Herbert Polley

List of Publications by Citations

103	5,407	37	72
papers	citations	h-index	g-index
105	6,440	6.3	5.54
ext. papers	ext. citations	avg, IF	L-index

#	Paper	IF	Citations
103	Biodiversity increases the resistance of ecosystem productivity to climate extremes. *Nature*, **2015**, 526, 574-7	50.4	647
102	Biodiversity, productivity and the temporal stability of productivity: patterns and processes. *Ecology Letters*, **2009**, 12, 443-51	10	300
101	Nonlinear grassland responses to past and future atmospheric CO(2). *Nature*, **2002**, 417, 279-82	50.4	264
100	Species richness and the temporal stability of biomass production: a new analysis of recent biodiversity experiments. *American Naturalist*, **2014**, 183, 1-12	3.7	225
99	Benefits of increasing plant diversity in sustainable agroecosystems. *Journal of Ecology*, **2017**, 105, 871-879	6	221
98	Predicting ecosystem stability from community composition and biodiversity. *Ecology Letters*, **2013**, 16, 617-25	10	190
97	Climate Change and North American Rangelands: Trends, Projections, and Implications. *Rangeland Ecology and Management*, **2013**, 66, 493-511	2.2	166
96	Multiple facets of biodiversity drive the diversity-stability relationship. *Nature Ecology and Evolution*, **2018**, 2, 1579-1587	12.3	140
95	Viewpoint: Atmospheric CO 2 , Soil Water, and Shrub/Grass Ratios on Rangelands. *Journal of Range Management*, **1997**, 50, 278		128
94	Reductions in grassland species evenness increase dicot seedling invasion and spittle bug infestation. *Ecology Letters*, **2002**, 5, 676-684	10	127
93	Leaf isoprene emission rate as a function of atmospheric CO2 concentration. *Global Change Biology*, **2009**, 15, 1189-1200	11.4	121
92	Patterns of Plant Species Diversity in Remnant and Restored Tallgrass Prairies. *Restoration Ecology*, **2005**, 13, 480-487	3.1	119
91	Implications of Atmospheric and Climatic Change for Crop Yield and Water Use Efficiency. *Crop Science*, **2002**, 42, 131-140	2.4	116
90	Plant diversity effects on grassland productivity are robust to both nutrient enrichment and drought. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2016**, 371,	5.8	114
89	REALISTICALLY LOW SPECIES EVENNESS DOES NOT ALTER GRASSLAND SPECIES-RICHNESS–PRODUCTIVITY RELATIONSHIPS. *Ecology*, **2004**, 85, 2693-2700	4.6	110
88	Gas exchange and photosynthetic acclimation over subambient to elevated CO2 in a C3–C4 grassland. *Global Change Biology*, **2001**, 7, 693-707	11.4	110
87	Dominant species constrain effects of species diversity on temporal variability in biomass production of tallgrass prairie. *Oikos*, **2007**, 116, 2044-2052	4	109

86	Aboveground productivity and root-shoot allocation differ between native and introduced grass species. *Oecologia*, **2006**, 150, 300-9	2.9	96
85	Do species evenness and plant density influence the magnitude of selection and complementarity effects in annual plant species mixtures?. *Ecology Letters*, **2003**, 6, 248-256	10	96
84	Increasing CO2 and plant-plant interactions: effects on natural vegetation. *Plant Ecology*, **1993**, 104-105, 157-170		92
83	Increasing CO from subambient to superambient concentrations alters species composition and increases above-ground biomass in a C /C grassland. *New Phytologist*, **2003**, 160, 319-327	9.8	84
82	Increasing CO2: Comparative Responses of the C4 Grass Schizachyrium and Grassland Invader Prosopis. *Ecology*, **1994**, 75, 976-988	4.6	84
81	Co-occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought. *Plant, Cell and Environment*, **2018**, 41, 576-588	8.4	79
80	Interannual variability in carbon dioxide fluxes and flux□limate relationships on grazed and ungrazed northern mixed-grass prairie. *Global Change Biology*, **2008**, 14, 1620-1632	11.4	72
79	Biodiversity maintenance mechanisms differ between native and novel exotic-dominated communities. *Ecology Letters*, **2009**, 12, 432-42	10	71
78	EFFECTS OF SEED ADDITIONS AND GRAZING HISTORY ON DIVERSITY AND PRODUCTIVITY OF SUBHUMID GRASSLANDS. *Ecology*, **2003**, 84, 920-931	4.6	70
77	Biodiversity, phenology and temporal niche differences between native- and novel exotic-dominated grasslands. *Perspectives in Plant Ecology, Evolution and Systematics*, **2011**, 13, 265-276	3	68
76	Potential nitrogen constraints on soil carbon sequestration under low and elevated atmospheric CO2. *Ecology*, **2006**, 87, 41-52	4.6	64
75	Plant functional traits improve diversity-based predictions of temporal stability of grassland productivity. *Oikos*, **2013**, 122, 1275-1282	4	61
74	Woody invasion of grasslands: evidence that CO2 enrichment indirectly promotes establishment of Prosopis glandulosa. *Plant Ecology*, **2003**, 164, 85-94	1.7	53
73	Soil type and moisture regime control microbial C and N mineralization in grassland soils more than atmospheric CO2-induced changes in litter quality. *Soil Biology and Biochemistry*, **2013**, 58, 172-180	7.5	47
72	Rising atmospheric CO2 is reducing the protein concentration of a floral pollen source essential for North American bees. *Proceedings of the Royal Society B: Biological Sciences*, **2016**, 283,	4.4	47
71	Soil- and plant-water dynamics in a C3/C4 grassland exposed to a subambient to superambient CO2 gradient. *Global Change Biology*, **2002**, 8, 1118-1129	11.4	45
70	Invaded grassland communities have altered stability-maintenance mechanisms but equal stability compared to native communities. *Ecology Letters*, **2014**, 17, 92-100	10	43
69	Atmospheric CO2 and soil extracellular enzyme activity: a meta-analysis and CO2 gradient experiment. *Ecosphere*, **2011**, 2, art96	3.1	43

68	Soil-mediated effects of subambient to increased carbon dioxide on grassland productivity. *Nature Climate Change*, **2012**, 2, 742-746	21.4	42
67	Physiological and environmental regulation of interannual variability in CO2 exchange on rangelands in the western United States. *Global Change Biology*, **2010**, 16, 990-1002	11.4	39
66	Species interaction mechanisms maintain grassland plant species diversity. *Ecology*, **2009**, 90, 1821-30	4.6	36
65	Growth and Gas Exchange of Oats (Avena sativa) and Wild Mustard (Brassica kaber) at Subambient CO2 Concentrations. *International Journal of Plant Sciences*, **1992**, 153, 453-461	2.6	36
64	Relationships of Vegetation and Environment in Buffalo Wallows. *American Midland Naturalist*, **1984**, 112, 178	0.7	35
63	Primary Productivity and Water Balance of Grassland Vegetation on Three Soils in a Continuous CO2 Gradient: Initial Results from the Lysimeter CO2 Gradient Experiment. *Ecosystems*, **2009**, 12, 699-714	3.9	34
62	Determination of root biomasses of three species grown in a mixture using stable isotopes of carbon and nitrogen. *Plant and Soil*, **1992**, 142, 97-106	4.2	31
61	Growth, water relations, and survival of drought-exposed seedlings from six maternal families of honey mesquite (Prosopis glandulosa): responses to CO(2) enrichment. *Tree Physiology*, **1999**, 19, 359-366	4.2	30
60	CO2-caused change in plant species composition rivals the shift in vegetation between mid-grass and tallgrass prairies. *Global Change Biology*, **2012**, 18, 700-710	11.4	29
59	Stomatal density and aperture length in four plant species grown across a subambient CO2 gradient **1993**, 80, 1413		29
58	Feedback from plant species change amplifies CO2 enhancement of grassland productivity. *Global Change Biology*, **2012**, 18, 2813-23	11.4	28
57	Early-successional plants regulate grassland productivity and species composition: a removal experiment. *Oikos*, **2006**, 113, 287-295	4	27
56	Growth rate and survivorship of drought: CO2 effects on the presumed tradeoff in seedlings of five woody legumes. *Tree Physiology*, **2002**, 22, 383-91	4.2	27
55	Root responses along a subambient to elevated CO2 gradient in a C3/C4 grassland. *Global Change Biology*, **2010**, 16, 454-468	11.4	26
54	Biodiversity, photosynthetic mode, and ecosystem services differ between native and novel ecosystems. *Oecologia*, **2014**, 175, 687-97	2.9	25
53	Impacts of climate change drivers on C4 grassland productivity: scaling driver effects through the plant community. *Journal of Experimental Botany*, **2014**, 65, 3415-24	7	25
52	Fungal Community Responses to Past and Future Atmospheric CO2 Differ by Soil Type. *Applied and Environmental Microbiology*, **2014**, 80, 7364-77	4.8	25
51	Stomatal density and aperture length in four plant species grown across a subambient CO2 gradient. *American Journal of Botany*, **1993**, 80, 1413-1418	2.7	25

50	The effect of subambient to elevated atmospheric CO2 concentration on vascular function in Helianthus annuus: implications for plant response to climate change. *New Phytologist*, **2013**, 199, 956-965	9.8	22
49	Leaf and Plant Water use Efficiency of C4Species Grown at Glacial to Elevated CO2Concentrations. *International Journal of Plant Sciences*, **1996**, 157, 164-170	2.6	22
48	Comparing Biomass Yields of Low-Input High-Diversity Communities with Managed Monocultures Across the Central United States. *Bioenergy Research*, **2010**, 3, 353-361	3.1	20
47	CO2 enrichment increases element concentrations in grass mixtures by changing species abundances. *Plant Ecology*, **2011**, 212, 945-957	1.7	18
46	Traits of an invasive grass conferring an early growth advantage over native grasses. *Journal of Plant Ecology*, **2016**, 9, 672-681	1.7	17
45	Variability in Light-Use Efficiency for Gross Primary Productivity on Great Plains Grasslands. *Ecosystems*, **2011**, 14, 15-27	3.9	16
44	Increasing CO2 from subambient to elevated concentrations increases grassland respiration per unit of net carbon fixation. *Global Change Biology*, **2006**, 12, 1390-1399	11.4	16
43	Links between Transpiration and Plant Nitrogen: Variation with Atmospheric CO2 Concentration and Nitrogen Availability. *International Journal of Plant Sciences*, **1999**, 160, 535-542	2.6	16
42	Soil depth and grassland origin cooperatively shape microbial community co-occurrence and function. *Ecosphere*, **2020**, 11, e02973	3.1	16
41	Soil carbon responses to past and future CO2 in three Texas prairie soils. *Soil Biology and Biochemistry*, **2015**, 83, 66-75	7.5	15
40	Are Some of the Recent Changes in Grassland Communities a Response to Rising CO2 Concentrations? **1996**, 177-195		14
39	Precipitation Regulates the Response of Net Ecosystem CO2 Exchange to Environmental Variation on United States Rangelands. *Rangeland Ecology and Management*, **2010**, 63, 176-186	2.2	13
38	Microbial community structure and functions differ between native and novel (exotic-dominated) grassland ecosystems in an 8-year experiment. *Plant and Soil*, **2018**, 432, 359-372	4.2	13
37	Biotic homogenization destabilizes ecosystem functioning by decreasing spatial asynchrony. *Ecology*, **2021**, 102, e03332	4.6	12
36	Dominant plant taxa predict plant productivity responses to CO2 enrichment across precipitation and soil gradients. *AoB PLANTS*, **2015**, 7,	2.9	11
35	Species abundances influence the net biodiversity effect in mixtures of two plant species. *Basic and Applied Ecology*, **2007**, 8, 209-218	3.2	11
34	Accelerated development in Johnsongrass seedlings (Sorghum halepense) suppresses the growth of native grasses through size-asymmetric competition. *PLoS ONE*, **2017**, 12, e0176042	3.7	11
33	Spectral Heterogeneity Predicts Local-Scale Gamma and Beta Diversity of Mesic Grasslands. *Remote Sensing*, **2019**, 11, 458	5	10

32	Species composition but not diversity explains recovery from the 2011 drought in Texas grasslands. *Ecosphere*, **2017**, 8, e01704	3.1	9
31	Decreasing Precipitation Variability Does Not Elicit Major Aboveground Biomass or Plant Diversity Responses in a Mesic Rangeland. *Rangeland Ecology and Management*, **2011**, 64, 352-357	2.2	9
30	Elevated Atmospheric CO2 Magnifies Intra-specific Variation in Seedling Growth of Honey Mesquite: An Assessment of Relative Growth Rates. *Rangeland Ecology and Management*, **2006**, 59, 128-134	2.2	9
29	Intergenerational above- and belowground responses of spring wheat (Triticum aestivum L.) to elevated CO2. *Basic and Applied Ecology*, **2004**, 5, 145-152	3.2	9
28	Plant community change mediates the response of foliar δ(15)N to CO 2 enrichment in mesic grasslands. *Oecologia*, **2015**, 178, 591-601	2.9	8
27	Simple plant traits explain functional group diversity decline in novel grassland communities of Texas. *Plant Ecology*, **2013**, 214, 231-241	1.7	8
26	Ecological Consequences of Climate Change on Rangelands **2017**, 229-260		8
25	Variability in community productivity mediating effects of vegetation attributes. *Functional Ecology*, **2018**, 32, 1410-1419	5.6	7
24	Tiller organization within the tussock grass Schizachyrium scoparium: a field assessment of competition cooperation tradeoffs. *Botany*, **2012**, 90, 669-677	1.3	7
23	Structural Attributes of Schizachyrium scoparium in Restored Texas Blackland Prairies. *Restoration Ecology*, **2004**, 12, 80-84	3.1	7
22	Canopy foliation and area as predictors of mortality risk from episodic drought for individual trees of Ashe juniper. *Plant Ecology*, **2016**, 217, 1105-1114	1.7	7
21	CO enrichment and soil type additively regulate grassland productivity. *New Phytologist*, **2019**, 222, 183-192	9.2	7
20	Mycorrhizal colonization and its relationship with plant performance differs between exotic and native grassland plant species. *Biological Invasions*, **2019**, 21, 1981-1991	2.7	6
19	Lower soil carbon stocks in exotic vs. native grasslands are driven by carbonate losses. *Ecology*, **2020**, 101, e03039	4.6	6
18	Bacterial community response to a preindustrial-to-future CO gradient is limited and soil specific in Texas Prairie grassland. *Global Change Biology*, **2018**, 24, 5815-5827	11.4	6
17	Spectrally derived values of community leaf dry matter content link shifts in grassland composition with change in biomass production. *Remote Sensing in Ecology and Conservation*, **2020**, 6, 344-353	5.3	5
16	Biotic Regulation of CO2 Uptake Climate Responses: Links to Vegetation Properties. *Ecosystems*, **2016**, 19, 1376-1385	3.9	5
15	Inter-Annual Precipitation Variability Decreases Switchgrass Productivity from Arid to Mesic Environments. *Bioenergy Research*, **2018**, 11, 614-622	3.1	5

14	Plant invasions differentially affected by diversity and dominant species in native- and exotic-dominated grasslands. *Ecology and Evolution*, **2015**, 5, 5662-70	2.8	5
13	USDA-ARS Global Change Research on Rangelands and Pasturelands. *Rangelands*, **2005**, 27, 36-42	1.1	4
12	Temporal stability of grassland metacommunities is regulated more by community functional traits than species diversity. *Ecosphere*, **2020**, 11, e03178	3.1	4
11	Flowering in grassland predicted by CO and resource effects on species aboveground biomass. *Global Change Biology*, **2018**, 24, 1771-1781	11.4	3
10	Seedling Growth of Two Honey Mesquite Varieties Under CO2Enrichment. *Rangeland Ecology and Management*, **2005**, 58, 292-298	2.2	3
9	UAV‐Enabled Quantification of Grazing-Induced Changes in Uniformity of Green Cover on Semiarid and Mesic Grasslands. *Rangeland Ecology and Management*, **2022**, 80, 68-77	2.2	3
8	Multiple constraints cause positive and negative feedbacks limiting grassland soil CO efflux under CO enrichment. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	3
7	Projected drought effects on the demography of Ashe juniper populations inferred from remote measurements of tree canopies. *Plant Ecology*, **2018**, 219, 1259-1267	1.7	3
6	Biomass production and temporal stability are similar in switchgrass monoculture and diverse grassland. *Biomass and Bioenergy*, **2020**, 142, 105758	5.3	2
5	Environment and Seedling Age Influence Mesquite Response to Epicotyl Removal. *Journal of Range Management*, **1998**, 51, 361		2
4	CO2 and soil water potential as regulators of the growth and N fraction derived from fixation of a legume in tallgrass prairie communities. *Plant and Soil*, **2016**, 409, 361-370	4.2	1
3	A CO2 Concentration Gradient Facility for Testing CO2 Enrichment and Soil Effects on Grassland Ecosystem Function. *Journal of Visualized Experiments*, **2015**,	1.6	1
2	Seedling Growth of Two Honey Mesquite Varieties Under CO2 Enrichment. *Journal of Range Management*, **2005**, 58,		1
1	Grazing Treatment Influences Recovery of Mesic Grassland from Seasonal Drought: An Assessment Using Unmanned Aerial Vehicle‐Enabled Remote Sensing. *Rangeland Ecology and Management*, **2022**, 82, 12-19	2.2	