Robert B Jackson

List of Publications by Year
in descending order

279 papers	77,707 citations	902 116 h-index	609 259 g-index
317 all docs	317 docs citations	317 times ranked	59765 citing authors

#	Article	IF	Citations
1	Global Biodiversity Scenarios for the Year 2100 . Science, 2000, 287, 1770-1774.	6.0	7,077
2	A Large and Persistent Carbon Sink in the Worldâ€™s Forests. Science, 2011, 333, 988-993.	6.0	5,393
3	THE VERTICAL DISTRIBUTION OF SOIL ORGANIC CARBON AND ITS RELATION TO CLIMATE AND VEGETATION. , 2000, 10, 423-436.		3,759
4	A global analysis of root distributions for terrestrial biomes. Oecologia, 1996, 108, 389-411.	0.9	2,353
5	Maximum rooting depth of vegetation types at the global scale. Oecologia, 1996, 108, 583-595.	0.9	1,505
6	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	3.7	1,477
7	Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement. Nature Climate Change, 2020, 10, 647-653.	8.1	1,408
8	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, 8334-8348.	4.6	1,217
9	The Global Methane Budget 2000â€"2017. Earth System Science Data, 2020, 12, 1561-1623.	3.7	1,199
10	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, 7362-7366.	3.3	1,189
11	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	3.7	1,159
12	CO2 emissions from forest loss. Nature Geoscience, 2009, 2, 737-738.	5.4	1,095
13	Rooting depths, lateral root spreads and belowâ€ground/aboveâ€ground allometries of plants in waterâ€limited ecosystems. Journal of Ecology, 2002, 90, 480-494.	1.9	1,081
14	TRY plant trait database â€" enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	4.2	1,038
15	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, 8172-8176.	3.3	1,027
16	Trading Water for Carbon with Biological Carbon Sequestration. Science, 2005, 310, 1944-1947.	6.0	1,014
17	Global patterns of root turnover for terrestrial ecosystems. New Phytologist, 2000, 147, 13-31.	3.5	976
18	Biophysical and economic limits to negative CO2 emissions. Nature Climate Change, 2016, 6, 42-50.	8.1	973

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19	PLANT COMPETITION UNDERGROUND. Annual Review of Ecology, Evolution, and Systematics, 1997, 28, 545-570.	6.7	889
20	The distribution of soil nutrients with depth: Global patterns and the imprint of plants. Biogeochemistry, 2001, 53, 51-77.	1.7	850
21	Betting on negative emissions. Nature Climate Change, 2014, 4, 850-853.	8.1	846
22	Ecosystem carbon loss with woody plant invasion of grasslands. Nature, 2002, 418, 623-626.	13.7	833
23	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	3.7	824
24	Effects of afforestation on water yield: a global synthesis with implications for policy. Global Change Biology, 2005, 11, 1565-1576.	4.2	822
25	THE GLOBAL BIOGEOGRAPHY OF ROOTS. Ecological Monographs, 2002, 72, 311-328.	2.4	816
26	A comprehensive quantification of global nitrous oxide sources and sinks. Nature, 2020, 586, 248-256.	13.7	814
27	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	3.7	801
28	WATER IN A CHANGING WORLD. , 2001, 11, 1027-1045.		709
29	Stomatal responses to increased CO2: implications from the plant to the global scale. Plant, Cell and Environment, 1995, 18, 1214-1225.	2.8	702
30	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	3.7	663
31	Hydrologic regulation of plant rooting depth. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10572-10577.	3.3	635
32	The Structure, Distribution, and Biomass of the World's Forests. Annual Review of Ecology, Evolution, and Systematics, 2013, 44, 593-622.	3.8	616
33	Stoichiometric controls on carbon, nitrogen, and phosphorus dynamics in decomposing litter. Ecological Monographs, 2010, 80, 89-106.	2.4	611
34	ADAPTIVE VARIATION IN THE VULNERABILITY OF WOODY PLANTS TO XYLEM CAVITATION. Ecology, 2004, 85, 2184-2199.	1.5	584
35	The Ecology of Soil Carbon: Pools, Vulnerabilities, and Biotic and Abiotic Controls. Annual Review of Ecology, Evolution, and Systematics, 2017, 48, 419-445.	3.8	584
36	ECOHYDROLOGICAL IMPLICATIONS OF WOODY PLANT ENCROACHMENT. Ecology, 2005, 86, 308-319.	1.5	582

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37	THE UPLIFT OF SOIL NUTRIENTS BY PLANTS: BIOGEOCHEMICAL CONSEQUENCES ACROSS SCALES. Ecology, 2004, 85, 2380-2389.	1.5	578
38	Pervasive shifts in forest dynamics in a changing world. Science, 2020, 368, .	6.0	576
39	Global patterns of terrestrial nitrogen and phosphorus limitation. Nature Geoscience, 2020, 13, 221-226.	5.4	541
40	The Global Stoichiometry of Litter Nitrogen Mineralization. Science, 2008, 321, 684-686.	6.0	526
41	Global resorption efficiencies and concentrations of carbon and nutrients in leaves of terrestrial plants. Ecological Monographs, 2012, 82, 205-220.	2.4	521
42	Root water uptake and transport: using physiological processes in global predictions. Trends in Plant Science, 2000, 5, 482-488.	4.3	496
43	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, 11250-11255.	3.3	483
44	Metagenomic and Small-Subunit rRNA Analyses Reveal the Genetic Diversity of Bacteria, Archaea, Fungi, and Viruses in Soil. Applied and Environmental Microbiology, 2007, 73, 7059-7066.	1.4	480
45	MEETING ECOLOGICAL AND SOCIETAL NEEDS FOR FRESHWATER. , 2002, 12, 1247-1260.		448
46	The fate of carbon in grasslands under carbon dioxide enrichment. Nature, 1997, 388, 576-579.	13.7	444
47	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, 11961-11966.	3.3	442
48	Geostatistical Patterns of Soil Heterogeneity Around Individual Perennial Plants. Journal of Ecology, 1993, 81, 683.	1.9	424
49	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, 14076-14081.	3.3	401
50	A global metaâ€analysis of soil exchangeable cations, pH, carbon, and nitrogen with afforestation. Ecological Applications, 2009, 19, 2228-2241.	1.8	394
51	Increases in the flux of carbon belowground stimulate nitrogen uptake and sustain the long-term enhancement of forest productivity under elevated CO2. Ecology Letters, 2011, 14, 349-357.	3.0	374
52	Revised calibration of the MBTâ€“CBT paleotemperature proxy based on branched tetraether membrane lipids in surface soils. Geochimica Et Cosmochimica Acta, 2012, 96, 215-229.	1.6	369
53	A synthesis of current knowledge on forests and carbon storage in the United States. , 2011, 21, 1902-1924.		354
54	Increases in nitrogen uptake rather than nitrogen-use efficiency support higher rates of temperate forest productivity under elevated CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 14014-14019.	3.3	353

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55	The Environmental Costs and Benefits of Fracking. Annual Review of Environment and Resources, 2014, 39, 327-362.	5.6	350
56	Climate-driven risks to the climate mitigation potential of forests. Science, 2020, 368, .	6.0	346
57	Toward more realistic projections of soil carbon dynamics by Earth system models. Global Biogeochemical Cycles, 2016, 30, 40-56.	1.9	343
58	Oil and gas wells and their integrity: Implications for shale and unconventional resource exploitation. Marine and Petroleum Geology, 2014, 56, 239-254.	1.5	335
59	Root dynamics and global change: seeking an ecosystem perspective. New Phytologist, 2000, 147, 3-12.	3.5	333
60	Fire frequency drives decadal changes in soil carbon and nitrogen and ecosystem productivity. Nature, 2018, 553, 194-198.	13.7	325
61	Carbon dioxide emissions continue to grow amidst slowly emerging climate policies. Nature Climate Change, 2020, 10, 3-6.	8.1	324
62	Protecting climate with forests. Environmental Research Letters, 2008, 3, 044006.	2.2	313
63	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.	3.3	307
64	Biophysical considerations in forestry for climate protection. Frontiers in Ecology and the Environment, 2011, 9, 174-182.	1.9	301
65	Key indicators to track current progress and future ambition of the Paris Agreement. Nature Climate Change, 2017, 7, 118-122.	8.1	298
66	BELOWGROUND CONSEQUENCES OF VEGETATION CHANGE AND THEIR TREATMENT IN MODELS. , 2000, 10, 470-483.		295
67	Mapping the global distribution of deep roots in relation to climate and soil characteristics. Geoderma, 2005, 126, 129-140.	2.3	287
68	Rooting depth, water availability, and vegetation cover along an aridity gradient in Patagonia. Oecologia, 1996, 108, 503-511.	0.9	282
69	Nonlinear grassland responses to past and future atmospheric CO2. Nature, 2002, 417, 279-282.	13.7	278
70	The growing role of methane in anthropogenic climate change. Environmental Research Letters, 2016, 11, 120207.	2.2	274
71	Nitrogen and phosphorus constrain the CO2 fertilization of global plant biomass. Nature Climate Change, 2019, 9, 684-689.	8.1	269
72	A trade-off between plant and soil carbon storage under elevated CO2. Nature, 2021, 591, 599-603.	13.7	268

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73	Global and regional drivers of land-use emissions in 1961â€“2017. Nature, 2021, 589, 554-561.	13.7	256
74	Variation in xylem structure and function in stems and roots of trees to 20Âm depth. New Phytologist, 2004, 163, 507-517.	3.5	243
75	Reâ€assessment of plant carbon dynamics at the Duke freeâ€air CO₂ enrichment site: interactions of atmospheric [CO₂] with nitrogen and water availability over stand development. New Phytologist, 2010, 185, 514-528.	3.5	242
76	Homogenization of the terrestrial water cycle. Nature Geoscience, 2020, 13, 656-658.	5.4	242
77	Ecosystem rooting depth determined with caves and DNA. Proceedings of the National Academy of Sciences of the United States of America, 1999, 96, 11387-11392.	3.3	241
78	Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. Environmental Research Letters, 2020, 15, 071002.	2.2	232
79	Opportunities and barriers to pumped-hydro energy storage in the United States. Renewable and Sustainable Energy Reviews, 2011, 15, 839-844.	8.2	226
80	Commentary: Carbon Metabolism of the Terrestrial Biosphere: A Multitechnique Approach for Improved Understanding. Ecosystems, 2000, 3, 115-130.	1.6	225
81	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, 1941-1946.	3.3	225
82	Predicting the temperature dependence of microbial respiration in soil: A continental-scale analysis. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	1.9	222
83	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.	4.2	214
84	Mapping urban pipeline leaks: Methane leaks across Boston. Environmental Pollution, 2013, 173, 1-4.	3.7	212
85	CO2 alters water use, carbon gain, and yield for the dominant species in a natural grassland. Oecologia, 1994, 98, 257-262.	0.9	207
86	DEFINING A PLANT'S BELOWGROUND ZONE OF INFLUENCE. Ecology, 2003, 84, 2313-2321.	1.5	195
87	Reaching peak emissions. Nature Climate Change, 2016, 6, 7-10.	8.1	194
88	Global controls of forest line elevation in the northern and southern hemispheres. Global Ecology and Biogeography, 2000, 9, 253-268.	2.7	192
89	Groundwater use and salinization with grassland afforestation. Global Change Biology, 2004, 10, 1299-1312.	4.2	188
90	Global energy growth is outpacing decarbonization. Environmental Research Letters, 2018, 13, 120401.	2.2	188

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91	Functional coordination between leaf gas exchange and vulnerability to xylem cavitation in temperate forest trees. Plant, Cell and Environment, 2006, 29, 571-583.	2.8	184
92	Natural Gas Pipeline Leaks Across Washington, DC. Environmental Science & Technology, 2014, 48, 2051-2058.	4.6	180
93	Air Impacts of Increased Natural Gas Acquisition, Processing, and Use: A Critical Review. Environmental Science & Technology, 2014, 48, 8349-8359.	4.6	179
94	From icy roads to salty streams. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 14487-14488.	3.3	171
95	Fossil CO2 emissions in the post-COVID-19 era. Nature Climate Change, 2021, 11, 197-199.	8.1	171
96	Towards real-time verification of CO2 emissions. Nature Climate Change, 2017, 7, 848-850.	8.1	168
97	ECOHYDROLOGICAL CONTROL OF DEEP DRAINAGE IN ARID AND SEMIARID REGIONS. Ecology, 2005, 86, 277-287.	1.5	159
98	Warning signs for stabilizing global CO ₂ emissions. Environmental Research Letters, 2017, 12, 110202.	2.2	158
99	Earth Stewardship: science for action to sustain the human-earth system. Ecosphere, 2011, 2, art89.	1.0	154
100	The COVID-19 lockdowns: a window into the Earth System. Nature Reviews Earth & Environment, 2020, 1, 470-481.	12.2	153
101	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, 4524-4536.	4.6	148
102	Water uptake and hydraulic redistribution across large woody root systems to 20â€ƒm depth. Plant, Cell and Environment, 2010, 33, 2132-2148.	2.8	147
103	Global stocks and capacity of mineral-associated soil organic carbon. Nature Communications, 2022, 13, .	5.8	146
104	Increased belowground biomass and soil CO₂ fluxes after a decade of carbon dioxide enrichment in a warmâ€temperate forest. Ecology, 2009, 90, 3352-3366.	1.5	145
105	Leaf isoprene emission rate as a function of atmospheric CO₂ concentration. Global Change Biology, 2009, 15, 1189-1200.	4.2	144
106	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.	3.3	143
107	Downward flux of water through roots (i.e. inverse hydraulic lift) in dry Kalahari sands. Oecologia, 1998, 115, 460-462.	0.9	142
108	Hydrological consequences of Eucalyptus afforestation in the Argentine Pampas. Water Resources Research, 2005, 41, .	1.7	141

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109	Biophysical forcings of landâ€use changes from potential forestry activities in North America. Ecological Monographs, 2014, 84, 329-353.	2.4	140
110	Plant rhizodeposition: A key factor for soil organic matter formation in stable fractions. Science Advances, 2021, 7, .	4.7	139
111	Research priorities for negative emissions. Environmental Research Letters, 2016, 11, 115007.	2.2	138
112	Risks to forest carbon offset projects in a changing climate. Forest Ecology and Management, 2009, 257, 2209-2216.	1.4	136
113	New Tracers Identify Hydraulic Fracturing Fluids and Accidental Releases from Oil and Gas Operations. Environmental Science & Technology, 2014, 48, 12552-12560.	4.6	136
114	Geochemical and isotopic variations in shallow groundwater in areas of the Fayetteville Shale development, north-central Arkansas. Applied Geochemistry, 2013, 35, 207-220.	1.4	134
115	Persistent fossil fuel growth threatens the Paris Agreement and planetary health. Environmental Research Letters, 2019, 14, 121001.	2.2	133
116	Hydraulic traits are influenced by phylogenetic history in the droughtâ€resistant, invasive genus <i>Juniperus</i> (Cupressaceae). American Journal of Botany, 2008, 95, 299-314.	0.8	131
117	Quantifying surface albedo and other direct biogeophysical climate forcings of forestry activities. Global Change Biology, 2015, 21, 3246-3266.	4.2	131
118	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, 13184-13189.	3.3	130
119	Gas exchange and photosynthetic acclimation over subambient to elevated CO2 in a C3 -C4 grassland. Global Change Biology, 2001, 7, 693-707.	4.2	129
120	A Global Analysis of Groundwater Recharge for Vegetation, Climate, and Soils. Vadose Zone Journal, 2012, 11, .	1.3	129
121	The integrity of oil and gas wells. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 10902-10903.	3.3	125
122	The Global N2O Model Intercomparison Project. Bulletin of the American Meteorological Society, 2018, 99, 1231-1251.	1.7	123
123	Nitrogen Fertilization Has a Stronger Effect on Soil Nitrogen-Fixing Bacterial Communities than Elevated Atmospheric CO ₂. Applied and Environmental Microbiology, 2014, 80, 3103-3112.	1.4	122
124	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.	1.6	121
125	Coâ€occurring woody species have diverse hydraulic strategies and mortality rates during an extreme drought. Plant, Cell and Environment, 2018, 41, 576-588.	2.8	118
126	Stomatal acclimation over a subambient to elevated CO2 gradient in a C3 /C4 grassland. Plant, Cell and Environment, 2002, 25, 557-566.	2.8	117

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127	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.	4.2	114
128	Quantification of global and national nitrogen budgets for crop production. Nature Food, 2021, 2, 529-540.	6.2	108
129	Flexibility and intensity of global water use. Nature Sustainability, 2019, 2, 515-523.	11.5	106
130	Aerial Surveys of Elevated Hydrocarbon Emissions from Oil and Gas Production Sites. Environmental Science & Technology, 2016, 50, 4877-4886.	4.6	105
131	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.	1.6	103
132	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.	4.2	100
133	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, .	1.9	100
134	Sheep Grazing Decreases Organic Carbon and Nitrogen Pools in the Patagonian Steppe: Combination of Direct and Indirect Effects. Ecosystems, 2009, 12, 686-697.	1.6	98
135	Simulating the Earth system response to negative emissions. Environmental Research Letters, 2016, 11, 095012.	2.2	98
136	A global metaâ€analysis of soil phosphorus dynamics after afforestation. New Phytologist, 2017, 213, 181-192.	3.5	96
137	Methane removal and atmospheric restoration. Nature Sustainability, 2019, 2, 436-438.	11.5	96
138	Positive feedbacks of fire, climate, and vegetation and the conversion of tropical savanna. Geophysical Research Letters, 2002, 29, 9-1-9-4.	1.5	95
139	Data-driven estimates of global nitrous oxide emissions from croplands. National Science Review, 2020, 7, 441-452.	4.6	95
140	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.	4.2	94
141	Ecohydrology in a humanâ€dominated landscape. Ecohydrology, 2009, 2, 383-389.	1.1	93
142	Water subsidies from mountains to deserts: their role in sustaining groundwater-fed oases in a sandy landscape. , 2011, 21, 678-694.		93
143	Xylem cavitation caused by drought and freezing stress in four co-occurring Juniperus species. Physiologia Plantarum, 2006, 127, 374-382.	2.6	89
144	Variability and quasi-decadal changes in the methane budget over the period 2000â€“2012. Atmospheric Chemistry and Physics, 2017, 17, 11135-11161.	1.9	85

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145	Aquaporinâ€mediated changes in hydraulic conductivity of deep tree roots accessed via caves. Plant, Cell and Environment, 2007, 30, 1411-1421.	2.8	82
146	Soil carbon sequestration in a pine forest after 9 years of atmospheric CO₂ enrichment. Global Change Biology, 2008, 14, 2910-2922.	4.2	82
147	Analytical models of soil and litter decomposition: Solutions for mass loss and time-dependent decay rates. Soil Biology and Biochemistry, 2012, 50, 66-76.	4.2	80
148	Common bacterial responses in six ecosystems exposed to 10 years of elevated atmospheric carbon dioxide. Environmental Microbiology, 2012, 14, 1145-1158.	1.8	79
149	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. Earth System Science Data, 2021, 13, 3607-3689.	3.7	79
150	Elevated CO 2 enhances resprouting of a tropical savanna tree. Oecologia, 2000, 123, 312-317.	0.9	78
151	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, 7768-7773.	3.3	74
152	Advancing Scientific Understanding of the Global Methane Budget in Support of the Paris Agreement. Global Biogeochemical Cycles, 2019, 33, 1475-1512.	1.9	73
153	Priming of soil organic carbon decomposition induced by corn compared to soybean crops. Soil Biology and Biochemistry, 2014, 75, 273-281.	4.2	72
154	Climate change extremes and photovoltaic power output. Nature Sustainability, 2021, 4, 270-276.	11.5	72
155	Ecosystem Impacts of Geoengineering: A Review for Developing a Science Plan. Ambio, 2012, 41, 350-369.	2.8	69
156	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. Earth System Science Data, 2019, 11, 1263-1289.	3.7	69
157	Regional feedbacks among fire, climate, and tropical deforestation. Journal of Geophysical Research, 2003, 108, .	3.3	68
158	Opportunities and challenges in using remaining carbon budgets to guide climate policy. Nature Geoscience, 2020, 13, 769-779.	5.4	68
159	Global mapping of crop-specific emission factors highlights hotspots of nitrous oxide mitigation. Nature Food, 2021, 2, 886-893.	6.2	68
160	The Depths of Hydraulic Fracturing and Accompanying Water Use Across the United States. Environmental Science & Technology, 2015, 49, 8969-8976.	4.6	65
161	Estimation of longâ€term basin scale evapotranspiration from streamflow time series. Water Resources Research, 2010, 46, .	1.7	64
162	Water Use and Management in the Bakken Shale Oil Play in North Dakota. Environmental Science & Technology, 2016, 50, 3275-3282.	4.6	63

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163	Root traits explain plant species distributions along climatic gradients yet challenge the nature of ecological trade-offs. Nature Ecology and Evolution, 2021, 5, 1123-1134.	3.4	62
164	Moving toward Net-Zero Emissions Requires New Alliances for Carbon Dioxide Removal. One Earth, 2020, 3, 145-149.	3.6	61
165	Land-use emissions embodied in international trade. Science, 2022, 376, 597-603.	6.0	61
166	Fineâ€root respiration in a loblolly pine (<i>Pinus taeda</i> L.) forest exposed to elevated CO₂ and N fertilization. Plant, Cell and Environment, 2008, 31, 1663-1672.	2.8	60
167	Methane and NO<i>_x</i> Emissions from Natural Gas Stoves, Cooktops, and Ovens in Residential Homes. Environmental Science & Technology, 2022, 56, 2529-2539.	4.6	60
168	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. Global Change Biology, 2021, 27, 3582-3604.	4.2	59
169	Nonlinear rootâ€derived carbon sequestration across a gradient of nitrogen and phosphorous deposition in experimental mesocosms. Global Change Biology, 2008, 14, 1113-1124.	4.2	58
170	Regional patterns and controls of ecosystem salinization with grassland afforestation along a rainfall gradient. Global Biogeochemical Cycles, 2008, 22, .	1.9	58
171	Curbing the U.S. carbon deficit. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 15827-15829.	3.3	57
172	Responses of soil cellulolytic fungal communities to elevated atmospheric CO₂ are complex and variable across five ecosystems. Environmental Microbiology, 2011, 13, 2778-2793.	1.8	56
173	Regional trends and drivers of the global methane budget. Global Change Biology, 2022, 28, 182-200.	4.2	56
174	Groundwater and soil chemical changes under phreatophytic tree plantations. Journal of Geophysical Research, 2007, 112, .	3.3	55
175	Agricultural acceleration of soil carbonate weathering. Global Change Biology, 2020, 26, 5988-6002.	4.2	55
176	Atmospheric CO₂and soil extracellular enzyme activity: a meta-analysis and CO₂gradient experiment. Ecosphere, 2011, 2, art96.	1.0	54
177	On the relationship between stomatal characters and atmospheric CO2. Geophysical Research Letters, 2003, 30, .	1.5	53
178	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000â€"2016 period. Atmospheric Chemistry and Physics, 2019, 19, 13701-13723.	1.9	52
179	Greater seed production in elevated CO₂ is not accompanied by reduced seed quality in <i>Pinus taeda</i> L.. Global Change Biology, 2010, 16, 1046-1056.	4.2	50
180	Carbon analytics for net-zero emissions sustainable cities. Nature Sustainability, 2021, 4, 460-463.	11.5	50

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181	Soil-mediated effects of subambient to increased carbon dioxide on grassland productivity. Nature Climate Change, 2012, 2, 742-746.	8.1	49
182	Geophysical subsurface imaging for ecological applications. New Phytologist, 2014, 201, 1170-1175.	3.5	49
183	Natural Gas Pipeline Replacement Programs Reduce Methane Leaks and Improve Consumer Safety. Environmental Science and Technology Letters, 2015, 2, 286-291.	3.9	49
184	Repeated fire shifts carbon and nitrogen cycling by changing plant inputs and soil decomposition across ecosystems. Ecological Monographs, 2020, 90, e01409.	2.4	47
185	Future land use and land cover influences on regional biogenic emissions and air quality in the United States. Atmospheric Environment, 2009, 43, 5771-5780.	1.9	46
186	Opportunities and Constraints for Forest Climate Mitigation. BioScience, 2010, 60, 698-707.	2.2	46
187	Global patterns of daily CO2 emissions reductions in the first year of COVID-19. Nature Geoscience, 2022, 15, 615-620.	5.4	46
188	Plant sizes and shapes above and belowground and their interactions with climate. New Phytologist, 2022, 235, 1032-1056.	3.5	45
189	Atmospheric methane removal: a research agenda. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200454.	1.6	44
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