Biao Zhu

List of Publications by Year
in descending order

125 papers	8,587 citations	53751 45 h-index	49868 87 g-index
138 all docs	138 docs citations	138 times ranked	7439 citing authors

#	Article	IF	Citations
1	Variations in satellite-derived phenology in China's temperate vegetation. Global Change Biology, 2006, 12, 672-685.	4.2	643
2	Changes in satelliteâ€derived vegetation growth trend in temperate and boreal Eurasia from 1982 to 2006. Global Change Biology, 2011, 17, 3228-3239.	4.2	586
3	Storage, patterns and controls of soil organic carbon in the Tibetan grasslands. Global Change Biology, 2008, 14, 1592-1599.	4.2	462
4	Shifting plant species composition in response to climate change stabilizes grassland primary production. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4051-4056.	3.3	431
5	Rhizosphere priming effects on soil carbon and nitrogen mineralization. Soil Biology and Biochemistry, 2014, 76, 183-192.	4.2	304
6	A meta-analysis of soil extracellular enzyme activities in response to global change. Soil Biology and Biochemistry, 2018, 123, 21-32.	4.2	266
7	Impacts of climate and CO2 changes on the vegetation growth and carbon balance of Qinghaiâ€“Tibetan grasslands over the past five decades. Global and Planetary Change, 2012, 98-99, 73-80.	1.6	248
8	Changes in vegetation net primary productivity from 1982 to 1999 in China. Global Biogeochemical Cycles, 2005, 19, n/a-n/a.	1.9	244
9	Complementarity in nutrient foraging strategies of absorptive fine roots and arbuscular mycorrhizal fungi across 14 coexisting subtropical tree species. New Phytologist, 2015, 208, 125-136.	3.5	187
10	Regulation of priming effect by soil organic matter stability over a broad geographic scale. Nature Communications, 2019, 10, 5112.	5.8	187
11	Rhizosphere priming effect increases the temperature sensitivity of soil organic matter decomposition. Global Change Biology, 2011, 17, 2172-2183.	4.2	172
12	Root effects on soil organic carbon: a doubleâ€edged sword. New Phytologist, 2021, 230, 60-65.	3.5	169
13	Terrestrial carbon sinks in China and around the world and their contribution to carbon neutrality. Science China Life Sciences, 2022, 65, 861-895.	2.3	163
14	Altitudinal changes in carbon storage of temperate forests on Mt Changbai, Northeast China. Journal of Plant Research, 2010, 123, 439-452.	1.2	138
15	Climatic control of primary forest structure and DBHâ€“height allometry in Northeast China. Forest Ecology and Management, 2006, 234, 264-274.	1.4	129
16	NDVI-indicated decline in desertification in China in the past two decades. Geophysical Research Letters, 2005, 32, .	1.5	125
17	Forest biomass and rootâ€“shoot allocation in northeast China. Forest Ecology and Management, 2008, 255, 4007-4020.	1.4	123
18	Root litter decomposition slows with soil depth. Soil Biology and Biochemistry, 2018, 125, 103-114.	4.2	110

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19	Quantifying the response of forest carbon balance to future climate change in Northeastern China: Model validation and prediction. Global and Planetary Change, 2009, 66, 179-194.	1.6	103
20	The carbon budget of terrestrial ecosystems in East Asia over the last two decades. Biogeosciences, 2012, 9, 3571-3586.	1.3	103
21	Root exudation as a major competitive fineâ€root functional trait of 18 coexisting species in a subtropical forest. New Phytologist, 2021, 229, 259-271.	3.5	99
22	Forest biomass carbon stocks in China over the past 2 decades: Estimation based on integrated inventory and satellite data. Journal of Geophysical Research, 2005, 110, .	3.3	98
23	Plant inter-species effects on rhizosphere priming of soil organic matter decomposition. Soil Biology and Biochemistry, 2013, 57, 91-99.	4.2	98
24	Responses of arbuscular mycorrhizal fungi to nitrogen addition: A metaâ€analysis. Global Change Biology, 2020, 26, 7229-7241.	4.2	96
25	Global patterns and associated drivers of priming effect in response to nutrient addition. Soil Biology and Biochemistry, 2021, 153, 108118.	4.2	93
26	Changes in plant inputs alter soil carbon and microbial communities in forest ecosystems. Global Change Biology, 2022, 28, 3426-3440.	4.2	91
27	Nitrogen deposition has minor effect on soil extracellular enzyme activities in six Chinese forests. Science of the Total Environment, 2017, 607-608, 806-815.	3.9	88
28	Nitrogen addition has contrasting effects on particulate and mineral-associated soil organic carbon in a subtropical forest. Soil Biology and Biochemistry, 2020, 142, 107708.	4.2	85
29	Soil microbial carbon and nutrient constraints are driven more by climate and soil physicochemical properties than by nutrient addition in forest ecosystems. Soil Biology and Biochemistry, 2020, 141, 107657.	4.2	83
30	Neutral effect of nitrogen addition and negative effect of phosphorus addition on topsoil extracellular enzymatic activities in an alpine grassland ecosystem. Applied Soil Ecology, 2016, 107, 205-213.	2.1	82
31	A global meta-analysis of soil respiration and its components in response to phosphorus addition. Soil Biology and Biochemistry, 2019, 135, 38-47.	4.2	82
32	Rhizosphere priming effects on soil carbon and nitrogen dynamics among tree species with and without intraspecific competition. New Phytologist, 2018, 218, 1036-1048.	3.5	81
33	Effects of warming on carbon and nitrogen cycling in alpine grassland ecosystems on the Tibetan Plateau: A meta-analysis. Geoderma, 2020, 370, 114363.	2.3	79
34	Changes in soil greenhouse gas fluxes by land use change from primary forest. Global Change Biology, 2020, 26, 2656-2667.	4.2	76
35	Soil priming effect and its responses to nutrient addition along a tropical forest elevation gradient. Global Change Biology, 2021, 27, 2793-2806.	4.2	76
36	Effects of nitrogen deposition on soil microbial communities in temperate and subtropical forests in China. Science of the Total Environment, 2017, 607-608, 1367-1375.	3.9	70

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37	Responses of soil respiration and its temperature sensitivity to thinning in a pine plantation. Agricultural and Forest Meteorology, 2013, 171-172, 57-64.	1.9	68
38	Impacts of dryingâ€“wetting cycles on rhizosphere respiration and soil organic matter decomposition. Soil Biology and Biochemistry, 2013, 63, 89-96.	4.2	66
39	Effects of seven-year nitrogen and phosphorus additions on soil microbial community structures and residues in a tropical forest in Hainan Island, China. Geoderma, 2020, 361, 114034.	2.3	61
40	Patterns and determinants of soil microbial residues from tropical to boreal forests. Soil Biology and Biochemistry, 2020, 151, 108059.	4.2	61
41	Root functional traits are key determinants of the rhizosphere effect on soil organic matter decomposition across 14 temperate hardwood species. Soil Biology and Biochemistry, 2020, 151, 108019.	4.2	57
42	Responses of soil carbon decomposition to drying-rewetting cycles: A meta-analysis. Geoderma, 2020, 361, 114069.	2.3	55
43	Nodulated soybean enhances rhizosphere priming effects on soil organic matter decomposition more than non-nodulated soybean. Soil Biology and Biochemistry, 2012, 51, 56-65.	4.2	53
44	Changes in soil organic matter stability with depth in two alpine ecosystems on the Tibetan Plateau. Geoderma, 2019, 351, 153-162.	2.3	53
45	A dual isotope approach to isolate soil carbon pools of different turnover times. Biogeosciences, 2013, 10, 8067-8081.	1.3	52
46	Carbon budgets of three temperate forest ecosystems in Dongling Mt., Beijing, China. Science in China Series D: Earth Sciences, 2007, 50, 92-101.	0.9	51
47	Root phosphatase activity aligns with the collaboration gradient of the root economics space. New Phytologist, 2022, 234, 837-849.	3.5	51
48	Sensitivity of soil carbon dynamics to nitrogen and phosphorus enrichment in an alpine meadow. Soil Biology and Biochemistry, 2020, 150, 107984.	4.2	50
49	Phosphorus addition decreases plant lignin but increases microbial necromass contribution to soil organic carbon in a subalpine forest. Global Change Biology, 2022, 28, 4194-4210.	4.2	49
50	Greater variations of rhizosphere effects within mycorrhizal group than between mycorrhizal group in a temperate forest. Soil Biology and Biochemistry, 2018, 126, 237-246.	4.2	48
51	Linking root respiration to chemistry and morphology across species. Global Change Biology, 2021, 27, 190-201.	4.2	47
52	Constant and diurnally-varying temperature regimes lead to different temperature sensitivities of soil organic carbon decomposition. Soil Biology and Biochemistry, 2011, 43, 866-869.	4.2	46
53	Labile substrate availability controls temperature sensitivity of organic carbon decomposition at different soil depths. Biogeochemistry, 2015, 126, 85-98.	1.7	45
54	The response of tree growth to nitrogen and phosphorus additions in a tropical montane rainforest. Science of the Total Environment, 2018, 618, 1064-1070.	3.9	41

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55	Decadally cycling soil carbon is more sensitive to warming than fasterâ€¢cycling soil carbon. Global Change Biology, 2015, 21, 4602-4612.	4.2	40
56	Changes in microbial biomass, community composition and diversity, and functioning with soil depth in two alpine ecosystems on the Tibetan plateau. Plant and Soil, 2021, 459, 137-153.	1.8	40
57	13C isotope fractionation during rhizosphere respiration of C3 and C4 plants. Plant and Soil, 2011, 342, 277-287.	1.8	39
58	Nitrogen addition stimulates priming effect in a subtropical forest soil. Soil Biology and Biochemistry, 2021, 160, 108339.	4.2	39
59	Decreasing microbial phosphorus limitation increases soil carbon release. Geoderma, 2022, 419, 115868.	2.3	39
60	Footprint of temperature changes in the temperate and boreal forest carbon balance. Geophysical Research Letters, 2009, 36, .	1.5	38
61	Minor responses of soil microbial biomass, community structure and enzyme activities to nitrogen and phosphorus addition in three grassland ecosystems. Plant and Soil, 2019, 444, 21-37.	1.8	38
62	Resistant soil carbon is more vulnerable to priming effect than active soil carbon. Soil Biology and Biochemistry, 2022, 168, 108619.	4.2	38
63	Physico-chemical protection, rather than biochemical composition, governs the responses of soil organic carbon decomposition to nitrogen addition in a temperate agroecosystem. Science of the Total Environment, 2017, 598, 282-288.	3.9	37
64	Rhizosphere effects of woody plants on soil biogeochemical processes: A meta-analysis. Soil Biology and Biochemistry, 2021, 160, 108310.	4.2	37
65	Growth responses of trees and understory plants to nitrogen fertilization in a subtropical forest in China. Biogeosciences, 2017, 14, 3461-3469.	1.3	36
66	Dynamics of microbial residues control the responses of mineral-associated soil organic carbon to N addition in two temperate forests. Science of the Total Environment, 2020, 748, 141318.	3.9	36
67	Particulate organic carbon is more vulnerable to nitrogen addition than mineral-associated organic carbon in soil of an alpine meadow. Plant and Soil, 2021, 458, 93-103.	1.8	36
68	Inconsistent responses of soil microbial community structure and enzyme activity to nitrogen and phosphorus additions in two tropical forests. Plant and Soil, 2021, 460, 453-468.	1.8	36
69	Root and mycorrhizal strategies for nutrient acquisition in forests under nitrogen deposition: A meta-analysis. Soil Biology and Biochemistry, 2021, 163, 108418.	4.2	35
70	Vegetation and Soil 15N Natural Abundance in Alpine Grasslands on the Tibetan Plateau: Patterns and Implications. Ecosystems, 2013, 16, 1013-1024.	1.6	33
71	Effects of nitrogen addition on microbial residues and their contribution to soil organic carbon in Chinaâ€™s forests from tropical to boreal zone. Environmental Pollution, 2021, 268, 115941.	3.7	33
72	Precipitation overrides warming in mediating soil nitrogen pools in an alpine grassland ecosystem on the Tibetan Plateau. Scientific Reports, 2016, 6, 31438.	1.6	31

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73	The effects of simulated nitrogen deposition on extracellular enzyme activities of litter and soil among different-aged stands of larch. Journal of Plant Ecology, 2014, 7, 240-249.	1.2	29
74	Changes in soil total, microbial and enzymatic C-N-P contents and stoichiometry with depth and latitude in forest ecosystems. Science of the Total Environment, 2022, 816, 151583.	3.9	29
75	Responses of soil microbial biomass carbon and dissolved organic carbon to drying-rewetting cycles: A meta-analysis. Catena, 2021, 207, 105610.	2.2	28
76	Geographical patterns of communityâ€based tree species richness in Chinese mountain forests: the effects of contemporary climate and regional history. Ecography, 2012, 35, 1134-1146.	2.1	27
77	Patterns of soil respiration and its temperature sensitivity in grassland ecosystems across China. Biogeosciences, 2018, 15, 5329-5341.	1.3	25
78	Arbuscular mycorrhizal fungi reduce soil nitrous oxide emission. Geoderma, 2021, 402, 115179.	2.3	24
79	Plant and microbial regulations of soil carbon dynamics under warming in two alpine swamp meadow ecosystems on the Tibetan Plateau. Science of the Total Environment, 2021, 790, 148072.	3.9	23
80	Arbuscular mycorrhizal trees cause a higher carbon to nitrogen ratio of soil organic matter decomposition via rhizosphere priming than ectomycorrhizal trees. Soil Biology and Biochemistry, 2021, 157, 108246.	4.2	22
81	Warming has a minor effect on surface soil organic carbon in alpine meadow ecosystems on the Qinghaiâ€“Tibetan Plateau. Global Change Biology, 2022, 28, 1618-1629.	4.2	22
82	Asynchronous responses of soil carbon dioxide, nitrous oxide emissions and net nitrogen mineralization to enhanced fine root input. Soil Biology and Biochemistry, 2016, 92, 67-78.	4.2	21
83	The effects of heating, rhizosphere, and depth on root litter decomposition are mediated by soil moisture. Biogeochemistry, 2018, 137, 267-279.	1.7	21
84	Temperature sensitivity of decomposition of soil organic matter fractions increases with their turnover time. Land Degradation and Development, 2020, 31, 632-645.	1.8	21
85	Nitrogen deposition stimulates decomposition via changes in the structure and function of litter food webs. Soil Biology and Biochemistry, 2022, 166, 108522.	4.2	21
86	Nitrogen fertilization has minimal influence on rhizosphere effects of smooth crabgrass (<i>Digitaria) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 390-400.	1.2	20
87	Changes of soil organic matter stability along altitudinal gradients in Tibetan alpine grassland. Plant and Soil, 2021, 458, 21-40.	1.8	20
88	Tropical forest soils serve as substantial and persistent methane sinks. Scientific Reports, 2019, 9, 16799.	1.6	16
89	Linking absorptive roots and their functional traits with rhizosphere priming of tree species. Soil Biology and Biochemistry, 2020, 150, 107997.	4.2	16
90	Seasonal changes in soil properties, microbial biomass and enzyme activities across the soil profile in two alpine ecosystems. Soil Ecology Letters, 2021, 3, 383-394.	2.4	16

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91	Plant inputs mediate the linkage between soil carbon and net nitrogen mineralization. Science of the Total Environment, 2021, 790, 148208.	3.9	16
92	Loss of soil microbial residue carbon by converting a tropical forest to tea plantation. Science of the Total Environment, 2022, 818, 151742.	3.9	16
93	A Microbial Link between Elevated CO2 and Methane Emissions that is Plant Species-Specific. Microbial Ecology, 2013, 66, 621-629.	1.4	14
94	Soil enzymatic responses to multiple environmental drivers in the Tibetan grasslands: Insights from two manipulative field experiments and a meta-analysis. Pedobiologia, 2018, 71, 50-58.	0.5	14
95	Effects of nitrogen and phosphorus enrichment on soil N2O emission from natural ecosystems: A global meta-analysis. Environmental Pollution, 2022, 301, 118993.	3.7	13
96	A call for international soil experiment networks for studying, predicting, and managing global change impacts. Soil, 2015, 1, 575-582.	2.2	12
97	Light intensity controls rhizosphere respiration rate and rhizosphere priming effect of soybean and sunflower. Rhizosphere, 2019, 9, 97-105.	1.4	12
98	The rhizosphere effect on soil gross nitrogen mineralization: A meta-analysis. Soil Ecology Letters, 2022, 4, 144-154.	2.4	12
99	Responses of soil microbial carbon use efficiency to warming: Review and prospects. Soil Ecology Letters, 2022, 4, 307-318.	2.4	12
100	Effects of nitrogen fertilization on potâ€grown wheat photosynthate partitioning within intensively farmed soil determined by ¹³C pulseâ€labeling. Journal of Plant Nutrition and Soil Science, 2019, 182, 896-907.	1.1	11
101	Root functional traits mediate rhizosphere soil carbon stability in a subtropical forest. Soil Biology and Biochemistry, 2021, 162, 108431.	4.2	11
102	Resistant soil organic carbon is more vulnerable to priming by root exudate fractions than relatively active soil organic carbon. Plant and Soil, 2023, 488, 71-82.	1.8	11
103	The influence of aboveground and belowground species composition on spatial turnover in nutrient pools in alpine grasslands. Global Ecology and Biogeography, 2022, 31, 486-500.	2.7	11
104	Measuring rhizosphere effects of two tree species in a temperate forest: A comprehensive method comparison. Rhizosphere, 2019, 10, 100153.	1.4	10
105	Microbial-accessibility-dependent electron shuttling of in situ solid-phase organic matter in soils. Geoderma, 2019, 338, 1-4.	2.3	10
106	Plateau pika offsets the positive effects of warming on soil organic carbon in an alpine swamp meadow on the Tibetan Plateau. Catena, 2021, 204, 105417.	2.2	10
107	Resource enrichment combined with biomass removal maintains plant diversity and community stability in a long-term grazed grassland. Journal of Plant Ecology, 2020, 13, 611-620.	1.2	9
108	Inventory-based estimation of aboveground net primary production in Japan's forests from 1980 to 2005. Biogeosciences, 2011, 8, 2099-2106.	1.3	8

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109	Plant Debris and Its Contribution to Ecosystem Carbon Storage in Successional Larix gmelinii Forests in Northeastern China. Forests, 2017, 8, 191.	0.9	8
110	Soil N2O emissions are more sensitive to phosphorus addition and plant presence than to nitrogen addition and arbuscular mycorrhizal fungal inoculation. Rhizosphere, 2021, 19, 100414.	1.4	8
111	Mycorrhizal mycelial respiration: A substantial component of soil respired CO2. Soil Biology and Biochemistry, 2021, 163, 108454.	4.2	7
112	Trade-offs among fine-root phosphorus-acquisition strategies of 15 tropical woody species. Forest Ecosystems, 2022, 9, 100055.	1.3	7
113	Foliar phosphorus allocation and photosynthesis reveal plants' adaptative strategies to phosphorus limitation in tropical forests at different successional stages. Science of the Total Environment, 2022, 846, 157456.	3.9	7
114	Rhizosphere Effects of Maize and Wheat Increase Soil Organic and Inorganic Carbon Release in Carbonate-Rich Soils: A Three-Source 13C Partitioning Study. Frontiers in Environmental Science, 2021, 9, .	1.5	6
115	Does calculation method affect the nutrient-addition effect on priming?. Geoderma, 2021, 393, 115040.	2.3	6
116	Contrasting effects of warming and N deposition on soil microbial functional genes in a subtropical forest. Geoderma, 2022, 408, 115588.	2.3	6
117	Climate warming in an alpine meadow: differential responses of soil faunal vs. microbial effects on litter decomposition. Biology and Fertility of Soils, 2022, 58, 509-514.	2.3	6
118	Linking rhizosphere respiration rate of three grassland species with root nitrogen concentration. Geoderma, 2019, 346, 84-90.	2.3	5
119	Warming and grazing interact to affect root dynamics in an alpine meadow. Plant and Soil, 2021, 459, 109-124.	1.8	5
120	Influencing factors and partitioning methods of carbonate contribution to CO2 emissions from calcareous soils. Soil Ecology Letters, 2023, 5, 6-20.	2.4	5
121	Variation of ¹³C and ¹⁵N enrichments in different plant components of labeled winter wheat (Triticum aestivum L.). PeerJ, 2019, 7, e7738.	0.9	4
122	Techniques and methods for field warming manipulation experiments in terrestrial ecosystems. Chinese Journal of Plant Ecology, 2020, 44, 330-339.	0.3	3
123	Methodological clarification for estimating the input of plant-derived carbon in soils under elevated CO2 based on a 13C-enriched CO2 labeling experiment. Plant and Soil, 2019, 440, 569-580.	1.8	2
124	Long-term bare fallow soil reveals the temperature sensitivity of priming effect of the relatively stabilized soil organic matter. Plant and Soil, 2023, 488, 57-70.	1.8	1
125	Drying-rewetting rather than sieving stimulates soil respiration. Pedosphere, 2022, 32, 359-363.	2.1	1