

William T Pockman

List of Publications by Citations

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

92
papers

14,853
citations

50
h-index

94
g-index

94
ext. papers

16,740
ext. citations

7.4
avg, IF

6.12
L-index

#	Paper	IF	Citations
92	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	9.8	2499
91	Trends in wood density and structure are linked to prevention of xylem implosion by negative pressure. <i>Oecologia</i> , 2001 , 126, 457-461	2.9	1050
90	Precipitation pulses and carbon fluxes in semiarid and arid ecosystems. <i>Oecologia</i> , 2004 , 141, 254-68	2.9	815
89	Convergence across biomes to a common rain-use efficiency. <i>Nature</i> , 2004 , 429, 651-4	50.4	786
88	Ecosystem carbon loss with woody plant invasion of grasslands. <i>Nature</i> , 2002 , 418, 623-6	50.4	755
87	Assessing the Response of Terrestrial Ecosystems to Potential Changes in Precipitation. <i>BioScience</i> , 2003 , 53, 941	5.7	591
86	ECOHYDROLOGICAL IMPLICATIONS OF WOODY PLANT ENCROACHMENT. <i>Ecology</i> , 2005 , 86, 308-319	4.6	500
85	How do trees die? A test of the hydraulic failure and carbon starvation hypotheses. <i>Plant, Cell and Environment</i> , 2014 , 37, 153-61	8.4	487
84	ADAPTIVE VARIATION IN THE VULNERABILITY OF WOODY PLANTS TO XYLEM CAVITATION. <i>Ecology</i> , 2004 , 85, 2184-2199	4.6	484
83	A multi-species synthesis of physiological mechanisms in drought-induced tree mortality. <i>Nature Ecology and Evolution</i> , 2017 , 1, 1285-1291	12.3	469
82	Vulnerability to xylem cavitation and the distribution of Sonoran Desert vegetation. <i>American Journal of Botany</i> , 2000 , 87, 1287-1299	2.7	442
81	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	5.5	371
80	Evaluating theories of drought-induced vegetation mortality using a multimodel-experiment framework. <i>New Phytologist</i> , 2013 , 200, 304-321	9.8	287
79	Limitation of transpiration by hydraulic conductance and xylem cavitation in <i>Betula occidentalis</i> . <i>Plant, Cell and Environment</i> , 1993 , 16, 279-287	8.4	261
78	Sustained and significant negative water pressure in xylem. <i>Nature</i> , 1995 , 378, 715-716	50.4	257
77	Positive feedback between microclimate and shrub encroachment in the northern Chihuahuan desert. <i>Ecosphere</i> , 2010 , 1, 1-11	3.1	255
76	Use of centrifugal force in the study of xylem cavitation. <i>Journal of Experimental Botany</i> , 1997 , 48, 665-674		237

75	Multi-scale predictions of massive conifer mortality due to chronic temperature rise. <i>Nature Climate Change</i> , 2016 , 6, 295-300	21.4	226
74	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	2.9	223
73	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, 11387-92	11.5	211
72	Drought predisposes piñon-juniper woodlands to insect attacks and mortality. <i>New Phytologist</i> , 2013 , 198, 567-578	9.8	204
71	Variation in xylem structure and function in stems and roots of trees to 20m depth. <i>New Phytologist</i> , 2004 , 163, 507-517	9.8	199
70	Asymmetric responses of primary productivity to precipitation extremes: A synthesis of grassland precipitation manipulation experiments. <i>Global Change Biology</i> , 2017 , 23, 4376-4385	11.4	139
69	Hydraulic limits preceding mortality in a piñon-juniper woodland under experimental drought. <i>Plant, Cell and Environment</i> , 2012 , 35, 1601-17	8.4	136
68	ECOHYDROLOGICAL CONTROL OF DEEP DRAINAGE IN ARID AND SEMIARID REGIONS. <i>Ecology</i> , 2005 , 86, 277-287	4.6	136
67	Response of the soil microbial community to changes in precipitation in a semiarid ecosystem. <i>Applied and Environmental Microbiology</i> , 2012 , 78, 8587-94	4.8	135
66	Nutrient uptake as a contributing explanation for deep rooting in arid and semi-arid ecosystems. <i>Oecologia</i> , 2004 , 141, 620-8	2.9	128
65	Freezing-induced xylem cavitation and the northern limit of <i>Larrea tridentata</i> . <i>Oecologia</i> , 1996 , 109, 19-27	9.8	126
64	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	11.4	114
63	A Multiscale, Hierarchical Model of Pulse Dynamics in Arid-Land Ecosystems. <i>Annual Review of Ecology, Evolution, and Systematics</i> , 2014 , 45, 397-419	13.5	113
62	Pragmatic hydraulic theory predicts stomatal responses to climatic water deficits. <i>New Phytologist</i> , 2016 , 212, 577-589	9.8	107
61	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	8.4	106
60	Effects of experimental rainfall manipulations on Chihuahuan Desert grassland and shrubland plant communities. <i>Oecologia</i> , 2013 , 172, 1117-27	2.9	94
59	Water storage capacitance and xylem tension in isolated branches of temperate and tropical trees. <i>Tree Physiology</i> , 2005 , 25, 457-66	4.2	94
58	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		88

57	Aquaporin-mediated changes in hydraulic conductivity of deep tree roots accessed via caves. <i>Plant, Cell and Environment</i> , 2007 , 30, 1411-21	8.4	74
56	Carbohydrate dynamics and mortality in a piñon-juniper woodland under three future precipitation scenarios. <i>Plant, Cell and Environment</i> , 2015 , 38, 729-39	8.4	73
55	Differential effects of extreme drought on production and respiration: synthesis and modeling analysis. <i>Biogeosciences</i> , 2014 , 11, 621-633	4.6	73
54	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, 1812-25	8.4	72
53	Integrating Patch and Boundary Dynamics to Understand and Predict Biotic Transitions at Multiple Scales. <i>Landscape Ecology</i> , 2006 , 21, 19-33	4.3	72
52	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	5.4	70
51	Vulnerability to xylem cavitation and the distribution of Sonoran Desert vegetation. <i>American Journal of Botany</i> , 2000 , 87, 1287-99	2.7	69
50	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	9.8	62
49	Influence of soil texture on hydraulic properties and water relations of a dominant warm-desert phreatophyte. <i>Tree Physiology</i> , 2006 , 26, 313-23	4.2	61
48	Interacting Effects of Leaf Water Potential and Biomass on Vegetation Optical Depth. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017 , 122, 3031-3046	3.7	59
47	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, 6413-8	5.7	58
46	Transpiration and stomatal conductance across a steep climate gradient in the southern Rocky Mountains. <i>Ecohydrology</i> , 2008 , 1, 193-204	2.5	57
45	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	3.9	56
44	The Cohesion-Tension Theory. <i>New Phytologist</i> , 2004 , 163, 451-452	9.8	54
43	The impact of precipitation change on nitrogen cycling in a semi-arid ecosystem. <i>Functional Ecology</i> , 2014 , 28, 1534-1544	5.6	51
42	Tree water dynamics in a drying and warming world. <i>Plant, Cell and Environment</i> , 2017 , 40, 1861-1873	8.4	48
41	Prolonged experimental drought reduces plant hydraulic conductance and transpiration and increases mortality in a piñon-juniper woodland. <i>Ecology and Evolution</i> , 2015 , 5, 1618-38	2.8	48
40	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, 1916-24	2.7	43

39	Mechanisms of a coniferous woodland persistence under drought and heat. <i>Environmental Research Letters</i> , 2019 , 14, 045014	6.2	42
38	Methodology and performance of a rainfall manipulation experiment in a piñon-juniper woodland. <i>Ecosphere</i> , 2012 , 3, art28	3.1	42
37	Drought increases freezing tolerance of both leaves and xylem of <i>Larrea tridentata</i> . <i>Plant, Cell and Environment</i> , 2011 , 34, 43-51	8.4	39
36	Allometry, growth and population regulation of the desert shrub <i>Larrea tridentata</i> . <i>Functional Ecology</i> , 2008 , 22, 197-204	5.6	35
35	Integrating ecophysiology and forest landscape models to improve projections of drought effects under climate change. <i>Global Change Biology</i> , 2015 , 21, 843-56	11.4	32
34	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	11.4	31
33	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	5.9	30
32	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	2.5	29
31	An allometry-based model of the survival strategies of hydraulic failure and carbon starvation. <i>Ecohydrology</i> , 2016 , 9, 529-546	2.5	29
30	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	5.6	27
29	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	5.6	21
28	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	3.7	21
27	Transport in a coordinated soil-root-xylem-phloem leaf system. <i>Advances in Water Resources</i> , 2018 , 119, 1-16	4.7	17
26	Freezing regime and trade-offs 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	2.7	17
25	Effects of monsoon precipitation variability on the physiological response of two dominant C ₄ grasses across a semiarid ecotone. <i>Oecologia</i> , 2014 , 176, 751-62	2.9	16
24	Measuring Water Availability and Uptake in Ecosystem Studies 2000 , 199-214		14
23	Sensitivity of dryland plant allometry to climate. <i>Functional Ecology</i> , 2019 , 33, 2290-2303	5.6	13
22	Global transpiration data from sap flow measurements: the SAPFLUXNET database. <i>Earth System Science Data</i> , 2021 , 13, 2607-2649	10.5	13

21	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	8.4	12
20	Is desiccation tolerance and avoidance reflected in xylem and phloem anatomy of two coexisting arid-zone coniferous trees?. <i>Plant, Cell and Environment</i> , 2018 , 41, 1551-1564	8.4	11
19	Experimental drought reduces genetic diversity in the grassland foundation species <i>Bouteloua eriopoda</i> . <i>Oecologia</i> , 2019 , 189, 1107-1120	2.9	10
18	Winter climate change promotes an altered spring growing season in piñon pine-juniper woodlands. <i>Agricultural and Forest Meteorology</i> , 2015 , 214-215, 357-368	5.8	10
17	The role of interannual, seasonal, and synoptic climate on the carbon isotope ratio of ecosystem respiration at a semiarid woodland. <i>Global Change Biology</i> , 2011 , 17, 2584-2600	11.4	10
16	Carbon gain and hydraulic limits on water use differ between size classes of <i>Larrea tridentata</i> . <i>Journal of Arid Environments</i> , 2010 , 74, 1121-1129	2.5	9
15	Interannual variations in needle and sapwood traits of branches under an experimental drought. <i>Ecology and Evolution</i> , 2018 , 8, 1655-1672	2.8	8
14	Variation in seedling freezing response is associated with climate in <i>Larrea</i> . <i>Oecologia</i> , 2012 , 169, 73-84	2.9	8
13	Photoprotective response to chilling differs among high and low latitude <i>Larrea divaricata</i> grown in a common garden. <i>Journal of Arid Environments</i> , 2015 , 120, 51-54	2.5	7
12	Spatio-temporal decoupling of stomatal and mesophyll conductance induced by vein cutting in leaves of <i>Helianthus annuus</i> . <i>Frontiers in Plant Science</i> , 2013 , 4, 365	6.2	7
11	Minimal mortality and rapid recovery of the dominant shrub <i>Larrea tridentata</i> following an extreme cold event in the northern Chihuahuan Desert. <i>Journal of Vegetation Science</i> , 2019 , 30, 963-972	3.1	5
10	A heuristic classification of woody plants based on contrasting shade and drought strategies. <i>Tree Physiology</i> , 2019 , 39, 767-781	4.2	5
9	Hydrologic control of the oxygen isotope ratio of ecosystem respiration in a semi-arid woodland. <i>Biogeosciences</i> , 2013 , 10, 4937-4956	4.6	5
8	Early exposure to UV radiation overshadowed by precipitation and litter quality as drivers of decomposition in the northern Chihuahuan Desert. <i>PLoS ONE</i> , 2019 , 14, e0210470	3.7	5
7	Leaf Anatomy of <i>Orcuttieae</i> (Poaceae: Chloridoideae): More Evidence of C4Photosynthesis without Kranz Anatomy. <i>Madroño</i> , 2008 , 55, 143-150	0.4	3
6	Differential effects of extreme drought on production and respiration: synthesis and modeling analysis		3
5	Interactions between C3 and C4 salt marsh plant species during four years of exposure to elevated atmospheric CO2 1993 , 133-143		3
4	Divergent responses of primary production to increasing precipitation variability in global drylands. <i>Global Change Biology</i> , 2021 , 27, 5225-5237	11.4	3

- 3 Hydrologic control of the oxygen isotope ratio of ecosystem respiration in a semi-arid woodland 1
- 2 Ecosystem-Level Energy and Water Budgets Are Resilient to Canopy Mortality in Sparse Semiarid Biomes. *Journal of Geophysical Research G: Biogeosciences*, **2020**, 125, e2020JG005858 3-7 1
- 1 State changes: insights from the U.S. Long Term Ecological Research Network. *Ecosphere*, **2021**, 12, e03433 3-4 1