity. New Phytologist, 2007, 173, 279-293.	7.3	100
45	Consequences of N Deposition to Forest Ecosystems - Recent Results and Future Research Needs. Water, Air, and Soil Pollution, 1999, 116, 47-64.	2.4	99
46	Interaction of nitrogen nutrition and salinity in Grey poplar (Populus tremula�×alba). Plant, Cell and Environment, 2007, 30, 796-811.	5.7	99
47	Water Shortage Affects the Water and Nitrogen Balance in Central European Beech Forests. Plant Biology, 2004, 6, 289-298.	3.8	98
48	Why trees grow at night. New Phytologist, 2021, 231, 2174-2185.	7.3	98
49	The fate of recently fixed carbon after drought release: towards unravelling <scp>C</scp> storage regulation in <scp><i>Tilia platyphyllos</i></scp> and <scp><i>Pinus sylvestris</i></scp> . Plant, Cell and Environment, 2017, 40, 1711-1724.	5.7	96
50	Improvement of water and light availability after thinning at a xeric site: which matters more? A dual isotope approach. New Phytologist, 2016, 210, 108-121.	7.3	95
51	Does Drought Influence the Relationship Between Biodiversity and Ecosystem Functioning in Boreal Forests?. Ecosystems, 2014, 17, 394-404.	3.4	94
52	Functional diversity of leaf nitrogen concentrations drives grassland carbon fluxes. Ecology Letters, 2014, 17, 435-444.	6.4	94
53	Depth matters: effects of precipitation regime on soil microbial activity upon rewetting of a plant-soil system. ISME Journal, 2018, 12, 1061-1071.	9.8	94
54	The highâ€affinity poplar ammonium importer PttAMT1.2 and its role in ectomycorrhizal symbiosis. New Phytologist, 2005, 168, 697-706.	7.3	93

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55	Diel variations in the carbon isotope composition of respired CO ₂ and associated carbon sources: a review of dynamics and mechanisms. Biogeosciences, 2011, 8, 2437-2459.	3.3	93
56	Regulation of nitrate uptake at the whole-tree level: interaction between nitrogen compounds, cytokinins and carbon metabolism. Tree Physiology, 2004, 24, 1313-1321.	3.1	91
57	Chemolithoautotrophic Nitrifiers in the Phyllosphere of a Spruce Ecosystem Receiving High Atmospheric Nitrogen Input. Current Microbiology, 2002, 44, 56-60.	2.2	90
58	NH 3 and NO 2 fluxes between beech trees and the atmosphere – correlation with climatic and physiological parameters. New Phytologist, 2000, 147, 539-560.	7.3	88
59	The oxygen isotope enrichment of leafâ€exported assimilates – does it always reflect lamina leaf water enrichment?. New Phytologist, 2013, 200, 144-157.	7.3	86
60	Processes driving nocturnal transpiration and implications for estimating land evapotranspiration. Scientific Reports, 2015, 5, 10975.	3.3	85
61	Evaporative enrichment and time lags between ?180 of leaf water and organic pools in a pine stand. Plant, Cell and Environment, 2007, 30, 539-550.	5.7	84
62	Assessing environmental and physiological controls over water relations in a Scots pine (Pinus) Tj ETQq0 0 0 rgBT Plant, Cell and Environment, 2007, 30, 113-127.	/Overlock 5.7	10 Tf 50 46 83
63	Drought induced tree mortality – a treeâ€ring isotope based conceptual model to assess mechanisms and predispositions. New Phytologist, 2018, 219, 485-490.	7.3	82
64	The <i>Péclet</i> effect on leaf water enrichment correlates with leaf hydraulic conductance and mesophyll conductance for CO ₂ . Plant, Cell and Environment, 2012, 35, 611-625.	5.7	79
65	The way back: recovery of trees from drought and its implication for acclimation. New Phytologist, 2020, 228, 1704-1709.	7.3	79
66	Metabolite profiling of the moss Physcomitrella patens reveals evolutionary conservation of osmoprotective substances. Plant Cell Reports, 2012, 31, 427-436.	5.6	78
67	A method for <i>in situ</i> monitoring of the isotope composition of tree xylem water using laser spectroscopy. Plant, Cell and Environment, 2016, 39, 2055-2063.	5.7	77
68	Preparation of starch and soluble sugars of plant material for the analysis of carbon isotope composition: a comparison of methods. Rapid Communications in Mass Spectrometry, 2009, 23, 2476-2488.	1.5	76
69	Drought responses by individual tree species are not often correlated with tree species diversity in <scp>E</scp> uropean forests. Journal of Applied Ecology, 2016, 53, 1725-1734.	4.0	76
70	Belowâ€ground complementarity effects in a grassland biodiversity experiment are related to deepâ€rooting species. Journal of Ecology, 2018, 106, 265-277.	4.0	76
71	Continental mapping of forest ecosystem functions reveals a high but unrealised potential for forest multifunctionality. Ecology Letters, 2018, 21, 31-42.	6.4	74
72	When a Tree Dies in the Forest: Scaling Climate-Driven Tree Mortality to Ecosystem Water and Carbon Fluxes. Ecosystems, 2016, 19, 1133-1147.	3.4	73

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73	Importance of tree height and social position for drought-related stress on tree growth and mortality. Trees - Structure and Function, 2016, 30, 1467-1482.	1.9	73
74	Responses of sapwood ray parenchyma and nonâ€structural carbohydrates of <i>Pinus sylvestris</i> to drought and longâ€ŧerm irrigation. Functional Ecology, 2017, 31, 1371-1382.	3 . 6	70
75	A one-dimensional model of water flow in soil-plant systems based on plant architecture. Plant and Soil, 2011, 341, 233-256.	3.7	69
76	Impact of interspecific interactions on the soil water uptake depth in a young temperate mixed species plantation. Journal of Hydrology, 2014, 519, 3511-3519.	5 . 4	66
77	Oxygen isotope enrichment of organic matter in Ricinus communis during the diel course and as affected by assimilate transport. New Phytologist, 2007, 174, 600-613.	7.3	65
78	Homeostatic levels of nonstructural carbohydrates after 13Âyr of drought and irrigation in <i>Pinus sylvestris</i> . New Phytologist, 2018, 219, 1314-1324.	7.3	65
79	Interspecific competition influences the response of oak transpiration to increasing drought stress in a mixed Mediterranean forest. Forest Ecology and Management, 2014, 318, 54-61.	3.2	64
80	Growth resistance and resilience of mixed silver fir and Norway spruce forests in central Europe: Contrasting responses to mild and severe droughts. Global Change Biology, 2021, 27, 4403-4419.	9.5	64
81	Forest tree growth is linked to mycorrhizal fungal composition and function across Europe. ISME Journal, 2022, 16, 1327-1336.	9.8	62
82	Climate sensitivity and drought seasonality determine post-drought growth recovery of Quercus petraea and Quercus robur in Europe. Science of the Total Environment, 2021, 784, 147222.	8.0	61
83	Impact of interspecific competition and drought on the allocation of new assimilates in trees. Plant Biology, 2016, 18, 785-796.	3.8	60
84	Nitrogen nutrition of beech forests in a changing climate: importance of plant-soil-microbe water, carbon, and nitrogen interactions. Plant and Soil, 2017, 418, 89-114.	3.7	58
85	Identifying the tree species compositions that maximize ecosystem functioning in European forests. Journal of Applied Ecology, 2019, 56, 733-744.	4.0	58
86	Number of growth days and not length of the growth period determines radial stem growth of temperate trees. Ecology Letters, 2022, 25, 427-439.	6.4	58
87	Norway spruce physiological and anatomical predisposition to dieback. Forest Ecology and Management, 2014, 322, 27-36.	3.2	57
88	Plant diversity shapes microbeâ€rhizosphere effects on P mobilisation from organic matter in soil. Ecology Letters, 2015, 18, 1356-1365.	6.4	57
89	Patterns of mast fruiting of common beech, sessile and common oak, Norway spruce and Scots pine in Central and Northern Europe. Forest Ecology and Management, 2016, 363, 237-251.	3.2	57
90	Woody clockworks: circadian regulation of nightâ€time water use in <i><scp>E</scp>ucalyptus globulus</i> . New Phytologist, 2013, 200, 743-752.	7.3	56

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91	Towards an Integrative, Eco-Evolutionary Understanding of Ecological Novelty: Studying and Communicating Interlinked Effects of Global Change. BioScience, 2019, 69, 888-899.	4.9	55
92	Seasonal photosynthetic response of European beech to severe summer drought: Limitation, recovery and post-drought stimulation. Agricultural and Forest Meteorology, 2016, 220, 83-89.	4.8	54
93	High carbon storage in carbonâ€limited trees. New Phytologist, 2019, 222, 171-182.	7.3	54
94	Assessing the response of forest productivity to climate extremes in Switzerland using model–data fusion. Global Change Biology, 2020, 26, 2463-2476.	9.5	54
95	Belowâ€ground resource partitioning alone cannot explain the biodiversity–ecosystem function relationship: A field test using multiple tracers. Journal of Ecology, 2018, 106, 2002-2018.	4.0	53
96	Pervasive decreases in living vegetation carbon turnover time across forest climate zones. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 24662-24667.	7.1	52
97	Determinants of legacy effects in pine trees – implications from an irrigationâ€stop experiment. New Phytologist, 2020, 227, 1081-1096.	7. 3	52
98	Tree vitality indicators revealed a rapid response of beech forests to the 2018 drought. Ecological Indicators, 2021, 120, 106903.	6.3	52
99	Forest understory plant and soil microbial response to an experimentally induced drought and heatâ€pulse event: the importance of maintaining the continuum. Global Change Biology, 2016, 22, 2861-2874.	9.5	51
100	Dynamic niche partitioning in root water uptake facilitates efficient water use in more diverse grassland plant communities. Functional Ecology, 2018, 32, 214-227.	3.6	51
101	Drought reduces water uptake in beech from the drying topsoil, but no compensatory uptake occurs from deeper soil layers. New Phytologist, 2022, 233, 194-206.	7. 3	51
102	Effect of water availability on leaf water isotopic enrichment in beech seedlings shows limitations of current fractionation models. Plant, Cell and Environment, 2009, 32, 1285-1296.	5.7	50
103	Impact of weather cues and resource dynamics on mast occurrence in the main forest tree species in Europe. Forest Ecology and Management, 2018, 429, 336-350.	3.2	50
104	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
105	Drought effects on root and needle terpenoid content of a coastal and an interior Douglas fir provenance. Tree Physiology, 2017, 37, 1648-1658.	3.1	49
106	Turnover time of the nonâ€structural carbohydrate pool influences δ ¹⁸ <scp>O</scp> of leaf cellulose. Plant, Cell and Environment, 2014, 37, 2500-2507.	5.7	48
107	Ozone effects on European forest growthâ€"Towards an integrative approach. Journal of Ecology, 2018, 106, 1377-1389.	4.0	48
108	Chilled to be forced: the best dose to wake up buds from winter dormancy. New Phytologist, 2021, 230, 1366-1377.	7.3	47

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109	The effect of ¹⁸ Oâ€labelled water vapour on the oxygen isotope ratio of water and assimilates in plants at high humidity. New Phytologist, 2018, 217, 105-116.	7.3	45
110	Differences in C metabolism of ash species and provenances as a consequence of root oxygen deprivation by waterlogging. Journal of Experimental Botany, 2009, 60, 4335-4345.	4.8	44
111	Metabolic fluxes, carbon isotope fractionation and respiration – lessons to be learned from plant biochemistry. New Phytologist, 2011, 191, 10-15.	7. 3	44
112	Drought response of mesophyll conductance in forest understory species - impacts on water-use efficiency and interactions with leaf water movement. Physiologia Plantarum, 2014, 152, 98-114.	5.2	44
113	Bidirectional exchange of amino compounds between phloem and xylem during long-distance transport in Norway spruce trees (Picea abies [L.] Karst). Journal of Experimental Botany, 2003, 54, 1389-1397.	4.8	42
114	Exogenous supply of glutamine and active cytokinin to the roots reduces NO3- uptake rates in poplar. Plant, Cell and Environment, 2006, 29, 1284-1297.	5.7	42
115	Water fluxes within beech stands in complex terrain. International Journal of Biometeorology, 2010, 54, 23-36.	3.0	42
116	The influence of tree species mixture on ecosystem-level carbon accumulation and water use in a mixed boreal plantation. Forest Ecology and Management, 2013, 298, 82-92.	3.2	42
117	Circadian regulation of photosynthesis and transpiration from genes to ecosystems. Environmental and Experimental Botany, 2018, 152, 37-48.	4.2	42
118	Effects of Long-Term Free-Air Ozone Fumigation on $\hat{\Gamma}$ 15N and Total N in Fagus sylvatica and Associated Mycorrhizal Fungi. Plant Biology, 2007, 9, 242-252.	3.8	41
119	Plant species richness negatively affects root decomposition in grasslands. Journal of Ecology, 2017, 105, 209-218.	4.0	41
120	Genotypic variability enhances the reproducibility of an ecological study. Nature Ecology and Evolution, 2018, 2, 279-287.	7.8	41
121	Water level changes affect carbon turnover and microbial community composition in lake sediments. FEMS Microbiology Ecology, 2016, 92, fiw035.	2.7	39
122	Irradiance and temperature affect the competitive interference of blackberry on the physiology of European beech seedlings. New Phytologist, 2005, 165, 453-462.	7. 3	38
123	Application of Î ¹³ C and Î ¹⁵ N isotopic signatures of organic matter fractions sequentially separated from adjacent arable and forest soils to identify carbon stabilization mechanisms. Biogeosciences, 2011, 8, 2895-2906.	3.3	38
124	Interactions of thinning and stem height on the drought response of radial stem growth and isotopic composition of Norway spruce (Picea abies). Tree Physiology, 2012, 32, 1199-1213.	3.1	38
125	Soil Bacterial Community Structure Responses to Precipitation Reduction and Forest Management in Forest Ecosystems across Germany. PLoS ONE, 2015, 10, e0122539.	2.5	38
126	The fate and age of carbon – insights into the storage and remobilization dynamics in trees. New Phytologist, 2016, 209, 1338-1340.	7. 3	37

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127	Mutually inclusive mechanisms of droughtâ€induced tree mortality. Global Change Biology, 2022, 28, 3365-3378.	9.5	37
128	Drought in forest understory ecosystems $\hat{a} \in \hat{a}$ a novel rainfall reduction experiment. Biogeosciences, 2015, 12, 961-975.	3.3	36
129	Influence of species interactions on transpiration of Mediterranean tree species during a summer drought. European Journal of Forest Research, 2015, 134, 365-376.	2.5	35
130	Physiological significance of forest tree defoliation: Results from a survey in a mixed forest in Tuscany (central Italy). Forest Ecology and Management, 2016, 361, 170-178.	3.2	35
131	Carbon stable isotope ratio of phloem sugars in mature pine trees throughout the growing season: comparison of two extraction methods. Rapid Communications in Mass Spectrometry, 2009, 23, 2511-2518.	1.5	34
132	Effects of drought on leaf carbon source and growth of European beech are modulated by soil type. Scientific Reports, 2017, 7, 42462.	3.3	34
133	Within-canopy and ozone fumigation effects on Â13C and Â18O in adult beech (Fagus sylvatica) trees: relation to meteorological and gas exchange parameters. Tree Physiology, 2009, 29, 1349-1365.	3.1	33
134	Tree ring isotopic composition, radial increment and height growth reveal provenance-specific reactions of Douglas-fir towards environmental parameters. Trees - Structure and Function, 2013, 27, 37-52.	1.9	33
135	The importance of landscape diversity for carbon fluxes at the landscape level: smallâ€scale heterogeneity matters. Wiley Interdisciplinary Reviews: Water, 2016, 3, 601-617.	6.5	32
136	Plasticity of Fine-Root Traits Under Long-Term Irrigation of a Water-Limited Scots Pine Forest. Frontiers in Plant Science, 2019, 10, 701.	3.6	32
137	Drought alters the carbon footprint of trees in soilsâ€"tracking the spatioâ€ŧemporal fate of ¹³ C″abelled assimilates in the soil of an oldâ€growth pine forest. Global Change Biology, 2021, 27, 2491-2506.	9.5	32
138	Physiological Performance of Beech (Fagus sylvatica L.) at its Southeastern Distribution Limit in Europe: Seasonal Changes in Nitrogen, Carbon and Water Balance. Plant Biology, 2006, 8, 52-63.	3.8	31
139	Phloem flow and sugar transport in <scp><i>R</i></scp> <i>icinus communis</i> â€ <scp>L</scp> . is inhibited under anoxic conditions of shoot or roots. Plant, Cell and Environment, 2015, 38, 433-447.	5 . 7	31
140	Circadian rhythms have significant effects on leaf-to-canopy scale gas exchange under field conditions. GigaScience, 2016, 5, 43.	6.4	31
141	Stomatal conductance and intrinsic water use efficiency in the drought year 2003: a case study of European beech. Trees - Structure and Function, 2016, 30, 153-174.	1.9	31
142	The influence of the soil on spring and autumn phenology in European beech. Tree Physiology, 2016, 36, 78-85.	3.1	30
143	Metabolic responses of Norway spruce (Picea abies) trees to long-term forest management practices and acute (NH4)2SO4 fertilization: transport of soluble non-protein nitrogen compounds in xylem and phloem. New Phytologist, 1998, 140, 461-475.	7. 3	30
144	Using aminoâ€nitrogen pools and fluxes to identify contributions of understory⟨i⟩Acacia⟨ i⟩spp. to overstory⟨i⟩Eucalyptus regnans⟨ i⟩and stand nitrogen uptake in temperate Australia. New Phytologist, 2009, 183, 1097-1113.	7.3	29

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145	Do ² H and ¹⁸ O in leaf water reflect environmental drivers differently?. New Phytologist, 2022, 235, 41-51.	7.3	29
146	What is the speed of link between aboveground and belowground processes? New Phytologist, 2010, 187, 885-888.	7.3	28
147	Land-use and hydroperiod affect kettle hole sediment carbon and nitrogen biogeochemistry. Science of the Total Environment, 2017, 574, 46-56.	8.0	28
148	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
149	Memory of environmental conditions across generations affects the acclimation potential of scots pine. Plant, Cell and Environment, 2020, 43, 1288-1299.	5.7	28
150	Soil nutrient availability alters tree carbon allocation dynamics during drought. Tree Physiology, 2021, 41, 697-707.	3.1	28
151	Impacts of summer water limitation on the carbon balance of a Scots pine forest in the southern upper Rhine plain. Agricultural and Forest Meteorology, 2008, 148, 1815-1826.	4.8	27
152	A coastal and an interior Douglas fir provenance exhibit different metabolic strategies to deal with drought stress. Tree Physiology, 2016, 36, tpv105.	3.1	27
153	Thinning effect on photosynthesis depends on needle ages in a Chinese fir (Cunninghamia lanceolata) plantation. Science of the Total Environment, 2017, 580, 900-906.	8.0	27
154	The ¹⁸ Oâ€signal transfer from water vapour to leaf water and assimilates varies among plant species and growth forms. Plant, Cell and Environment, 2020, 43, 510-523.	5.7	27
155	Effects of mistletoe removal on growth, N and C reserves, and carbon and oxygen isotope composition in Scots pine hosts. Tree Physiology, 2016, 36, 562-575.	3.1	26
156	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
157	Intramolecular 13C analysis of tree rings provides multiple plant ecophysiology signals covering decades. Scientific Reports, 2018, 8, 5048.	3. 3	26
158	Long-Distance Transport and Plant Internal Cycling of N- and S-Compounds. Progress in Botany Fortschritte Der Botanik, 2012, , 161-188.	0.3	26
159	Plant functional diversity increases grassland productivityâ€related water vapor fluxes: an Ecotron and modeling approach. Ecology, 2016, 97, 2044-2054.	3.2	25
160	Coordinating supply and demand: plant carbon allocation strategy ensuring survival in the long run. New Phytologist, 2019, 222, 5-7.	7.3	25
161	Droneâ€based physiological index reveals longâ€ŧerm acclimation and drought stress responses in trees. Plant, Cell and Environment, 2021, 44, 3552-3570.	5 . 7	25
162	Organic matter distribution and retention along transects from hilltop to kettle hole within an agricultural landscape. Biogeochemistry, 2017, 136, 47-70.	3.5	24

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163	Night and day – 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
164	Defoliation estimation of forest trees from ground-level images. Remote Sensing of Environment, 2019, 223, 143-153.	11.0	23
165	Carbon and nitrogen balance in beech roots under competitive pressure of soil-borne microorganisms induced by girdling, drought and glucose application. Functional Plant Biology, 2010, 37, 879.	2.1	22
166	Hydrogen isotopic differences between C ₃ and C ₄ land plant lipids: consequences of compartmentation in C ₄ photosynthetic chemistry and C ₃ photorespiration. Plant, Cell and Environment, 2016, 39, 2676-2690.	5.7	22
167	Integrating Aquatic and Terrestrial Perspectives to Improve Insights Into Organic Matter Cycling at the Landscape Scale. Frontiers in Earth Science, 2019, 7, .	1.8	22
168	Ecosystem functioning in urban grasslands: The role of biodiversity, plant invasions and urbanization. PLoS ONE, 2019, 14, e0225438.	2.5	22
169	Drought effects on carbon allocation to resin defences and on resin dynamics in old-grown Scots pine. Environmental and Experimental Botany, 2021, 185, 104410.	4.2	22
170	Tree growth in Switzerland is increasingly constrained by rising evaporative demand. Journal of Ecology, 2021, 109, 2981-2990.	4.0	22
171	Douglas-Fir Seedlings Exhibit Metabolic Responses to Increased Temperature and Atmospheric Drought. PLoS ONE, 2014, 9, e114165.	2.5	21
172	Elevated temperature differently affects foliar nitrogen partitioning in seedlings of diverse Douglas fir provenances. Tree Physiology, 2014, 34, 1090-1101.	3.1	21
173	Microhabitat and ectomycorrhizal effects on the establishment, growth and survival of Quercus ilex L. seedlings under drought. PLoS ONE, 2020, 15, e0229807.	2.5	21
174	A highâ€temperature water vapor equilibration method to determine nonâ€exchangeable hydrogen isotope ratios of sugar, starch and cellulose. Plant, Cell and Environment, 2022, 45, 12-22.	5.7	21
175	Allocate carbon for a reason: Priorities are reflected in the 13C/12C ratios of plant lipids synthesized via three independent biosynthetic pathways. Phytochemistry, 2015, 111, 14-20.	2.9	20
176	Structural and anatomical responses of Pinus sylvestris and Tilia platyphyllos seedlings exposed to water shortage. Trees - Structure and Function, 2018, 32, 1211-1218.	1.9	20
177	Experimental evidence for diel <scp>δ</scp> ¹⁵ <scp>N</scp> â€patterns in different tissues, xylem and phloem saps of castor bean (<i><scp>R</scp>icinus communis</i> àâ€ <scp>L</scp> .). Plant, Cell and Environment, 2013, 36, 2219-2228.	5.7	19
178	Tree diversity affects chlorophyll <i>a</i> fluorescence and other leaf traits of tree species in a boreal forest. Tree Physiology, 2017, 37, 199-208.	3.1	19
179	Detecting the fingerprint of drought across Europe's forests: do carbon isotope ratios and stem growth rates tell similar stories?. Forest Ecosystems, 2017, 4, .	3.1	19
180	Root carbon and nutrient homeostasis determines downy oak sapling survival and recovery from drought. Tree Physiology, 2021, 41, 1400-1412.	3.1	19

#	Article	IF	CITATIONS
181	Will changes in root-zone temperature in boreal spring affect recovery of photosynthesis in Picea mariana and Populus tremuloides in a future climate?. Tree Physiology, 2011, 31, 1204-1216.	3.1	18
182	Effects of drought on nitrogen uptake and carbon dynamics in trees. Tree Physiology, 2021, 41, 927-943.	3.1	18
183	Comparison of the performance of three different ecophysiological life forms in a sandy coastal restinga ecosystem of SE-Brazil: a nodulated N2-fixing C3-shrub (Andira legalis (Vell.) Toledo), a CAM-shrub (Clusia hilariana Schltdl.) and a tap root C3-hemicryptophyte (Allagoptera arenaria) Tj ETQq1 1 0.7843	31 ⁴⁹ rgBT /	Overlock 10
184	Shortâ€ŧerm dynamics of the carbon isotope composition of CO ₂ emitted from a wheat agroecosystem – physiological and environmental controls. Plant Biology, 2011, 13, 115-125.	3.8	17
185	Visualizing landâ€use and management complexity within biogeochemical cycles of an agricultural landscape. Ecosphere, 2016, 7, e01282.	2.2	17
186	Influence of starch deficiency on photosynthetic and post-photosynthetic carbon isotope fractionations. Journal of Experimental Botany, 2019, 70, 1829-1841.	4.8	17
187	Tree allocation dynamics beyond heat and hot drought stress reveal changes in carbon storage, belowground translocation and growth. New Phytologist, 2022, 233, 687-704.	7.3	17
188	Simulation of stand transpiration based on a xylem water flow model for individual trees. Agricultural and Forest Meteorology, 2013, 182-183, 31-42.	4.8	16
189	On the contributions of photorespiration and compartmentation to the contrasting intramolecular 2H profiles of C3 and C4 plant sugars. Phytochemistry, 2018, 145, 197-206.	2.9	16
190	Contrasting Resource Dynamics in Mast Years for European Beech and Oak—A Continental Scale Analysis. Frontiers in Forests and Global Change, 2021, 4, .	2.3	16
191	Frýher Laubfall der Buche wärend der Sommertrockenheit 2018: Resistenz oder Schwähesymptom?. Schweizerische Zeitschrift Fur Forstwesen, 2020, 171, 257-269.	0.1	16
192	Intraspecific differences in responses to rainshelter-induced drought and competition of Fagus sylvatica L. across Germany. Forest Ecology and Management, 2014, 330, 283-293.	3.2	15
193	Short-Term Response of Soil Respiration to Addition of Chars: Impact of Fermentation Post-Processing and Mineral Nitrogen. Pedosphere, 2015, 25, 761-769.	4.0	15
194	Reductions in tree performance during hotter droughts are mitigated by shifts in nitrogen cycling. Plant, Cell and Environment, 2018, 41, 2627-2637.	5.7	15
195	Lessons learned from a longâ€ŧerm irrigation experiment in a dry Scots pine forest: Impacts on traits and functioning. Ecological Monographs, 2022, 92, e1507.	5.4	15
196	Quantifying resource use complementarity in grassland species: A comparison of different nutrient tracers. Pedobiologia, 2014, 57, 251-256.	1.2	14
197	Variation in short-term and long-term responses of photosynthesis and isoprenoid-mediated photoprotection to soil water availability in four Douglas-fir provenances. Scientific Reports, 2017, 7, 40145.	3.3	14
198	The biogeochemical niche shifts of Pinus sylvestris var. mongolica along an environmental gradient. Environmental and Experimental Botany, 2019, 167, 103825.	4.2	14

#	Article	IF	Citations
199	Biodiversity research: data without theory \tilde{A} ¢â,¬â \in theory without data. Frontiers in Ecology and Evolution, 2015, 3, .	2.2	13
200	Root chemistry and soil fauna, but not soil abiotic conditions explain the effects of plant diversity on root decomposition. Oecologia, 2017, 185, 499-511.	2.0	13
201	Responses of the structure and function of the understory plant communities to precipitation reduction across forest ecosystems in Germany. Annals of Forest Science, 2018, 75, 1.	2.0	13
202	Ephemeral kettle hole water and sediment temporal and spatial dynamics within an agricultural catchment. Ecohydrology, 2018, 11, e1929.	2.4	13
203	Effects of elevated growth temperature and enhanced atmospheric vapour pressure deficit on needle and root terpenoid contents of two Douglas fir provenances. Environmental and Experimental Botany, 2019, 166, 103819.	4.2	13
204	TreeNet–The Biological Drought and Growth Indicator Network. Frontiers in Forests and Global Change, 2021, 4, .	2.3	13
205	Plasticity in gasâ€exchange physiology of mature Scots pine and European larch drive short―and longâ€term adjustments to changes in water availability. Plant, Cell and Environment, 2017, 40, 1972-1983.	5 . 7	12
206	Above- and belowground overyielding are related at the community and species level in a grassland biodiversity experiment. Advances in Ecological Research, 2019, 61, 55-89.	2.7	12
207	Grow slowly, persist, dominate—Explaining beech dominance in a primeval forest. Ecology and Evolution, 2021, 11, 10077-10089.	1.9	12
208	Both diversity and functional composition affect productivity and water use efficiency in experimental temperate grasslands. Journal of Ecology, 2021, 109, 3877-3891.	4.0	12
209	Photosynthetic acclimation and sensitivity to short- and long-term environmental changes in a drought-prone forest. Journal of Experimental Botany, 2022, 73, 2576-2588.	4.8	12
210	Impact of warmer and drier conditions on tree photosynthetic properties and the role of species interactions. New Phytologist, 2022, 236, 547-560.	7. 3	12
211	Leaf transition from heterotrophy to autotrophy is recorded in the intraleaf C, H and O isotope patterns of leaf organic matter. Rapid Communications in Mass Spectrometry, 2020, 34, e8840.	1.5	11
212	Mortality predispositions of conifers across western USA. New Phytologist, 2021, 229, 831-844.	7.3	11
213	Sink and source co-limitation in the response of stored non-structural carbohydrates to an intense but short drought. Trees - Structure and Function, 2021, 35, 1751-1754.	1.9	11
214	Below Average Midsummer to Early Autumn Precipitation Evolved Into the Main Driver of Sudden Scots Pine Vitality Decline in the Swiss Rhône Valley. Frontiers in Forests and Global Change, 0, 5, .	2.3	11
215	Optimization and evaluation of the ANTHRO-BGC model for winter crops in Europe. Ecological Modelling, 2011, 222, 3662-3679.	2.5	10
216	Day length regulates seasonal patterns of stomatal conductance in Quercus species. Plant, Cell and Environment, 2020, 43, 28-39.	5.7	10

#	Article	IF	Citations
217	Interactive effects of tree species mixture and climate on foliar and woody trait variation in a widely distributed deciduous tree. Functional Ecology, 2021, 35, 2397-2408.	3.6	10
218	Investment of needle nitrogen to photosynthesis controls the nonlinear productivity response of young Chinese fir trees to nitrogen deposition. Science of the Total Environment, 2022, 840, 156537.	8.0	10
219	Application of <scp>L</scp> oreau & <scp>H</scp> ector's (2001) partitioning method to complex functional traits. Methods in Ecology and Evolution, 2013, 4, 954-960.	5.2	9
220	Experimental evidence of two mechanisms coupling leaf-level C assimilation to rhizosphere CO2 release. Environmental and Experimental Botany, 2017, 135, 21-26.	4.2	9
221	Foliar nitrogen metabolism of adult Douglas-fir trees is affected by soil water availability and varies little among provenances. PLoS ONE, 2018, 13, e0194684.	2.5	9
222	Degradability of raw and post-processed chars in a two-year field experiment. Science of the Total Environment, 2018, 628-629, 1600-1608.	8.0	8
223	Scale dependent responses of pine reproductive traits to experimental and natural precipitation gradients. Environmental and Experimental Botany, 2018, 156, 62-73.	4.2	8
224	Functional composition has stronger impact than species richness on carbon gain and allocation in experimental grasslands. PLoS ONE, 2019, 14, e0204715.	2.5	8
225	Application of a laser-based spectrometer for continuous in situ measurements of stable isotopes of soil CO ₂ in calcareous and acidic soils. Soil, 2019, 5, 49-62.	4.9	8
226	Circadian Regulation Does Not Optimize Stomatal Behaviour. Plants, 2020, 9, 1091.	3.5	8
227	Above and below ground carbohydrate allocation differs between ash (Fraxinus excelsior L.) and beech (Fagus sylvatica L.). PLoS ONE, 2017, 12, e0184247.	2.5	8
228	Postphotosynthetic Fractionation in Leaves, Phloem and Stem. Tree Physiology, 2022, , 381-396.	2.5	8
229	Winter respiratory C losses provide explanatory power for net ecosystem productivity. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 243-260.	3.0	7
230	Meteorological data series from Swiss long-term forest ecosystem research plots since 1997. Annals of Forest Science, 2018, 75, 1.	2.0	7
231	Effects of soil moisture, needle age and leaf morphology on carbon and oxygen uptake, incorporation and allocation: a dual labeling approach with 13CO2 and H218O in foliage of a coniferous forest. Tree Physiology, 2021, 41, 50-62.	3.1	7
232	Circadian rhythms regulate the environmental responses of net CO2 exchange in bean and cotton canopies. Agricultural and Forest Meteorology, 2017, 239, 185-191.	4.8	6
233	Water transport in treesâ€"the importance of radial and circumferential transport. Tree Physiology, 2021, 41, 2245-2247.	3.1	6
234	Divergent roles of iron and aluminum in sediment organic matter association at the terrestrial–aquatic interface. Biogeochemistry, 2022, 157, 355-378.	3.5	6

#	Article	IF	Citations
235	Differences in isoprenoid-mediated energy dissipation pathways between coastal and interior Douglas-fir seedlings in response to drought. Tree Physiology, 2019, 39, 1750-1766.	3.1	5
236	Xylem sap phosphorus sampling using microdialysisâ€"a non-destructive high sampling frequency method tested under laboratory and field conditions. Tree Physiology, 2020, 40, 1623-1638.	3.1	5
237	Yield gap of winter wheat in Europe and sensitivity of potential yield to climate factors. Climate Research, 2016, 67, 179-190.	1.1	5
238	Sucrose synthase – an enzyme with a central role in the source–sink coordination and carbon flow in trees. New Phytologist, 2021, 229, 8-10.	7.3	4
239	Carbon and Oxygen Isotopes in Trees: Tools to Study Assimilate Transport and Partitioning and to Assess Physiological Responses Towards the Environment. Progress in Botany Fortschritte Der Botanik, 2010, , 227-248.	0.3	4
240	Drought effects on volatile organic compound emissions from Scots pine stems. Plant, Cell and Environment, 2021, , .	5.7	4
241	Root Carbon Resources Determine Survival and Growth of Young Trees Under Long Drought in Combination With Fertilization. Frontiers in Plant Science, 2022, 13, .	3.6	4
242	Top canopy nitrogen allocation linked to increased grassland carbon uptake in stands of varying species richness. Scientific Reports, 2017, 7, 8392.	3.3	3
243	Where does it come from, where does it go? The role of the xylem for plant CO2 efflux. Journal of Experimental Botany, 2017, 68, 2633-2636.	4.8	3
244	In situ 13CO2 labeling reveals that alpine treeline trees allocate less photoassimilates to roots compared with low-elevation trees. Tree Physiology, 2022, , .	3.1	3
245	Plasticity of photosynthetic performance of the Indian tree Butea monosperma TAUB. at three sites with different microclimates. Photosynthesis Research, 2012, 113, 287-295.	2.9	2
246	Desiccation of sediments affects assimilate transport within aquatic plants and carbon transfer to microorganisms. Plant Biology, 2016, 18, 947-961.	3.8	2
247	No Ontogenetic Shifts in C-, N- and P-Allocation for Two Distinct Tree Species along Elevational Gradients in the Swiss Alps. Forests, 2019, 10, 394.	2.1	2
248	Clear Language for Ecosystem Management in the Anthropocene: A Reply to Bridgewater and Hemming. BioScience, 2020, 70, 374-376.	4.9	2
249	There Is No Carbon Transfer Between Scots Pine and Pine Mistletoe but the Assimilation Capacity of the Hemiparasite Is Constrained by Host Water Use Under Dry Conditions. Frontiers in Plant Science, 2022, 13, .	3.6	2
250	Editor's highlight for TSAF D-17-00396: carbon and oxygen isotopes in tree ringsâ€"climate signals and microsite effects. Trees - Structure and Function, 2018, 32, 881-882.	1.9	1
251	Recovery of silver fir (<i>Abies alba</i> Mill.) seedlings from ungulate browsing mirrors soil nitrogen availability. Tree Physiology, 2022, 42, 273-288.	3.1	1
252	Kettle holes reflect the biogeochemical characteristics of their catchment area and the intensity of the element-specific input. Journal of Soils and Sediments, 2022, 22, 994.	3.0	1

#	Article	IF	CITATIONS
253	Continental and local climatic influences on hydrology of eucalyptâ€ <i>Nothofagus</i> ecosystems revealed by ⟨i⟩Î⟨ i⟩⟨sup⟩2⟨ sup⟩H, ⟨i⟩Î⟨ i⟩⟨sup⟩13⟨ sup⟩C, and ⟨i⟩Î⟨ i⟩⟨sup⟩18⟨ sup⟩O of ecosystem samples. Water Resources Research, 2010, 46, .	4.2	O