David G. Williams

List of Publications by Citations

83 papers	9,906 citations	46 h-index	84 g-index
84 ext. papers	10,976 ext. citations	6.3 avg, IF	5.68 L-index

#	Paper	IF	Citations
83	Mechanisms of plant survival and mortality during drought: why do some plants survive while others succumb to drought?. *New Phytologist*, **2008**, 178, 719-739	9.8	2499
82	Convergence across biomes to a common rain-use efficiency. *Nature*, **2004**, 429, 651-4	50.4	786
81	Assessing the Response of Terrestrial Ecosystems to Potential Changes in Precipitation. *BioScience*, **2003**, 53, 941	5.7	591
80	C4 grasses prosper as carbon dioxide eliminates desiccation in warmed semi-arid grassland. *Nature*, **2011**, 476, 202-5	50.4	370
79	Evapotranspiration components determined by stable isotope, sap flow and eddy covariance techniques. *Agricultural and Forest Meteorology*, **2004**, 125, 241-258	5.8	352
78	Why are non-photosynthetic tissues generally C enriched compared with leaves in C plants? Review and synthesis of current hypotheses. *Functional Plant Biology*, **2009**, 36, 199-213	2.7	304
77	Hydrogen isotope fractionation during water uptake by woody xerophytes. *Plant and Soil*, **2007**, 291, 93-107	4.2	246
76	Response of net ecosystem gas exchange to a simulated precipitation pulse in a semi-arid grassland: the role of native versus non-native grasses and soil texture. *Oecologia*, **2004**, 141, 295-305	2.9	201
75	Partitioning overstory and understory evapotranspiration in a semiarid savanna woodland from the isotopic composition of water vapor. *Agricultural and Forest Meteorology*, **2003**, 119, 53-68	5.8	193
74	Water sources used by riparian trees varies among stream types on the San Pedro River, Arizona. *Agricultural and Forest Meteorology*, **2000**, 105, 227-240	5.8	193
73	INTRA- AND INTERSPECIFIC VARIATION FOR SUMMER PRECIPITATION USE IN PINYON□UNIPER WOODLANDS. *Ecological Monographs*, **2000**, 70, 517-537	9	192
72	Ecohydrological impacts of woody-plant encroachment: seasonal patterns of water and carbon dioxide exchange within a semiarid riparian environment. *Global Change Biology*, **2006**, 12, 311-324	11.4	179
71	Ecophysiology of Introduced Pennisetum Setaceum on Hawaii: The Role of Phenotypic Plasticity. *Ecology*, **1995**, 76, 1569-1580	4.6	167
70	Soil Texture Drives Responses of Soil Respiration to Precipitation Pulses in the Sonoran Desert: Implications for Climate Change. *Ecosystems*, **2008**, 11, 961-979	3.9	162
69	Climate change alters stoichiometry of phosphorus and nitrogen in a semiarid grassland. *New Phytologist*, **2012**, 196, 807-815	9.8	150
68	Antecedent moisture and seasonal precipitation influence the response of canopy-scale carbon and water exchange to rainfall pulses in a semi-arid grassland. *New Phytologist*, **2006**, 170, 849-60	9.8	140
67	Limits to water transport in Juniperus osteosperma and Pinus edulis: implications for drought tolerance and regulation of transpiration. *Functional Ecology*, **1998**, 12, 906-911	5.6	130

66	Elevated atmospheric CO2 improved Sorghum plant water status by ameliorating the adverse effects of drought. *New Phytologist*, **2001**, 152, 231-248	9.8	118
65	Hydraulic redistribution by a dominant, warm-desert phreatophyte: seasonal patterns and response to precipitation pulses. *Functional Ecology*, **2004**, 18, 530-538	5.6	111
64	Dynamics of transpiration and evaporation following a moisture pulse in semiarid grassland: A chamber-based isotope method for partitioning flux components. *Agricultural and Forest Meteorology*, **2005**, 132, 359-376	5.8	110
63	Transpiration of cottonwood/willow forest estimated from sap flux. *Agricultural and Forest Meteorology*, **2000**, 105, 257-270	5.8	98
62	Precipitation pulse use by an invasive woody legume: the role of soil texture and pulse size. *Oecologia*, **2005**, 144, 618-27	2.9	97
61	Contrasting patterns of hydraulic redistribution in three desert phreatophytes. *Oecologia*, **2003**, 135, 167-75	2.9	96
60	The influence of soil texture and vegetation on soil moisture under rainout shelters in a semi-desert grassland. *Journal of Arid Environments*, **2005**, 63, 324-343	2.5	93
59	Resilience and resistance of ecosystem functional response to a precipitation pulse in a semi-arid grassland. *Journal of Ecology*, **2006**, 94, 23-30	6	92
58	Drought-induced hydraulic limitations constrain leaf gas exchange recovery after precipitation pulses in the C3 woody legume, Prosopis velutina. *New Phytologist*, **2009**, 181, 672-82	9.8	91
57	An integrated modelling and remote sensing approach for hydrological study in arid and semi-arid regions: the SUDMED Programme. *International Journal of Remote Sensing*, **2008**, 29, 5161-5181	3.1	91
56	Controls on transpiration in a semiarid riparian cottonwood forest. *Agricultural and Forest Meteorology*, **2006**, 137, 56-67	5.8	91
55	Using the dual approach of FAO-56 for partitioning ET into soil and plant components for olive orchards in a semi-arid region. *Agricultural Water Management*, **2010**, 97, 1769-1778	5.9	87
54	Seasonal estimates of riparian evapotranspiration using remote and in situ measurements. *Agricultural and Forest Meteorology*, **2000**, 105, 281-309	5.8	87
53	Photosynthesis of temperate Eucalyptus globulus trees outside their native range has limited adjustment to elevated CO2 and climate warming. *Global Change Biology*, **2013**, 19, 3790-807	11.4	80
52	Drought response of a native and introduced Hawaiian grass. *Oecologia*, **1994**, 97, 512-519	2.9	72
51	Dynamics of labile and recalcitrant soil carbon pools in a sorghum free-air CO2 enrichment (FACE) agroecosystem. *Soil Biology and Biochemistry*, **2007**, 39, 2250-2263	7.5	64
50	Phenotypic Variation in Contrasting Temperature Environments: Growth and Photosynthesis in Pennisetum Setaceum from Different Altitudes on Hawaii. *Functional Ecology*, **1993**, 7, 623	5.6	63
49	Carbon isotope discrimination by Sorghum bicolor under CO2 enrichment and drought. *New Phytologist*, **2001**, 150, 285-293	9.8	62

48	Influence of soil texture on hydraulic properties and water relations of a dominant warm-desert phreatophyte. *Tree Physiology*, **2006**, 26, 313-23	4.2	61
47	Hydraulic redistribution by deep roots of a Chihuahuan Desert phreatophyte. *Tree Physiology*, **2003**, 23, 353-60	4.2	61
46	Floral CO(2) emission may indicate food abundance to nectar-feeding moths. *Die Naturwissenschaften*, **2004**, 91, 329-33	2	59
45	Defoliation alters water uptake by deep and shallow roots of Prosopis velutina (Velvet Mesquite). *Functional Ecology*, **2003**, 17, 363-374	5.6	59
44	Carbon isotope discrimination in three semi-arid woodland species along a monsoon gradient. *Oecologia*, **1996**, 106, 455-460	2.9	59
43	Heavy and light beer: a carbon isotope approach to detect C(4) carbon in beers of different origins, styles, and prices. *Journal of Agricultural and Food Chemistry*, **2002**, 50, 6413-8	5.7	58
42	Intraseasonal Variation in Water and Carbon Dioxide Flux Components in a Semiarid Riparian Woodland. *Ecosystems*, **2007**, 10, 1100-1115	3.9	51
41	Invasive forb benefits from water savings by native plants and carbon fertilization under elevated CO2 and warming. *New Phytologist*, **2013**, 200, 1156-65	9.8	49
40	Warming reduces carbon losses from grassland exposed to elevated atmospheric carbon dioxide. *PLoS ONE*, **2013**, 8, e71921	3.7	49
39	Long-term exposure to elevated CO2 enhances plant community stability by suppressing dominant plant species in a mixed-grass prairie. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 15456-61	11.5	48
38	Leaf gas exchange and water status responses of a native and non-native grass to precipitation across contrasting soil surfaces in the Sonoran Desert. *Oecologia*, **2007**, 152, 401-13	2.9	48
37	The genetic architecture of ecophysiological and circadian traits in Brassica rapa. *Genetics*, **2011**, 189, 375-90	4	45
36	Preface paper to the Semi-Arid Land-Surface-Atmosphere (SALSA) Program special issue. *Agricultural and Forest Meteorology*, **2000**, 105, 3-20	5.8	44
35	Sensitivity of riparian ecosystems in arid and semiarid environments to moisture pulses. *Hydrological Processes*, **2006**, 20, 3191-3205	3.3	43
34	Terrestrial water fluxes dominated by transpiration: Comment. *Ecosphere*, **2014**, 5, art61	3.1	42
33	Chlorophyll fluorescence, predawn water potential and photosynthesis in precipitation pulse-driven ecosystems Implications for ecological studies. *Functional Ecology*, **2008**, 22, 479-483	5.6	42
32	Antecedent moisture and temperature conditions modulate the response of ecosystem respiration to elevated CO and warming. *Global Change Biology*, **2015**, 21, 2588-2602	11.4	38
31	Sensitivity of mesquite shrubland CO2 exchange to precipitation in contrasting landscape settings. *Ecology*, **2008**, 89, 2900-10	4.6	37

30	The sensitivity of ecosystem carbon exchange to seasonal precipitation and woody plant encroachment. *Oecologia*, **2006**, 150, 453-63	2.9	37
29	Antecedent Conditions Influence Soil Respiration Differences in Shrub and Grass Patches. *Ecosystems*, **2013**, 16, 1230-1247	3.9	33
28	Elevated carbon dioxide alters impacts of precipitation pulses on ecosystem photosynthesis and respiration in a semi-arid grassland. *Oecologia*, **2010**, 162, 791-802	2.9	32
27	Carbon isotope discrimination and bundle sheath leakiness in three C(4) subtypes grown under variable nitrogen, water and atmospheric CO(2) supply. *Journal of Experimental Botany*, **2002**, 53, 2261-9	7	31
26	Past climate changes and ecophysiological responses recorded in the isotope ratios of saguaro cactus spines. *Oecologia*, **2007**, 154, 247-58	2.9	30
25	Root allocation and water uptake patterns in riparian tree saplings: Responses to irrigation and defoliation. *Forest Ecology and Management*, **2007**, 246, 222-231	3.9	29
24	Comparison of measured and modeled variations in pi□n pine leaf water isotopic enrichment across a summer moisture gradient. *Oecologia*, **2005**, 145, 605-18	2.9	29
23	Spatial and temporal properties of water vapor and latent energy flux over a riparian canopy. *Agricultural and Forest Meteorology*, **2000**, 105, 161-183	5.8	29
22	Oxygen isotopes in cellulose identify source water for archaeological maize in the American Southwest. *Journal of Archaeological Science*, **2005**, 32, 931-939	2.9	27
21	Diurnal and seasonal variation in the carbon isotope composition of leaf dark-respired CO(2) in velvet mesquite (Prosopis velutina). *Plant, Cell and Environment*, **2009**, 32, 1390-400	8.4	26
20	Shrub encroachment alters sensitivity of soil respiration to temperature and moisture. *Journal of Geophysical Research*, **2012**, 117,		24
19	Transitions from grassland to savanna under drought through passive facilitation by grasses. *Journal of Vegetation Science*, **2014**, 25, 937-946	3.1	23
18	Functional trade-offs in succulent stems predict responses to climate change in columnar cacti. *Journal of Experimental Botany*, **2014**, 65, 3405-13	7	22
17	The stable isotope ecology of terrestrial plant succession. *Plant Ecology and Diversity*, **2011**, 4, 117-130	2.2	19
16	Nocturnal and seasonal patterns of carbon isotope composition of leaf dark-respired carbon dioxide differ among dominant species in a semiarid savanna. *Oecologia*, **2010**, 164, 297-310	2.9	18
15	Size and Ecological Significance of the Physiological Individual in the Bunchgrass Schizachyrium scoparium. *Oikos*, **1991**, 62, 41	4	18
14	A 26-year stable isotope record of humidity and El Ni□-enhanced precipitation in the spines of saguaro cactus, Carnegiea gigantea. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **2010**, 293, 108-119	2.9	16
13	Sonoran Desert Winter Annuals Affected by Density of Red Brome and Soil Nitrogen. *American Midland Naturalist*, **2005**, 153, 95-109	0.7	15

12	Environmental and physiological controls on the carbon isotope composition of CO2 respired by leaves and roots of a C3 woody legume (Prosopis velutina) and a C4 perennial grass (Sporobolus wrightii). *Plant, Cell and Environment*, **2012**, 35, 567-77	8.4	13
11	Seasonal photosynthetic gas exchange and water-use efficiency in a constitutive CAM plant, the giant saguaro cactus (Carnegiea gigantea). *Oecologia*, **2011**, 167, 861-71	2.9	13
10	Genotypes of Brassica rapa respond differently to plant-induced variation in air CO2 concentration in growth chambers with standard and enhanced venting. *Theoretical and Applied Genetics*, **2009**, 119, 991-1004	6	13
9	Carbon and oxygen isotope analysis of leaf biomass reveals contrasting photosynthetic responses to elevated CO₂ near geologic vents in Yellowstone National Park. *Biogeosciences*, **2009**, 6, 25-31	4.6	12
8	Hydraulic and photosynthetic limitations prevail over root non-structural carbohydrate reserves as drivers of resprouting in two Mediterranean oaks. *Plant, Cell and Environment*, **2020**, 43, 1944-1957	8.4	8
7	Windows of opportunity for Prosopis velutina seedling establishment and encroachment in a semiarid grassland. *Perspectives in Plant Ecology, Evolution and Systematics*, **2012**, 14, 275-282	3	8
6	A novel in situ water perfusion and extraction method for soil amino acid quantification. *Soil Biology and Biochemistry*, **2013**, 59, 86-88	7.5	7
5	Daily and seasonal changes in soil amino acid composition in a semiarid grassland exposed to elevated CO2 and warming. *Biogeochemistry*, **2015**, 123, 135-146	3.8	6
4	Daily to decadal patterns of precipitation, humidity, and photosynthetic physiology recorded in the spines of the columnar cactus, Carnegiea gigantea. *Journal of Geophysical Research*, **2010**, 115, n/a-n/a		6
3	Effects of nutrient amendment and environment on growth and gas exchange for introduced Penniseturn setaceum in Hawaii. *Canadian Journal of Botany*, **1996**, 74, 268-275		6
2	Atmospheric vapour and precipitation are not in isotopic equilibrium in a continental mountain environment. *Hydrological Processes*, **2020**, 34, 3078-3101	3.3	4
1	Climate warming alters photosynthetic responses to elevated CO in prairie plants. *American Journal of Botany*, **2020**, 107, 1238-1252	2.7	1