Sharon A Billings

List of Publications by Year
in descending order

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87 papers	3,831 citations	117625 34 h-index	133252 59 g-index
102 all docs	102 docs citations	102 times ranked	5240 citing authors

#	Article	IF	Citations
1	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.	6.4	374
2	The ecology of algal biodiesel production. Trends in Ecology and Evolution, 2010, 25, 301-309.	8.7	221
3	Changes in variability of soil moisture alter microbial community C and N resource use. Soil Biology and Biochemistry, 2011, 43, 1837-1847.	8.8	151
4	â€˜One physical systemâ€™: Tansley's ecosystem as Earth's critical zone. New Phytologist, 2015, 206, 900-912.	7.3	149
5	How interactions between microbial resource demands, soil organic matter stoichiometry, and substrate reactivity determine the direction and magnitude of soil respiratory responses to warming. Global Change Biology, 2013, 19, 90-102.	9.5	125
6	Changes in stable isotopic signatures of soil nitrogen and carbon during 40Âyears of forest development. Oecologia, 2006, 148, 325-333.	2.0	121
7	Emergent insects, pathogens and drought shape changing patterns in oak decline in North America and Europe. Forest Ecology and Management, 2015, 354, 190-205.	3.2	119
8	Altered patterns of soil carbon substrate usage and heterotrophic respiration in a pine forest with elevated CO₂ and N fertilization. Global Change Biology, 2008, 14, 1025-1036.	9.5	108
9	Ecological and Genomic Attributes of Novel Bacterial Taxa That Thrive in Subsurface Soil Horizons. MBio, 2019, 10, .	4.1	108
10	Effects of temperature and fertilization on nitrogen cycling and community composition of an urban lawn. Global Change Biology, 2008, 14, 2119-2131.	9.5	107
11	Responses of soil nitrogen dynamics in a Mojave Desert ecosystem to manipulations in soil carbon and nitrogen availability. Oecologia, 2003, 134, 547-553.	2.0	94
12	Longâ€term nitrogen deposition linked to reduced water use efficiency in forests with low phosphorus availability. New Phytologist, 2016, 210, 431-442.	7.3	85
13	Soil carbon sequestration in a pine forest after 9 years of atmospheric CO₂ enrichment. Global Change Biology, 2008, 14, 2910-2922.	9.5	82
14	Trace N gas losses and N mineralization in Mojave desert soils exposed to elevated CO2. Soil Biology and Biochemistry, 2002, 34, 1777-1784.	8.8	81
15	Nitrogen fixation by biological soil crusts and heterotrophic bacteria in an intact Mojave Desert ecosystem with elevated CO2 and added soil carbon. Soil Biology and Biochemistry, 2003, 35, 643-649.	8.8	78
16	Carbon balance of the taiga forest within Alaska: present and future. Canadian Journal of Forest Research, 2002, 32, 757-767.	1.7	71
17	Human-Soil Relations are Changing Rapidly: Proposals from SSSA's Cross-Divisional Soil Change Working Group. Soil Science Society of America Journal, 2011, 75, 2079-2084.	2.2	70
18	Alterations of nitrogen dynamics under elevated carbon dioxide in an intact Mojave Desert ecosystem: evidence from nitrogen-15 natural abundance. Oecologia, 2002, 131, 463-467.	2.0	61

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19	Soil organic matter dynamics and land use change at a grassland/forest ecotone. Soil Biology and Biochemistry, 2006, 38, 2934-2943.	8.8	61
20	Sensitivity of soil methane fluxes to reduced precipitation in boreal forest soils. Soil Biology and Biochemistry, 2000, 32, 1431-1441.	8.8	59
21	Soil carbon dioxide fluxes and profile concentrations in two boreal forests. Canadian Journal of Forest Research, 1998, 28, 1773-1783.	1.7	58
22	Differential effects of pH on temperature sensitivity of organic carbon and nitrogen decay. Soil Biology and Biochemistry, 2014, 76, 193-200.	8.8	57
23	Distinct fungal and bacterial Î´13C signatures as potential drivers of increasing Î´13C of soil organic matter with depth. Biogeochemistry, 2015, 124, 13-26.	3.5	54
24	Soil microbial activity and N availability with elevated CO2in Mojave Desert soils. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	52
25	Warming alters routing of labile and slower-turnover carbon through distinct microbial groups in boreal forest organic soils. Soil Biology and Biochemistry, 2013, 60, 23-32.	8.8	52
26	Topographic variability and the influence of soil erosion on the carbon cycle. Global Biogeochemical Cycles, 2016, 30, 644-660.	4.9	49
27	Linking microbial activity and soil organic matter transformations in forest soils under elevated CO2. Global Change Biology, 2005, 11, 203-212.	9.5	47
28	Indirect Effects of Nitrogen Amendments on Organic Substrate Quality Increase Enzymatic Activity Driving Decomposition in a Mesic Grassland. Ecosystems, 2011, 14, 234-247.	3.4	47
29	Stable-isotope Analysis of Diets of Short-tailed Fruit Bats (Chiroptera: Phyllostomidae: Carollia). Journal of Mammalogy, 2009, 90, 1469-1477.	1.3	46
30	Nitrous oxide in flux. Nature, 2008, 456, 888-889.	27.8	45
31	Effects of elevated carbon dioxide on green leaf tissue and leaf litter quality in an intact Mojave Desert ecosystem. Global Change Biology, 2003, 9, 729-735.	9.5	44
32	A simple method for estimating the influence of eroding soil profiles on atmospheric CO₂. Global Biogeochemical Cycles, 2010, 24, .	4.9	43
33	A call to investigate drivers of soil organic matter retention vs. mineralization in a high CO2 world. Soil Biology and Biochemistry, 2010, 42, 665-668.	8.8	42
34	Climate Warming Can Accelerate Carbon Fluxes without Changing Soil Carbon Stocks. Frontiers in Earth Science, 2017, 5, .	1.8	38
35	Legacies of native climate regime govern responses of boreal soil microbes to litter stoichiometry and temperature. Soil Biology and Biochemistry, 2013, 66, 204-213.	8.8	34
36	Loss of deep roots limits biogenic agents of soil development that are only partially restored by decades of forest regeneration. Elementa, 2018, 6, .	3.2	34

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37	Continental-scale patterns of extracellular enzyme activity in the subsoil: an overlooked reservoir of microbial activity. Environmental Research Letters, 2020, 15, 1040a1.	5.2	32
38	Water sources and nitrogen relations of grasses and shrubs in phreatophytic communities of the Great Basin Desert. Journal of Arid Environments, 2008, 72, 1581-1593.	2.4	31
39	Deepening roots can enhance carbonate weathering by amplifying CO₂-rich recharge. Biogeosciences, 2021, 18, 55-75.	3.3	31
40	Temperature-mediated changes of exoenzyme-substrate reaction rates and their consequences for the carbon to nitrogen flow ratio of liberated resources. Soil Biology and Biochemistry, 2013, 57, 374-382.	8.8	30
41	Dendrochronological parameters of northern red oak (Quercus rubra L. (Fagaceae)) infested with red oak borer (Enaphalodes rufulus (Haldeman) (Coleoptera: Cerambycidae)). Forest Ecology and Management, 2008, 255, 1501-1509.	3.2	28
42	Temperature sensitivity of biomassâ€specific microbial exoâ€enzyme activities and CO₂ efflux is resistant to change across shortâ€and longâ€term timescales. Global Change Biology, 2019, 25, 1793-1807.	9.5	27
43	Laboratory incubations reveal potential responses of soil nitrogen cycling to changes in soil C and N availability in Mojave Desert soils exposed to elevated atmospheric CO₂. Global Change Biology, 2007, 13, 854-865.	9.5	26
44	Soil nitrogen and carbon dynamics in a fragmented landscape experiencing forest succession. Landscape Ecology, 2008, 23, 581-593.	4.2	25
45	Warming-induced enhancement of soil N2O efflux linked to distinct response times of genes driving N2O production and consumption. Biogeochemistry, 2014, 119, 371-386.	3.5	25
46	Soil nitrogen status as a regulator of carbon substrate flows through microbial communities with elevated CO₂. Journal of Geophysical Research, 2011, 116, .	3.3	24
47	A warmer climate reduces the bioreactivity of isolated boreal forest soil horizons without increasing the temperature sensitivity of respiratory CO2 loss. Soil Biology and Biochemistry, 2015, 84, 177-188.	8.8	24
48	Ideas and perspectives: Strengthening the biogeosciences in environmental research networks. Biogeosciences, 2018, 15, 4815-4832.	3.3	24
49	Incorporation of Plant Residues into Soil Organic Matter Fractions With Grassland Management Practices in the North American Midwest. Ecosystems, 2006, 9, 805-815.	3.4	21
50	Warmingâ€enhanced preferential microbial mineralization of humified boreal forest soil organic matter: Interpretation of soil profiles along a climate transect using laboratory incubations. Journal of Geophysical Research, 2012, 117, .	3.3	21
51	Investigating microbial transformations of soil organic matter: synthesizing knowledge from disparate fields to guide new experimentation. Soil, 2015, 1, 313-330.	4.9	21
52	Amino acid Î´15N indicates lack of N isotope fractionation during soil organic nitrogen decomposition. Biogeochemistry, 2018, 138, 69-83.	3.5	21
53	Carbon Availability Modifies Temperature Responses of Heterotrophic Microbial Respiration, Carbon Uptake Affinity, and Stable Carbon Isotope Discrimination. Frontiers in Microbiology, 2016, 7, 2083.	3.5	20
54	Microbial inputs at the litter layer translate climate into altered organic matter properties. Global Change Biology, 2021, 27, 435-453.	9.5	20

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55	Seasonal variations in plant nitrogen relations and photosynthesis along a grassland to shrubland gradient in Owens Valley, California. Plant and Soil, 2010, 327, 213-223.	3.7	18
56	Soil production and the soil geomorphology legacy of GroveÂKarlÂGilbert. Soil Science Society of America Journal, 2020, 84, 1-20.	2.2	18
57	Soil organic carbon is not just for soil scientists: measurement recommendations for diverse practitioners. Ecological Applications, 2021, 31, e02290.	3.8	18
58	Tracking C and N flows through microbial biomass with increased soil moisture variability. Soil Biology and Biochemistry, 2012, 49, 11-22.	8.8	17
59	Soils isolated during incubation underestimate temperature sensitivity of respiration and its response to climate history. Soil Biology and Biochemistry, 2016, 93, 60-68.	8.8	17
60	SoDaH: the SOils DAta Harmonization database, an open-source synthesis of soil data from research networks, version 1.0. Earth System Science Data, 2021, 13, 1843-1854.	9.9	17
61	Temperature and pH mediate stoichiometric constraints of organically derived soil nutrients. Global Change Biology, 2022, 28, 1630-1642.	9.5	16
62	Temperature-mediated changes in microbial carbon use efficiency and ¹³C discrimination. Biogeosciences, 2016, 13, 3319-3329.	3.3	15
63	Biochemical and structural controls on the decomposition dynamics of boreal upland forest moss tissues. Biogeosciences, 2018, 15, 6731-6746.	3.3	15
64	Tree-ring Î´¹³C and Î´¹⁸O, leaf Î´¹³C and wood and leaf N status demonstrate tree growth strategies and predict susceptibility to disturbance. Tree Physiology, 2016, 36, 576-588.	3.1	14
65	From Soils to Streams: Connecting Terrestrial Carbon Transformation, Chemical Weathering, and Solute Export Across Hydrological Regimes. Water Resources Research, 2022, 58, .	4.2	14
66	Model formulation of microbial CO2 production and efficiency can significantly influence short and long term soil C projections. ISME Journal, 2018, 12, 1395-1403.	9.8	13
67	Distinct Contributions of Eroding and Depositional Profiles to Land-Atmosphere CO2 Exchange in Two Contrasting Forests. Frontiers in Earth Science, 2019, 7, .	1.8	12
68	Dissolved Organic Carbon Mobilization Across a Climate Transect of Mesic Boreal Forests Is Explained by Air Temperature and Snowpack Duration. Ecosystems, 2023, 26, 55-71.	3.4	12
69	CARBON CONTROLS ON NITROUS OXIDE PRODUCTION WITH CHANGES IN SUBSTRATE AVAILABILITY IN A NORTH AMERICAN GRASSLAND. Soil Science, 2008, 173, 332-341.	0.9	11
70	Connections and Feedback: Aquatic, Plant, and Soil Microbiomes in Heterogeneous and Changing Environments. BioScience, 2020, 70, 548-562.	4.9	11
71	Acid hydrolysis to define a biologically-resistant pool is compromised by carbon loss and transformation. Soil Biology and Biochemistry, 2013, 64, 122-126.	8.8	10
72	Nonlinear tree growth dynamics predict resilience to disturbance. Ecosphere, 2015, 6, 1-13.	2.2	10

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73	Persistent anthropogenic legacies structure depth dependence of regenerating rooting systems and their functions. Biogeochemistry, 2020, 147, 259-275.	3.5	10
74	Predicting carbon cycle feedbacks to climate: Integrating the right tools for the job. Eos, 2012, 93, 188-188.	0.1	9
75	Evolution of Soil, Ecosystem, and Critical Zone Research at the USDA FS Calhoun Experimental Forest. , 2014, , 405-433.		6
76	Letter to the Editor on â€˜Pyrogenic organic matter production from wildfires: a missing sink in the global carbon cycleâ€™. Global Change Biology, 2015, 21, 2831-2831.	9.5	4
77	Aging exo-enzymes can create temporally shifting, temperature-dependent resource landscapes for microbes. Biogeochemistry, 2016, 131, 163-172.	3.5	4
78	Soil Ecosystem Resilience and Recovery. , 2012, , 357-376.		4
79	Saving our soils. Frontiers in Ecology and the Environment, 2010, 8, 171-171.	4.0	3
80	Earthâ€™s soil harbours ancient carbon. Nature Geoscience, 2020, 13, 527-528.	12.9	2
81	Soil profile connectivity can impact microbial substrate use, affecting how soil CO₂ effluxes are controlled by temperature. Biogeosciences, 2021, 18, 4755-4772.	3.3	2
82	Forest Biogeochemistry and Drought. Ecological Studies, 2011, , 581-597.	1.2	1
83	Soil organic carbon stabilization in forest subsoils: Directions for the research community â€“ Comment on â€œBiogeochemical limitations of carbon stabilization in forest subsoilsâ€•by Patrick Liebmann et al., Journal of Plant Nutrition and Soil Science, 185(1), 35â€“43 (2022). Journal of Plant Nutrition and Soil Science, 0, , .	1.9	1
84	The Science of Global Soil Change: Networking for Our Future: Global Soil Change Workshop; Duke University and Center for Environmental Farming Systems, Durham and Goldsboro, North Carolina, 10â€“13 December 2007. Eos, 2008, 89, 151.	0.1	0
85	Laboratory incubations reveal potential responses of soil nitrogen cycling to changes in soil C and N availability in Mojave Desert soils exposed to elevated atmospheric CO2. Global Change Biology, 2007, .	9.5	0
86	Short- and long-term temperature responses of soil denitrifier net N₂O efflux rates, inter-profile N₂O dynamics, and microbial genetic potentials. Soil, 2020, 6, 399-412.	4.9	0
87	Soil Signals Tell of Landscape Disturbances. Eos, 2020, 101, .	0.1	0