David G. Williams

List of Publications by Year
in descending order

84 papers	11,979 citations	41258 49 h-index	56606 83 g-index
85 all docs	85 docs citations	85 times ranked	12102 citing authors

#	Article	IF	Citations
1	Mechanisms of plant survival and mortality during drought: why do some plants survive while others succumb to drought?. New Phytologist, 2008, 178, 719-739.	3.5	3,232
2	Convergence across biomes to a common rain-use efficiency. Nature, 2004, 429, 651-654.	13.7	968
3	Assessing the Response of Terrestrial Ecosystems to Potential Changes in Precipitation. BioScience, 2003, 53, 941.	2.2	680
4	C4 grasses prosper as carbon dioxide eliminates desiccation in warmed semi-arid grassland. Nature, 2011, 476, 202-205.	13.7	445
5	Evapotranspiration components determined by stable isotope, sap flow and eddy covariance techniques. Agricultural and Forest Meteorology, 2004, 125, 241-258.	1.9	397
6	Why are non-photosynthetic tissues generally 13C enriched compared with leaves in C3 plants? Review and synthesis of current hypotheses. Functional Plant Biology, 2009, 36, 199.	1.1	348
7	Hydrogen isotope fractionation during water uptake by woody xerophytes. Plant and Soil, 2007, 291, 93-107.	1.8	326
8	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.	0.9	228
9	INTRA- AND INTERSPECIFIC VARIATION FOR SUMMER PRECIPITATION USE IN PINYONâ€“JUNIPER WOODLANDS. Ecological Monographs, 2000, 70, 517-537.	2.4	219
10	Water sources used by riparian trees varies among stream types on the San Pedro River, Arizona. Agricultural and Forest Meteorology, 2000, 105, 227-240.	1.9	215
11	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.	1.9	214
12	Climate change alters stoichiometry of phosphorus and nitrogen in a semiarid grassland. New Phytologist, 2012, 196, 807-815.	3.5	209
13	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.	4.2	201
14	Ecophysiology of Introduced Pennisetum Setaceum on Hawaii: The Role of Phenotypic Plasticity. Ecology, 1995, 76, 1569-1580.	1.5	197
15	Soil Texture Drives Responses of Soil Respiration to Precipitation Pulses in the Sonoran Desert: Implications for Climate Change. Ecosystems, 2008, 11, 961-979.	1.6	192
16	Limits to water transport in Juniperus osteosperma and Pinus edulis : implications for drought tolerance and regulation of transpiration. Functional Ecology, 1998, 12, 906-911.	1.7	165
17	Antecedent moisture and seasonal precipitation influence the response of canopyâ€scale carbon and water exchange to rainfall pulses in a semiâ€arid grassland. New Phytologist, 2006, 170, 849-860.	3.5	159
18	Elevated atmospheric CO2 improved Sorghum plant water status by ameliorating the adverse effects of drought. New Phytologist, 2001, 152, 231-248.	3.5	136

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19	Hydraulic redistribution by a dominant, warm-desert phreatophyte: seasonal patterns and response to precipitation pulses. Functional Ecology, 2004, 18, 530-538.	1.7	122
20	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.	1.9	121
21	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.	1.2	114
22	Photosynthesis of temperate <scp>E</scp>ucalyptus globulus trees outside their native range has limited adjustment to elevated <scp><scp>CO₂</scp></scp> and climate warming. Global Change Biology, 2013, 19, 3790-3807.	4.2	111
23	Controls on transpiration in a semiarid riparian cottonwood forest. Agricultural and Forest Meteorology, 2006, 137, 56-67.	1.9	110
24	An integrated modelling and remote sensing approach for hydrological study in arid and semiâ€arid regions: the SUDMED Programme. International Journal of Remote Sensing, 2008, 29, 5161-5181.	1.3	109
25	Precipitation pulse use by an invasive woody legume: the role of soil texture and pulse size. Oecologia, 2005, 144, 618-627.	0.9	108
26	Droughtâ€induced hydraulic limitations constrain leaf gas exchange recovery after precipitation pulses in the C₃ woody legume, Prosopis velutina. New Phytologist, 2009, 181, 672-682.	3.5	108
27	Transpiration of cottonwood/willow forest estimated from sap flux. Agricultural and Forest Meteorology, 2000, 105, 257-270.	1.9	105
28	Contrasting patterns of hydraulic redistribution in three desert phreatophytes. Oecologia, 2003, 135, 167-175.	0.9	105
29	Seasonal estimates of riparian evapotranspiration using remote and in situ measurements. Agricultural and Forest Meteorology, 2000, 105, 281-309.	1.9	100
30	Resilience and resistance of ecosystem functional response to a precipitation pulse in a semi-arid grassland. Journal of Ecology, 2006, 94, 23-30.	1.9	100
31	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.	2.4	94
32	Drought response of a native and introduced Hawaiian grass. Oecologia, 1994, 97, 512-519.	0.9	82
33	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.	4.2	81
34	Phenotypic Variation in Contrasting Temperature Environments: Growth and Photosynthesis in Pennisetum Setaceum from Different Altitudes on Hawaii. Functional Ecology, 1993, 7, 623.	1.7	78
35	Long-term exposure to elevated CO ₂ 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, 15456-15461.	3.3	77
36	Carbon isotope discrimination by Sorghum bicolor under CO2 enrichment and drought. New Phytologist, 2001, 150, 285-293.	3.5	73

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37	Defoliation alters water uptake by deep and shallow roots of Prosopis velutina (Velvet Mesquite). Functional Ecology, 2003, 17, 363-374.	1.7	72
38	Floral CO2 emission may indicate food abundance to nectar-feeding moths. Die Naturwissenschaften, 2004, 91, 329-333.	0.6	72
39	Influence of soil texture on hydraulic properties and water relations of a dominant warm-desert phreatophyte. Tree Physiology, 2006, 26, 313-323.	1.4	70
40	Hydraulic redistribution by deep roots of a Chihuahuan Desert phreatophyte. Tree Physiology, 2003, 23, 353-360.	1.4	68
41	Invasive forb benefits from water savings by native plants and carbon fertilization under elevated <scp>CO</scp>₂ and warming. New Phytologist, 2013, 200, 1156-1165.	3.5	67
42	Heavy and Light Beer:Â A Carbon Isotope Approach To Detect C4Carbon in Beers of Different Origins, Styles, and Prices. Journal of Agricultural and Food Chemistry, 2002, 50, 6413-6418.	2.4	66
43	Carbon isotope discrimination in three semi-arid woodland species along a monsoon gradient. Oecologia, 1996, 106, 455-460.	0.9	65
44	Intraseasonal Variation in Water and Carbon Dioxide Flux Components in a Semiarid Riparian Woodland. Ecosystems, 2007, 10, 1100-1115.	1.6	63
45	Preface paper to the Semi-Arid Land-Surface-Atmosphere (SALSA) Program special issue. Agricultural and Forest Meteorology, 2000, 105, 3-20.	1.9	55
46	Antecedent moisture and temperature conditions modulate the response of ecosystem respiration to elevated <scp>CO</scp>₂ and warming. Global Change Biology, 2015, 21, 2588-2602.	4.2	54
47	Warming Reduces Carbon Losses from Grassland Exposed to Elevated Atmospheric Carbon Dioxide. PLoS ONE, 2013, 8, e71921.	1.1	53
48	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, 401-413.	0.9	50
49	Terrestrial water fluxes dominated by transpiration: Comment. Ecosphere, 2014, 5, 1-9.	1.0	50
50	Sensitivity of riparian ecosystems in arid and semiarid environments to moisture pulses. Hydrological Processes, 2006, 20, 3191-3205.	1.1	48
51	Chlorophyll fluorescence, predawn water potential and photosynthesis in precipitation pulseâ€driven ecosystems â€“ implications for ecological studies. Functional Ecology, 2008, 22, 479-483.	1.7	48
52	The Genetic Architecture of Ecophysiological and Circadian Traits in Brassica rapa. Genetics, 2011, 189, 375-390.	1.2	47
53	SENSITIVITY OF MESQUITE SHRUBLAND CO₂EXCHANGE TO PRECIPITATION IN CONTRASTING LANDSCAPE SETTINGS. Ecology, 2008, 89, 2900-2910.	1.5	41
54	Elevated carbon dioxide alters impacts of precipitation pulses on ecosystem photosynthesis and respiration in a semi-arid grassland. Oecologia, 2010, 162, 791-802.	0.9	39

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55	Carbon isotope discrimination and bundle sheath leakiness in three C4 subtypes grown under variable nitrogen, water and atmospheric CO2 supply. Journal of Experimental Botany, 2002, 53, 2261-2269.	2.4	38
56	The sensitivity of ecosystem carbon exchange to seasonal precipitation and woody plant encroachment. Oecologia, 2006, 150, 453-463.	0.9	37
57	Antecedent Conditions Influence Soil Respiration Differences in Shrub and Grass Patches. Ecosystems, 2013, 16, 1230-1247.	1.6	37
58	Past climate changes and ecophysiological responses recorded in the isotope ratios of saguaro cactus spines. Oecologia, 2007, 154, 247-258.	0.9	35
59	Comparison of measured and modeled variations in piÃ±on pine leaf water isotopic enrichment across a summer moisture gradient. Oecologia, 2005, 145, 605-618.	0.9	33
60	Oxygen isotopes in cellulose identify source water for archaeological maize in the American Southwest. Journal of Archaeological Science, 2005, 32, 931-939.	1.2	32
61	Spatial and temporal properties of water vapor and latent energy flux over a riparian canopy. Agricultural and Forest Meteorology, 2000, 105, 161-183.	1.9	31
62	Root allocation and water uptake patterns in riparian tree saplings: Responses to irrigation and defoliation. Forest Ecology and Management, 2007, 246, 222-231.	1.4	29
63	Shrub encroachment alters sensitivity of soil respiration to temperature and moisture. Journal of Geophysical Research, 2012, 117, .	3.3	28
64	Transitions from grassland to savanna under drought through passive facilitation by grasses. Journal of Vegetation Science, 2014, 25, 937-946.	1.1	27
65	Diurnal and seasonal variation in the carbon isotope composition of leaf darkâ€respired CO₂ in velvet mesquite (Prosopis velutina). Plant, Cell and Environment, 2009, 32, 1390-1400.	2.8	26
66	Functional trade-offs in succulent stems predict responses to climate change in columnar cacti. Journal of Experimental Botany, 2014, 65, 3405-3413.	2.4	26
67	Size and Ecological Significance of the Physiological Individual in the Bunchgrass Schizachyrium scoparium. Oikos, 1991, 62, 41.	1.2	24
68	Hydraulic and photosynthetic limitations prevail over root nonâ€structural carbohydrate reserves as drivers of resprouting in two Mediterranean oaks. Plant, Cell and Environment, 2020, 43, 1944-1957.	2.8	24
69	The stable isotope ecology of terrestrial plant succession. Plant Ecology and Diversity, 2011, 4, 117-130.	1.0	22
70	A 26-year stable isotope record of humidity and El NiÃ±o-enhanced precipitation in the spines of saguaro cactus, Carnegiea gigantea. Palaeogeography, Palaeoclimatology, Palaeoecology, 2010, 293, 108-119.	1.0	21
71	Sonoran Desert Winter Annuals Affected by Density of Red Brome and Soil Nitrogen. American Midland Naturalist, 2005, 153, 95-109.	0.2	19
72	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.	0.9	19

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73	Seasonal photosynthetic gas exchange and water-use efficiency in a constitutive CAM plant, the giant saguaro cactus (Carnegiea gigantea). Oecologia, 2011, 167, 861-871.	0.9	17
74	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.	1.3	15
75	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, 567-577.	2.8	15
76	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.	1.8	13
77	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.	1.1	12
78	Atmospheric vapour and precipitation are not in isotopic equilibrium in a continental mountain environment. Hydrological Processes, 2020, 34, 3078-3101.	1.1	9
79	A novel in situ water perfusion and extraction method for soil amino acid quantification. Soil Biology and Biochemistry, 2013, 59, 86-88.	4.2	8
80	Daily and seasonal changes in soil amino acid composition in a semiarid grassland exposed to elevated CO2 and warming. Biogeochemistry, 2015, 123, 135-146.	1.7	8
81	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.	1.2	6
82	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, .	3.3	6
83	Climate warming alters photosynthetic responses to elevated CO 2 in prairie plants. American Journal of Botany, 2020, 107, 1238-1252.	0.8	4
84	Isotopes for Ecosystems. BioScience, 2003, 53, 795.	2.2	0