

William T Pockman

List of Publications by Year in descending order

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Version: 2024-02-01

90
papers

18,540
citations

29994

54
h-index

45213

90
g-index

94
all docs

94
docs citations

94
times ranked

14785
citing authors

#	ARTICLE	IF	CITATIONS
1	Mechanisms of plant survival and mortality during drought: why do some plants survive while others succumb to drought?. <i>New Phytologist</i> , 2008, 178, 719-739.	3.5	3,232
2	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. <i>Oecologia</i> , 2001, 126, 457-461.	0.9	1,257
3	Convergence across biomes to a common rain-use efficiency. <i>Nature</i> , 2004, 429, 651-654.	13.7	968
4	Precipitation pulses and carbon fluxes in semiarid and arid ecosystems. <i>Oecologia</i> , 2004, 141, 254-268.	0.9	942
5	Ecosystem carbon loss with woody plant invasion of grasslands. <i>Nature</i> , 2002, 418, 623-626.	13.7	833
6	A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. <i>Nature Ecology and Evolution</i> , 2017, 1, 1285-1291.	3.4	739
7	Assessing the Response of Terrestrial Ecosystems to Potential Changes in Precipitation. <i>BioScience</i> , 2003, 53, 941.	2.2	680
8	How do trees die? A test of the hydraulic failure and carbon starvation hypotheses. <i>Plant, Cell and Environment</i> , 2014, 37, 153-161.	2.8	642
9	ADAPTIVE VARIATION IN THE VULNERABILITY OF WOODY PLANTS TO XYLEM CAVITATION. <i>Ecology</i> , 2004, 85, 2184-2199.	1.5	584
10	ECOHYDROLOGICAL IMPLICATIONS OF WOODY PLANT ENCROACHMENT. <i>Ecology</i> , 2005, 86, 308-319.	1.5	582
11	Vulnerability to xylem cavitation and the distribution of Sonoran Desert vegetation. <i>American Journal of Botany</i> , 2000, 87, 1287-1299.	0.8	497
12	Tree die-off in response to global change-type drought: mortality insights from a decade of plant water potential measurements. <i>Frontiers in Ecology and the Environment</i> , 2009, 7, 185-189.	1.9	436
13	Evaluating theories of drought-induced vegetation mortality using a multimodel experiment framework. <i>New Phytologist</i> , 2013, 200, 304-321.	3.5	340
14	Multi-scale predictions of massive conifer mortality due to chronic temperature rise. <i>Nature Climate Change</i> , 2016, 6, 295-300.	8.1	296
15	Limitation of transpiration by hydraulic conductance and xylem cavitation in <i>Betula occidentalis</i> . <i>Plant, Cell and Environment</i> , 1993, 16, 279-287.	2.8	292
16	Positive feedback between microclimate and shrub encroachment in the northern Chihuahuan desert. <i>Ecosphere</i> , 2010, 1, 1-11.	1.0	290
17	Sustained and significant negative water pressure in xylem. <i>Nature</i> , 1995, 378, 715-716.	13.7	289
18	Use of centrifugal force in the study of xylem cavitation. <i>Journal of Experimental Botany</i> , 1997, 48, 665-674.	2.4	267

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19	Drought predisposes piñon-juniper woodlands to insect attacks and mortality. <i>New Phytologist</i> , 2013, 198, 567-578.	3.5	256
20	Root and stem xylem embolism, stomatal conductance, and leaf turgor in <i>Acer grandidentatum</i> populations along a soil moisture gradient. <i>Oecologia</i> , 1996, 105, 293-301.	0.9	255
21	Variation in xylem structure and function in stems and roots of trees to 20Âm depth. <i>New Phytologist</i> , 2004, 163, 507-517.	3.5	243
22	Ecosystem rooting depth determined with caves and DNA. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 1999, 96, 11387-11392.	3.3	241
23	Asymmetric responses of primary productivity to precipitation extremes: A synthesis of grassland precipitation manipulation experiments. <i>Global Change Biology</i> , 2017, 23, 4376-4385.	4.2	231
24	Drought consistently alters the composition of soil fungal and bacterial communities in grasslands from two continents. <i>Global Change Biology</i> , 2018, 24, 2818-2827.	4.2	221
25	Response of the Soil Microbial Community to Changes in Precipitation in a Semiarid Ecosystem. <i>Applied and Environmental Microbiology</i> , 2012, 78, 8587-8594.	1.4	179
26	Hydraulic limits preceding mortality in a piñon-juniper woodland under experimental drought. <i>Plant, Cell and Environment</i> , 2012, 35, 1601-1617.	2.8	170
27	Pragmatic hydraulic theory predicts stomatal responses to climatic water deficits. <i>New Phytologist</i> , 2016, 212, 577-589.	3.5	168
28	ECOHYDROLOGICAL CONTROL OF DEEP DRAINAGE IN ARID AND SEMIARID REGIONS. <i>Ecology</i> , 2005, 86, 277-287.	1.5	159
29	A Multiscale, Hierarchical Model of Pulse Dynamics in Arid-Land Ecosystems. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2014, 45, 397-419.	3.8	153
30	Nutrient uptake as a contributing explanation for deep rooting in arid and semi-arid ecosystems. <i>Oecologia</i> , 2004, 141, 620-628.	0.9	145
31	Freezing-induced xylem cavitation and the northern limit of <i>Larrea tridentata</i> . <i>Oecologia</i> , 1997, 109, 19-27.	0.9	134
32	New evidence for large negative xylem pressures and their measurement by the pressure chamber method. <i>Plant, Cell and Environment</i> , 1996, 19, 427-436.	2.8	121
33	Water storage capacitance and xylem tension in isolated branches of temperate and tropical trees. <i>Tree Physiology</i> , 2005, 25, 457-466.	1.4	120
34	Effects of experimental rainfall manipulations on Chihuahuan Desert grassland and shrubland plant communities. <i>Oecologia</i> , 2013, 172, 1117-1127.	0.9	115
35	Carbohydrate dynamics and mortality in a piñon-juniper woodland under three future precipitation scenarios. <i>Plant, Cell and Environment</i> , 2015, 38, 729-739.	2.8	102
36	Interdependence of chronic hydraulic dysfunction and canopy processes can improve integrated models of tree response to drought. <i>Water Resources Research</i> , 2015, 51, 6156-6176.	1.7	99

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37	Tree water dynamics in a drying and warming world. <i>Plant, Cell and Environment</i> , 2017, 40, 1861-1873.	2.8	96
38	Interactions between C3 and C4 salt marsh plant species during four years of exposure to elevated atmospheric CO ₂ . <i>Plant Ecology</i> , 1993, 104-105, 133-143.	1.2	94
39	Interacting Effects of Leaf Water Potential and Biomass on Vegetation Optical Depth. <i>Journal of Geophysical Research C: Biogeosciences</i> , 2017, 122, 3031-3046.	1.3	91
40	Integrating Patch and Boundary Dynamics to Understand and Predict Biotic Transitions at Multiple Scales. <i>Landscape Ecology</i> , 2006, 21, 19-33.	1.9	87
41	Differential effects of extreme drought on production and respiration: synthesis and modeling analysis. <i>Biogeosciences</i> , 2014, 11, 621-633.	1.3	87
42	The impact of precipitation change on nitrogen cycling in a semi-arid ecosystem. <i>Functional Ecology</i> , 2014, 28, 1534-1544.	1.7	84
43	Regulation and acclimation of leaf gas exchange in a piñon-juniper woodland exposed to three different precipitation regimes. <i>Plant, Cell and Environment</i> , 2013, 36, 1812-1825.	2.8	83
44	Aquaporin-mediated changes in hydraulic conductivity of deep tree roots accessed via caves. <i>Plant, Cell and Environment</i> , 2007, 30, 1411-1421.	2.8	82
45	Vulnerability to xylem cavitation and the distribution of Sonoran Desert vegetation. <i>American Journal of Botany</i> , 2000, 87, 1287-99.	0.8	78
46	Reduced transpiration response to precipitation pulses precedes mortality in a piñon-juniper woodland subject to prolonged drought. <i>New Phytologist</i> , 2013, 200, 375-387.	3.5	77
47	Mechanisms of a coniferous woodland persistence under drought and heat. <i>Environmental Research Letters</i> , 2019, 14, 045014.	2.2	72
48	Transpiration and stomatal conductance across a steep climate gradient in the southern Rocky Mountains. <i>Ecohydrology</i> , 2008, 1, 193-204.	1.1	71
49	Influence of soil texture on hydraulic properties and water relations of a dominant warm-desert phreatophyte. <i>Tree Physiology</i> , 2006, 26, 313-323.	1.4	70
50	The Cohesion-Tension Theory. <i>New Phytologist</i> , 2004, 163, 451-452.	3.5	68
51	Heavy and Light Beer: A Carbon Isotope Approach To Detect C ₄ Carbon in Beers of Different Origins, Styles, and Prices. <i>Journal of Agricultural and Food Chemistry</i> , 2002, 50, 6413-6418.	2.4	66
52	Global transpiration data from sap flow measurements: the SAPFLUXNET database. <i>Earth System Science Data</i> , 2021, 13, 2607-2649.	3.7	65
53	Prolonged experimental drought reduces plant hydraulic conductance and transpiration and increases mortality in a piñon-juniper woodland. <i>Ecology and Evolution</i> , 2015, 5, 1618-1638.	0.8	63
54	The Influence of Spatial Patterns of Soil Moisture on the Grass and Shrub Responses to a Summer Rainstorm in a Chihuahuan Desert Ecotone. <i>Ecosystems</i> , 2010, 13, 511-525.	1.6	59

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55	Drought increases freezing tolerance of both leaves and xylem of <i>Larrea tridentata</i> . <i>Plant, Cell and Environment</i> , 2011, 34, 43-51.	2.8	50
56	Methodology and performance of a rainfall manipulation experiment in a piñon-juniper woodland. <i>Ecosphere</i> , 2012, 3, 1-20.	1.0	50
57	The vulnerability to freezing-induced xylem cavitation of <i>Larrea tridentata</i> (Zygophyllaceae) in the Chihuahuan desert. <i>American Journal of Botany</i> , 2002, 89, 1916-1924.	0.8	49
58	Press-pulse interactions: effects of warming, N deposition, altered winter precipitation, and fire on desert grassland community structure and dynamics. <i>Global Change Biology</i> , 2017, 23, 1095-1108.	4.2	49
59	Manipulative experiments demonstrate how long-term soil moisture changes alter controls of plant water use. <i>Environmental and Experimental Botany</i> , 2018, 152, 19-27.	2.0	49
60	Integrating ecophysiology and forest landscape models to improve projections of drought effects under climate change. <i>Global Change Biology</i> , 2015, 21, 843-856.	4.2	43
61	Allometry, growth and population regulation of the desert shrub <i>Larrea tridentata</i> . <i>Functional Ecology</i> , 2008, 22, 197-204.	1.7	38
62	Rapid plant community responses during the summer monsoon to nighttime warming in a northern Chihuahuan Desert grassland. <i>Journal of Arid Environments</i> , 2010, 74, 611-617.	1.2	35
63	Convergence in resource use efficiency across trees with differing hydraulic strategies in response to ecosystem precipitation manipulation. <i>Functional Ecology</i> , 2015, 29, 1125-1136.	1.7	35
64	An allometry-based model of the survival strategies of hydraulic failure and carbon starvation. <i>Ecohydrology</i> , 2016, 9, 529-546.	1.1	33
65	Too dry for lizards: short-term rainfall influence on lizard microhabitat use in an experimental rainfall manipulation within a piñon-juniper. <i>Functional Ecology</i> , 2016, 30, 964-973.	1.7	32
66	Transport in a coordinated soil-root-xylem-phloem leaf system. <i>Advances in Water Resources</i> , 2018, 119, 1-16.	1.7	31
67	Divergent responses of primary production to increasing precipitation variability in global drylands. <i>Global Change Biology</i> , 2021, 27, 5225-5237.	4.2	31
68	Impacts of long-term precipitation manipulation on hydraulic architecture and xylem anatomy of piñon and juniper in Southwest USA. <i>Plant, Cell and Environment</i> , 2018, 41, 421-435.	2.8	28
69	Tree Mortality Decreases Water Availability and Ecosystem Resilience to Drought in Piñon-Juniper Woodlands in the Southwestern U.S.. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017, 122, 3343-3361.	1.3	25
70	Sensitivity of dryland plant allometry to climate. <i>Functional Ecology</i> , 2019, 33, 2290-2303.	1.7	24
71	Freezing regime and tradeoffs with water transport efficiency generate variation in xylem structure across diploid populations of <i>Larrea</i> sp. (Zygophyllaceae). <i>American Journal of Botany</i> , 2014, 101, 598-607.	0.8	22
72	Effects of monsoon precipitation variability on the physiological response of two dominant C4 grasses across a semiarid ecotone. <i>Oecologia</i> , 2014, 176, 751-762.	0.9	20

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73	Measuring Water Availability and Uptake in Ecosystem Studies. , 2000, , 199-214.		17
74	Is desiccation tolerance and avoidance reflected in xylem and phloem anatomy of two coexisting arid-zone coniferous trees?. Plant, Cell and Environment, 2018, 41, 1551-1564.	2.8	16
75	Interactions between C3 and C4 salt marsh plant species during four years of exposure to elevated atmospheric CO2. , 1993, , 133-143.		16
76	Interannual variations in needle and sapwood traits of <i>Pinus edulis</i> branches under an experimental drought. Ecology and Evolution, 2018, 8, 1655-1672.	0.8	15
77	Experimental drought reduces genetic diversity in the grassland foundation species <i>Bouteloua eriopoda</i> . Oecologia, 2019, 189, 1107-1120.	0.9	15
78	Winter climate change promotes an altered spring growing season in piñon pine-juniper woodlands. Agricultural and Forest Meteorology, 2015, 214-215, 357-368.	1.9	12
79	A heuristic classification of woody plants based on contrasting shade and drought strategies. Tree Physiology, 2019, 39, 767-781.	1.4	12
80	Carbon gain and hydraulic limits on water use differ between size classes of <i>Larrea tridentata</i> . Journal of Arid Environments, 2010, 74, 1121-1129.	1.2	11
81	The role of interannual, seasonal, and synoptic climate on the carbon isotope ratio of ecosystem respiration at a semiarid woodland. Global Change Biology, 2011, 17, 2584-2600.	4.2	11
82	Minimal mortality and rapid recovery of the dominant shrub <i>Larrea tridentata</i> following an extreme cold event in the northern Chihuahuan Desert. Journal of Vegetation Science, 2019, 30, 963-972.	1.1	10
83	Variation in seedling freezing response is associated with climate in <i>Larrea</i> . Oecologia, 2012, 169, 73-84.	0.9	9
84	Spatio-temporal decoupling of stomatal and mesophyll conductance induced by vein cutting in leaves of <i>Helianthus annuus</i> . Frontiers in Plant Science, 2013, 4, 365.	1.7	9
85	Early exposure to UV radiation overshadowed by precipitation and litter quality as drivers of decomposition in the northern Chihuahuan Desert. PLoS ONE, 2019, 14, e0210470.	1.1	8
86	Photoprotective response to chilling differs among high and low latitude <i>Larrea divaricata</i> grown in a common garden. Journal of Arid Environments, 2015, 120, 51-54.	1.2	7
87	State changes: insights from the U.S. Long Term Ecological Research Network. Ecosphere, 2021, 12, e03433.	1.0	6
88	Hydrologic control of the oxygen isotope ratio of ecosystem respiration in a semi-arid woodland. Biogeosciences, 2013, 10, 4937-4956.	1.3	5
89	Leaf Anatomy of <i>Orcuttieae</i> (Poaceae: Chloridoideae): More Evidence of C4 Photosynthesis without Kranz Anatomy. Madroño, 2008, 55, 143-150.	0.3	3
90	Ecosystem-Level Energy and Water Budgets Are Resilient to Canopy Mortality in Sparse Semiarid Biomes. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG005858.	1.3	2