Robert B Jackson

List of Publications by Citations

274 papers	56,193 citations	104 h-index	236 g-index
317 ext. papers	66,741 ext. citations	10.8 avg, IF	7.74 L-index

#	Paper	IF	Citations
274	Global biodiversity scenarios for the year 2100. *Science*, **2000**, 287, 1770-4	33.3	5858
273	A large and persistent carbon sink in the world's forests. *Science*, **2011**, 333, 988-93	33.3	3950
272	THE VERTICAL DISTRIBUTION OF SOIL ORGANIC CARBON AND ITS RELATION TO CLIMATE AND VEGETATION **2000**, 10, 423-436		2993
271	A global analysis of root distributions for terrestrial biomes. *Oecologia*, **1996**, 108, 389-411	2.9	2017
270	Maximum rooting depth of vegetation types at the global scale. *Oecologia*, **1996**, 108, 583-595	2.9	1281
269	A global budget for fine root biomass, surface area, and nutrient contents. *Proceedings of the National Academy of Sciences of the United States of America*, **1997**, 94, 7362-6	11.5	1044
268	A critical review of the risks to water resources from unconventional shale gas development and hydraulic fracturing in the United States. *Environmental Science & Technology*, **2014**, 48, 8334-48	10.3	952
267	Rooting depths, lateral root spreads and below-ground/above-ground allometries of plants in water-limited ecosystems. *Journal of Ecology*, **2002**, 90, 480-494	6	922
266	Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 8172-6	11.5	855
265	Trading water for carbon with biological carbon sequestration. *Science*, **2005**, 310, 1944-7	33.3	851
264	Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement. *Nature Climate Change*, **2020**, 10, 647-653	21.4	842
263	Global patterns of root turnover for terrestrial ecosystems. *New Phytologist*, **2000**, 147, 13-31	9.8	800
262	Global Carbon Budget 2019. *Earth System Science Data*, **2019**, 11, 1783-1838	10.5	776
261	Ecosystem carbon loss with woody plant invasion of grasslands. *Nature*, **2002**, 418, 623-6	50.4	755
260	PLANT COMPETITION UNDERGROUND. *Annual Review of Ecology, Evolution, and Systematics*, **1997**, 28, 545-570		735
259	Effects of afforestation on water yield: a global synthesis with implications for policy. *Global Change Biology*, **2005**, 11, 1565-1576	11.4	692
258	Biophysical and economic limits to negative CO2 emissions. *Nature Climate Change*, **2016**, 6, 42-50	21.4	684

257	The distribution of soil nutrients with depth: Global patterns and the imprint of plants. *Biogeochemistry*, **2001**, 53, 51-77	3.8	682
256	THE GLOBAL BIOGEOGRAPHY OF ROOTS. *Ecological Monographs*, **2002**, 72, 311-328	9	668
255	The global methane budget 2000–2012. *Earth System Science Data*, **2016**, 8, 697-751	10.5	641
254	Global Carbon Budget 2017. *Earth System Science Data*, **2018**, 10, 405-448	10.5	614
253	Stomatal responses to increased CO2: implications from the plant to the global scale. *Plant, Cell and Environment*, **1995**, 18, 1214-1225	8.4	596
252	WATER IN A CHANGING WORLD **2001**, 11, 1027-1045		563
251	Global Carbon Budget 2020. *Earth System Science Data*, **2020**, 12, 3269-3340	10.5	533
250	ECOHYDROLOGICAL IMPLICATIONS OF WOODY PLANT ENCROACHMENT. *Ecology*, **2005**, 86, 308-319	4.6	500
249	ADAPTIVE VARIATION IN THE VULNERABILITY OF WOODY PLANTS TO XYLEM CAVITATION. *Ecology*, **2004**, 85, 2184-2199	4.6	484
248	Stoichiometric controls on carbon, nitrogen, and phosphorus dynamics in decomposing litter. *Ecological Monographs*, **2010**, 80, 89-106	9	481
247	THE UPLIFT OF SOIL NUTRIENTS BY PLANTS: BIOGEOCHEMICAL CONSEQUENCES ACROSS SCALES. *Ecology*, **2004**, 85, 2380-2389	4.6	468
246	The Global Methane Budget 2000–2017. *Earth System Science Data*, **2020**, 12, 1561-1623	10.5	463
245	The global stoichiometry of litter nitrogen mineralization. *Science*, **2008**, 321, 684-6	33.3	432
244	Root water uptake and transport: using physiological processes in global predictions. *Trends in Plant Science*, **2000**, 5, 482-8	13.1	431
243	The Structure, Distribution, and Biomass of the World's Forests. *Annual Review of Ecology, Evolution, and Systematics*, **2013**, 44, 593-622	13.5	419
242	Metagenomic and small-subunit rRNA analyses reveal the genetic diversity of bacteria, archaea, fungi, and viruses in soil. *Applied and Environmental Microbiology*, **2007**, 73, 7059-66	4.8	406
241	The fate of carbon in grasslands under carbon dioxide enrichment. *Nature*, **1997**, 388, 576-579	50.4	405
240	TRY plant trait database - enhanced coverage and open access. *Global Change Biology*, **2020**, 26, 119-188	11.4	399

239	Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction. *Proceedings of the National Academy of Sciences of the United States of America*, **2013**, 110, 11250-5	11.5	389
238	Hydrologic regulation of plant rooting depth. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, 10572-10577	11.5	365
237	Geochemical evidence for possible natural migration of Marcellus Formation brine to shallow aquifers in Pennsylvania. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, 11961-6	11.5	363
236	MEETING ECOLOGICAL AND SOCIETAL NEEDS FOR FRESHWATER **2002**, 12, 1247-1260		360
235	Global resorption efficiencies and concentrations of carbon and nutrients in leaves of terrestrial plants. *Ecological Monographs*, **2012**, 82, 205-220	9	346
234	Geostatistical Patterns of Soil Heterogeneity Around Individual Perennial Plants. *Journal of Ecology*, **1993**, 81, 683	6	343
233	The Ecology of Soil Carbon: Pools, Vulnerabilities, and Biotic and Abiotic Controls. *Annual Review of Ecology, Evolution, and Systematics*, **2017**, 48, 419-445	13.5	329
232	Increases in the flux of carbon belowground stimulate nitrogen uptake and sustain the long-term enhancement of forest productivity under elevated CO*Ecology Letters*, **2011**, 14, 349-57	10	323
231	A global meta-analysis of soil exchangeable cations, pH, carbon, and nitrogen with afforestation **2009**, 19, 2228-41		313
230	Noble gases identify the mechanisms of fugitive gas contamination in drinking-water wells overlying the Marcellus and Barnett Shales. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 14076-81	11.5	309
229	Increases in nitrogen uptake rather than nitrogen-use efficiency support higher rates of temperate forest productivity under elevated CO2. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 14014-9	11.5	303
228	Revised calibration of the MBTCBT paleotemperature proxy based on branched tetraether membrane lipids in surface soils. *Geochimica Et Cosmochimica Acta*, **2012**, 96, 215-229	5.5	298
227	Root dynamics and global change: seeking an ecosystem perspective. *New Phytologist*, **2000**, 147, 3-12	9.8	286
226	The Environmental Costs and Benefits of Fracking. *Annual Review of Environment and Resources*, **2014**, 39, 327-362	17.2	274
225	A synthesis of current knowledge on forests and carbon storage in the United States **2011**, 21, 1902-24		272
224	A comprehensive quantification of global nitrous oxide sources and sinks. *Nature*, **2020**, 586, 248-256	50.4	270
223	Protecting climate with forests. *Environmental Research Letters*, **2008**, 3, 044006	6.2	264
222	Nonlinear grassland responses to past and future atmospheric CO(2). *Nature*, **2002**, 417, 279-82	50.4	264

221	Rooting depth, water availability, and vegetation cover along an aridity gradient in Patagonia. *Oecologia*, **1996**, 108, 503-511	2.9	262
220	BELOWGROUND CONSEQUENCES OF VEGETATION CHANGE AND THEIR TREATMENT IN MODELS **2000**, 10, 470-483		253
219	Toward more realistic projections of soil carbon dynamics by Earth system models. *Global Biogeochemical Cycles*, **2016**, 30, 40-56	5.9	251
218	Mapping the global distribution of deep roots in relation to climate and soil characteristics. *Geoderma*, **2005**, 126, 129-140	6.7	238
217	Oil and gas wells and their integrity: Implications for shale and unconventional resource exploitation. *Marine and Petroleum Geology*, **2014**, 56, 239-254	4.7	235
216	Pervasive shifts in forest dynamics in a changing world. *Science*, **2020**, 368,	33.3	227
215	Ecosystem rooting depth determined with caves and DNA. *Proceedings of the National Academy of Sciences of the United States of America*, **1999**, 96, 11387-92	11.5	211
214	Key indicators to track current progress and future ambition of the Paris Agreement. *Nature Climate Change*, **2017**, 7, 118-122	21.4	210
213	Biophysical considerations in forestry for climate protection. *Frontiers in Ecology and the Environment*, **2011**, 9, 174-182	5.5	209
212	Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity. *Nature*, **2018**, 553, 194-198	50.4	204
211	Variation in xylem structure and function in stems and roots of trees to 20□m depth. *New Phytologist*, **2004**, 163, 507-517	9.8	199
210	Re-assessment of plant carbon dynamics at the Duke free-air CO(2) enrichment site: interactions of atmospheric [CO(2)] with nitrogen and water availability over stand development. *New Phytologist*, **2010**, 185, 514-28	9.8	197
209	CO alters water use, carbon gain, and yield for the dominant species in a natural grassland. *Oecologia*, **1994**, 98, 257-262	2.9	197
208	The growing role of methane in anthropogenic climate change. *Environmental Research Letters*, **2016**, 11, 120207	6.2	190
207	Commentary: Carbon Metabolism of the Terrestrial Biosphere: A Multitechnique Approach for Improved Understanding. *Ecosystems*, **2000**, 3, 115-130	3.9	189
206	Opportunities and barriers to pumped-hydro energy storage in the United States. *Renewable and Sustainable Energy Reviews*, **2011**, 15, 839-844	16.2	187
205	Global patterns of terrestrial nitrogen and phosphorus limitation. *Nature Geoscience*, **2020**, 13, 221-226	18.3	184
204	Methane emissions from natural gas infrastructure and use in the urban region of Boston, Massachusetts. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 1941-6	11.5	173

203	DEFINING A PLANT'S BELOWGROUND ZONE OF INFLUENCE. *Ecology*, **2003**, 84, 2313-2321	4.6	168
202	Predicting the temperature dependence of microbial respiration in soil: A continental-scale analysis. *Global Biogeochemical Cycles*, **2006**, 20, n/a-n/a	5.9	164
201	Global controls of forest line elevation in the northern and southern hemispheres. *Global Ecology and Biogeography*, **2000**, 9, 253-268	6.1	160
200	Groundwater use and salinization with grassland afforestation. *Global Change Biology*, **2004**, 10, 1299-1312	11.4	155
199	Functional coordination between leaf gas exchange and vulnerability to xylem cavitation in temperate forest trees. *Plant, Cell and Environment*, **2006**, 29, 571-83	8.4	151
198	From icy roads to salty streams. *Proceedings of the National Academy of Sciences of the United States of America*, **2005**, 102, 14487-8	11.5	145
197	Mapping urban pipeline leaks: methane leaks across Boston. *Environmental Pollution*, **2013**, 173, 1-4	9.3	143
196	Large stocks of peatland carbon and nitrogen are vulnerable to permafrost thaw. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 20438-20446	11.5	142
195	Air impacts of increased natural gas acquisition, processing, and use: a critical review. *Environmental Science & Technology*, **2014**, 48, 8349-59	10.3	138
194	ECOHYDROLOGICAL CONTROL OF DEEP DRAINAGE IN ARID AND SEMIARID REGIONS. *Ecology*, **2005**, 86, 277-287	4.6	136
193	Increased belowground biomass and soil CO2 fluxes after a decade of carbon dioxide enrichment in a warm-temperate forest. *Ecology*, **2009**, 90, 3352-66	4.6	133
192	Climate-driven risks to the climate mitigation potential of forests. *Science*, **2020**, 368,	33.3	131
191	Natural gas pipeline leaks across Washington, DC. *Environmental Science & Technology*, **2014**, 48, 2051-8	10.3	130
190	Downward flux of water through roots (i.e. inverse hydraulic lift) in dry Kalahari sands. *Oecologia*, **1998**, 115, 460-462	2.9	127
189	Nitrogen and phosphorus constrain the CO2 fertilization of global plant biomass. *Nature Climate Change*, **2019**, 9, 684-689	21.4	125
188	Earth Stewardship: science for action to sustain the human-earth system. *Ecosphere*, **2011**, 2, art89	3.1	121
187	Water uptake and hydraulic redistribution across large woody root systems to 20 m depth. *Plant, Cell and Environment*, **2010**, 33, 2132-48	8.4	121
186	Leaf isoprene emission rate as a function of atmospheric CO2 concentration. *Global Change Biology*, **2009**, 15, 1189-1200	11.4	121

185	Hydraulic traits are influenced by phylogenetic history in the drought-resistant, invasive genus Juniperus (Cupressaceae). *American Journal of Botany*, **2008**, 95, 299-314	2.7	120
184	Global energy growth is outpacing decarbonization. *Environmental Research Letters*, **2018**, 13, 120401	6.2	119
183	Geochemical and isotopic variations in shallow groundwater in areas of the Fayetteville Shale development, north-central Arkansas. *Applied Geochemistry*, **2013**, 35, 207-220	3.5	116
182	Biophysical forcings of land-use changes from potential forestry activities in North America. *Ecological Monographs*, **2014**, 84, 329-353	9	111
181	Warning signs for stabilizing global CO 2 emissions. *Environmental Research Letters*, **2017**, 12, 110202	6.2	111
180	Global soil nitrous oxide emissions since the preindustrial era estimated by an ensemble of terrestrial biosphere models: Magnitude, attribution, and uncertainty. *Global Change Biology*, **2019**, 25, 640-659	11.4	111
179	Hydrological consequences of Eucalyptus afforestation in the Argentine Pampas. *Water Resources Research*, **2005**, 41,	5.4	110
178	Gas exchange and photosynthetic acclimation over subambient to elevated CO2 in a C3□4 grassland. *Global Change Biology*, **2001**, 7, 693-707	11.4	110
177	Impact to Underground Sources of Drinking Water and Domestic Wells from Production Well Stimulation and Completion Practices in the Pavillion, Wyoming, Field. *Environmental Science & Technology*, **2016**, 50, 4524-36	10.3	109
176	Risks to forest carbon offset projects in a changing climate. *Forest Ecology and Management*, **2009**, 257, 2209-2216	3.9	108
175	A Global Analysis of Groundwater Recharge for Vegetation, Climate, and Soils. *Vadose Zone Journal*, **2012**, 11,	2.7	103
174	Elevated levels of diesel range organic compounds in groundwater near Marcellus gas operations are derived from surface activities. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 13184-9	11.5	101
173	New tracers identify hydraulic fracturing fluids and accidental releases from oil and gas operations. *Environmental Science & Technology*, **2014**, 48, 12552-60	10.3	100
172	Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. *Environmental Research Letters*, **2020**, 15, 071002	6.2	99
171	Shifts in soil organic carbon for plantation and pasture establishment in native forests and grasslands of South America. *Global Change Biology*, **2012**, 18, 3237-3251	11.4	95
170	Research priorities for negative emissions. *Environmental Research Letters*, **2016**, 11, 115007	6.2	95
169	Quantifying surface albedo and other direct biogeophysical climate forcings of forestry activities. *Global Change Biology*, **2015**, 21, 3246-66	11.4	92
168	The geochemistry of naturally occurring methane and saline groundwater in an area of unconventional shale gas development. *Geochimica Et Cosmochimica Acta*, **2017**, 208, 302-334	5.5	91

167	Stomatal acclimation over a subambient to elevated CO2 gradient in a C3/C4 grassland. *Plant, Cell and Environment*, **2002**, 25, 557-566	8.4	91
166	The COVID-19 lockdowns: a window into the Earth System. *Nature Reviews Earth & Environment*, **2020**, 1, 470-481	30.2	90
165	Nitrogen fertilization has a stronger effect on soil nitrogen-fixing bacterial communities than elevated atmospheric CO2. *Applied and Environmental Microbiology*, **2014**, 80, 3103-12	4.8	87
164	Identification and characterization of high methane-emitting abandoned oil and gas wells. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 13636-13641	11.5	83
163	The evolution of Devonian hydrocarbon gases in shallow aquifers of the northern Appalachian Basin: Insights from integrating noble gas and hydrocarbon geochemistry. *Geochimica Et Cosmochimica Acta*, **2015**, 170, 321-355	5.5	83
162	Sheep Grazing Decreases Organic Carbon and Nitrogen Pools in the Patagonian Steppe: Combination of Direct and Indirect Effects. *Ecosystems*, **2009**, 12, 686-697	3.9	83
161	Positive feedbacks of fire, climate, and vegetation and the conversion of tropical savanna. *Geophysical Research Letters*, **2002**, 29, 9-1-9-4	4.9	81
160	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
159	Water subsidies from mountains to deserts: their role in sustaining groundwater-fed oases in a sandy landscape **2011**, 21, 678-94		79
158	Xylem cavitation caused by drought and freezing stress in four co-occurring Juniperus species. *Physiologia Plantarum*, **2006**, 127, 374-382	4.6	79
157	Elevated CO2 reduces disease incidence and severity of a red maple fungal pathogen via changes in host physiology and leaf chemistry. *Global Change Biology*, **2005**, 11, 1828-1836	11.4	79
156	Ecohydrology in a human-dominated landscape. *Ecohydrology*, **2009**, 2, 383-389	2.5	78
155	A trade-off between plant and soil carbon storage under elevated CO. *Nature*, **2021**, 591, 599-603	50.4	78
154	FLUXNET-CH4 Synthesis Activity: Objectives, Observations, and Future Directions. *Bulletin of the American Meteorological Society*, **2019**, 100, 2607-2632	6.1	77
153	The integrity of oil and gas wells. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 10902-3	11.5	76
152	Persistent fossil fuel growth threatens the Paris Agreement and planetary health. *Environmental Research Letters*, **2019**, 14, 121001	6.2	76
151	Aquaporin-mediated changes in hydraulic conductivity of deep tree roots accessed via caves. *Plant, Cell and Environment*, **2007**, 30, 1411-21	8.4	74
150	Grazing effects on belowground C and N stocks along a network of cattle exclosures in temperate and subtropical grasslands of South America. *Global Biogeochemical Cycles*, **2009**, 23, n/a-n/a	5.9	73

149	The Global N2O Model Intercomparison Project. *Bulletin of the American Meteorological Society*, **2018**, 99, 1231-1251	6.1	71
148	Aerial Surveys of Elevated Hydrocarbon Emissions from Oil and Gas Production Sites. *Environmental Science & Technology*, **2016**, 50, 4877-86	10.3	70
147	Variability and quasi-decadal changes in the methane budget over the period 2000–2012. *Atmospheric Chemistry and Physics*, **2017**, 17, 11135-11161	6.8	69
146	Soil carbon sequestration in a pine forest after 9 years of atmospheric CO2 enrichment. *Global Change Biology*, **2008**, 14, 2910-2922	11.4	69
145	Simulating the Earth system response to negative emissions. *Environmental Research Letters*, **2016**, 11, 095012	6.2	69
144	Common bacterial responses in six ecosystems exposed to 10 years of elevated atmospheric carbon dioxide. *Environmental Microbiology*, **2012**, 14, 1145-58	5.2	68
143	Analytical models of soil and litter decomposition: Solutions for mass loss and time-dependent decay rates. *Soil Biology and Biochemistry*, **2012**, 50, 66-76	7.5	67
142	Greater humification of belowground than aboveground biomass carbon into particulate soil organic matter in no-till corn and soybean crops. *Soil Biology and Biochemistry*, **2015**, 85, 22-30	7.5	67
141	Elevated CO enhances resprouting of a tropical savanna tree. *Oecologia*, **2000**, 123, 312-317	2.9	66
140	Fossil CO2 emissions in the post-COVID-19 era. *Nature Climate Change*, **2021**, 11, 197-199	21.4	62
139	Global Carbon Budget 2017		60
138	A global meta-analysis of soil phosphorus dynamics after afforestation. *New Phytologist*, **2017**, 213, 181-192	9.2	58
137	The Depths of Hydraulic Fracturing and Accompanying Water Use Across the United States. *Environmental Science & Technology*, **2015**, 49, 8969-76	10.3	57
136	Global and regional drivers of land-use emissions in 1961-2017. *Nature*, **2021**, 589, 554-561	50.4	57
135	Flexibility and intensity of global water use. *Nature Sustainability*, **2019**, 2, 515-523	22.1	55
134	Estimation of long-term basin scale evapotranspiration from streamflow time series. *Water Resources Research*, **2010**, 46,	5.4	52
133	Fine-root respiration in a loblolly pine (Pinus taeda L.) forest exposed to elevated CO2 and N fertilization. *Plant, Cell and Environment*, **2008**, 31, 1663-72	8.4	52
132	Curbing the U.S. carbon deficit. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 15827-9	11.5	52

131	Ecosystem impacts of geoengineering: a review for developing a science plan. *Ambio*, **2012**, 41, 350-69	6.5	51
130	Regional patterns and controls of ecosystem salinization with grassland afforestation along a rainfall gradient. *Global Biogeochemical Cycles*, **2008**, 22, n/a-n/a	5.9	51
129	Priming of soil organic carbon decomposition induced by corn compared to soybean crops. *Soil Biology and Biochemistry*, **2014**, 75, 273-281	7.5	50
128	Regional feedbacks among fire, climate, and tropical deforestation. *Journal of Geophysical Research* , **2003**, 108,		50
127	Groundwater and soil chemical changes under phreatophytic tree plantations. *Journal of Geophysical Research*, **2007**, 112,		47
126	Water Use and Management in the Bakken Shale Oil Play in North Dakota. *Environmental Science & Technology*, **2016**, 50, 3275-82	10.3	47
125	Global Carbon Budget 2021. *Earth System Science Data*, **2022**, 14, 1917-2005	10.5	47
124	Responses of soil cellulolytic fungal communities to elevated atmospheric CO□are complex and variable across five ecosystems. *Environmental Microbiology*, **2011**, 13, 2778-93	5.2	46
123	Nonlinear root-derived carbon sequestration across a gradient of nitrogen and phosphorous deposition in experimental mesocosms. *Global Change Biology*, **2008**, 14, 1113-1124	11.4	45
122	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. *Earth System Science Data*, **2019**, 11, 1263-1289	10.5	45
121	Salinity of deep groundwater in California: Water quantity, quality, and protection. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 7768-73	11.5	43
120	Geophysical subsurface imaging for ecological applications. *New Phytologist*, **2014**, 201, 1170-5	9.8	43
119	Atmospheric CO2 and soil extracellular enzyme activity: a meta-analysis and CO2 gradient experiment. *Ecosphere*, **2011**, 2, art96	3.1	43
118	Soil-mediated effects of subambient to increased carbon dioxide on grassland productivity. *Nature Climate Change*, **2012**, 2, 742-746	21.4	42
117	Future land use and land cover influences on regional biogenic emissions and air quality in the United States. *Atmospheric Environment*, **2009**, 43, 5771-5780	5.3	42
116	Data-driven estimates of global nitrous oxide emissions from croplands. *National Science Review*, **2020**, 7, 441-452	10.8	42
115	Natural Gas Pipeline Replacement Programs Reduce Methane Leaks and Improve Consumer Safety. *Environmental Science and Technology Letters*, **2015**, 2, 286-291	11	41
114	Greater seed production in elevated CO2 is not accompanied by reduced seed quality in Pinus taeda L.. *Global Change Biology*, **2010**, 16, 1046-1056	11.4	41

113	Opportunities and Constraints for Forest Climate Mitigation. *BioScience*, **2010**, 60, 698-707	5.7	40
112	On the relationship between stomatal characters and atmospheric CO2. *Geophysical Research Letters*, **2003**, 30,	4.9	40
111	Advancing Scientific Understanding of the Global Methane Budget in Support of the Paris Agreement. *Global Biogeochemical Cycles*, **2019**, 33, 1475-1512	5.9	40
110	Research frontiers in the analysis of coupled biogeochemical cycles. *Frontiers in Ecology and the Environment*, **2011**, 9, 74-80	5.5	39
109	Root production and demography in a california annual grassland under elevated atmospheric carbon dioxide. *Global Change Biology*, **2002**, 8, 841-850	11.4	39
108	Quantifying drought-induced tree mortality in the open canopy woodlands of central Texas. *Remote Sensing of Environment*, **2016**, 181, 54-64	13.2	38
107	Ecosystem water fluxes for two grasslands in elevated CO: a modeling analysis. *Oecologia*, **1998**, 113, 537-546	2.9	36
106	GENETIC VARIANCE AND COVARIANCE FOR PHYSIOLOGICAL TRAITS IN LOBELIA:ARE THERE CONSTRAINTS ON ADAPTIVE EVOLUTION?. *Evolution; International Journal of Organic Evolution*, **2005**, 59, 826-837	3.8	36
105	Sources of increased N uptake in forest trees growing under elevated CO2: results of a large-scale 15N study. *Global Change Biology*, **2011**, 17, 3338-3350	11.4	35
104	Inhibition of Nitrification Alters Carbon Turnover in the Patagonian Steppe. *Ecosystems*, **2006**, 9, 1257-1265	3.9	35
103	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
102	Effects of elevated atmospheric carbon dioxide on amino acid and NH4+-N cycling in a temperate pine ecosystem. *Global Change Biology*, **2007**, 13, 1950-1959	11.4	34
101	Responses of tropical native and invader C4 grasses to water stress, clipping and increased atmospheric CO2 concentration. *Oecologia*, **2005**, 145, 522-32	2.9	32
100	Role of aquaporin activity in regulating deep and shallow root hydraulic conductance during extreme drought. *Trees - Structure and Function*, **2014**, 28, 1323-1331	2.6	31
99	Increasing atmospheric CO2 reduces metabolic and physiological differences between isoprene- and non-isoprene-emitting poplars. *New Phytologist*, **2013**, 200, 534-546	9.8	31
98	Reply to Saba and Orzechowski and Schon: Methane contamination of drinking water accompanying gas-well drilling and hydraulic fracturing. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, E665-E666	11.5	31
97	Stream acidification and base cation losses with grassland afforestation. *Water Resources Research*, **2008**, 44,	5.4	30
96	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000–2016 period. *Atmospheric Chemistry and Physics*, **2019**, 19, 13701-13723	6.8	30

95	Stomatal sensitivity to vapour pressure difference over a subambient to elevated CO2 gradient in a C3/C4 grassland. *Plant, Cell and Environment*, **2003**, 26, 1297-1306	8.4	29
94	Hydrologic resilience and Amazon productivity. *Nature Communications*, **2017**, 8, 387	17.4	28
93	Plant rhizodeposition: A key factor for soil organic matter formation in stable fractions. *Science Advances*, **2021**, 7,	14.3	28
92	Root responses along a subambient to elevated CO2 gradient in a C3C4 grassland. *Global Change Biology*, **2010**, 16, 454-468	11.4	26
91	Structural and Hydrogeological Controls on Hydrocarbon and Brine Migration into Drinking Water Aquifers in Southern New York. *Ground Water*, **2018**, 56, 225-244	2.4	25
90	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
89	Measuring canopy loss and climatic thresholds from an extreme drought along a fivefold precipitation gradient across Texas. *Global Change Biology*, **2017**, 23, 5120-5135	11.4	25
88	Fungal Community Responses to Past and Future Atmospheric CO2 Differ by Soil Type. *Applied and Environmental Microbiology*, **2014**, 80, 7364-77	4.8	25
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