William R Wieder

List of Publications by Year
in descending order

86 papers	10,633 citations	53794 45 h-index	49909 87 g-index
114 all docs	114 docs citations	114 times ranked	12335 citing authors

#	Article	IF	Citations
1	Quantifying global soil carbon losses in response to warming. Nature, 2016, 540, 104-108.	27.8	879
2	Global soil carbon projections are improved by modelling microbial processes. Nature Climate Change, 2013, 3, 909-912.	18.8	772
3	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. Journal of Advances in Modeling Earth Systems, 2019, 11, 4245-4287.	3.8	692
4	Future productivity and carbon storage limited by terrestrial nutrient availability. Nature Geoscience, 2015, 8, 441-444.	12.9	529
5	Managing uncertainty in soil carbon feedbacks to climate change. Nature Climate Change, 2016, 6, 751-758.	18.8	491
6	Beyond clay: towards an improved set of variables for predicting soil organic matter content. Biogeochemistry, 2018, 137, 297-306.	3.5	423
7	Understanding the dominant controls on litter decomposition. Journal of Ecology, 2016, 104, 229-238.	4.0	409
8	Relationships among net primary productivity, nutrients and climate in tropical rain forest: a panâ€tropical analysis. Ecology Letters, 2011, 14, 939-947.	6.4	379
9	Persistence of soil organic carbon caused by functional complexity. Nature Geoscience, 2020, 13, 529-534.	12.9	363
10	Toward more realistic projections of soil carbon dynamics by Earth system models. Global Biogeochemical Cycles, 2016, 30, 40-56.	4.9	343
11	Large divergence of satellite and Earth system model estimates of global terrestrial CO2Âfertilization. Nature Climate Change, 2016, 6, 306-310.	18.8	309
12	Explicitly representing soil microbial processes in Earth system models. Global Biogeochemical Cycles, 2015, 29, 1782-1800.	4.9	286
13	Climate fails to predict wood decomposition at regional scales. Nature Climate Change, 2014, 4, 625-630.	18.8	281
14	Integrating microbial physiology and physio-chemical principles in soils with the MIcrobial-MIneral Carbon Stabilization (MIMICS) model. Biogeosciences, 2014, 11, 3899-3917.	3.3	243
15	Plot-scale manipulations of organic matter inputs to soils correlate with shifts in microbial community composition in a lowland tropical rain forest. Soil Biology and Biochemistry, 2010, 42, 2153-2160.	8.8	223
16	Higher climatological temperature sensitivity of soil carbon in cold than warm climates. Nature Climate Change, 2017, 7, 817-822.	18.8	195
17	Controls over leaf litter decomposition in wet tropical forests. Ecology, 2009, 90, 3333-3341.	3.2	176
18	Addressing agricultural nitrogen losses in a changing climate. Nature Sustainability, 2018, 1, 399-408.	23.7	175

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19	A test of the hierarchical model of litter decomposition. Nature Ecology and Evolution, 2017, 1, 1836-1845.	7.8	172
20	Multiple models and experiments underscore large uncertainty in soil carbon dynamics. Biogeochemistry, 2018, 141, 109-123.	3.5	169
21	Evaluating litter decomposition in earth system models with longâ€term litterbag experiments: an example using the Community Land Model version 4 (<scp>CLM</scp>4). Global Change Biology, 2013, 19, 957-974.	9.5	164
22	Experimental drought in a tropical rain forest increases soil carbon dioxide losses to the atmosphere. Ecology, 2010, 91, 2313-2323.	3.2	155
23	Representing life in the Earth system with soil microbial functional traits in the MIMICS model. Geoscientific Model Development, 2015, 8, 1789-1808.	3.6	154
24	Experimental litterfall manipulation drives large and rapid changes in soil carbon cycling in a wet tropical forest. Global Change Biology, 2012, 18, 2969-2979.	9.5	152
25	Do we need to understand microbial communities to predict ecosystem function? A comparison of statistical models of nitrogen cycling processes. Soil Biology and Biochemistry, 2014, 68, 279-282.	8.8	143
26	Ubiquity of human-induced changes in climate variability. Earth System Dynamics, 2021, 12, 1393-1411.	7.1	131
27	The age distribution of global soil carbon inferred from radiocarbon measurements. Nature Geoscience, 2020, 13, 555-559.	12.9	123
28	Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. Global Change Biology, 2018, 24, 1563-1579.	9.5	122
29	Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. Environmental Research Letters, 2015, 10, 044016.	5.2	109
30	Beyond microbes: Are fauna the next frontier in soil biogeochemical models?. Soil Biology and Biochemistry, 2016, 102, 40-44.	8.8	107
31	Temperature and rainfall interact to control carbon cycling in tropical forests. Ecology Letters, 2017, 20, 779-788.	6.4	107
32	Organic matter inputs shift soil enzyme activity and allocation patterns in a wet tropical forest. Biogeochemistry, 2013, 114, 313-326.	3.5	91
33	Improving understanding of soil organic matter dynamics by triangulating theories, measurements, and models. Biogeochemistry, 2018, 140, 1-13.	3.5	83
34	Evaluating soil biogeochemistry parameterizations in Earth system models with observations. Global Biogeochemical Cycles, 2014, 28, 211-222.	4.9	76
35	Applying population and community ecology theory to advance understanding of belowground biogeochemistry. Ecology Letters, 2017, 20, 231-245.	6.4	69
36	Parametric Controls on Vegetation Responses to Biogeochemical Forcing in the CLM5. Journal of Advances in Modeling Earth Systems, 2019, 11, 2879-2895.	3.8	69

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37	Throughfall exclusion and leaf litter addition drive higher rates of soil nitrous oxide emissions from a lowland wet tropical forest. Global Change Biology, 2011, 17, 3195-3207.	9.5	61
38	Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. Global Biogeochemical Cycles, 2019, 33, 1289-1309.	4.9	59
39	Microbial dynamics and soil physicochemical properties explain largeâ€scale variations in soil organic carbon. Global Change Biology, 2020, 26, 2668-2685.	9.5	56
40	A comparison of plotâ€based satellite and Earth system model estimates of tropical forest net primary production. Global Biogeochemical Cycles, 2015, 29, 626-644.	4.9	55
41	Tropical tree species composition affects the oxidation of dissolved organic matter from litter. Biogeochemistry, 2008, 88, 127-138.	3.5	54
42	Oscillatory behavior of two nonlinear microbial models of soil carbon decomposition. Biogeosciences, 2014, 11, 1817-1831.	3.3	53
43	Model Structure and Climate Data Uncertainty in Historical Simulations of the Terrestrial Carbon Cycle (1850â€“2014). Global Biogeochemical Cycles, 2019, 33, 1310-1326.	4.9	53
44	Simulating Agriculture in the Community Land Model Version 5. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005529.	3.0	53
45	Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. Biogeochemistry, 2013, 114, 25-40.	3.5	51
46	Arctic Soil Governs Whether Climate Change Drives Global Losses or Gains in Soil Carbon. Geophysical Research Letters, 2019, 46, 14486-14495.	4.0	44
47	Organic forms dominate hydrologic nitrogen export from a lowland tropical watershed. Ecology, 2015, 96, 1229-1241.	3.2	40
48	Quantifying microbial control of soil organic matter dynamics at macrosystem scales. Biogeochemistry, 2021, 156, 19-40.	3.5	37
49	Experimental removal and addition of leaf litter inputs reduces nitrate production and loss in a lowland tropical forest. Biogeochemistry, 2013, 113, 629-642.	3.5	36
50	Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling. Environmental Research Letters, 2018, 13, 125006.	5.2	36
51	Stoichiometrically coupled carbon and nitrogen cycling in the MIcrobial-MIneral Carbon Stabilization model version 1.0 (MIMICS-CN v1.0). Geoscientific Model Development, 2020, 13, 4413-4434.	3.6	35
52	Divergent patterns of experimental and model-derived permafrost ecosystem carbon dynamics in response to Arctic warming. Environmental Research Letters, 2018, 13, 105002.	5.2	31
53	The landscape of soil carbon data: Emerging questions, synergies and databases. Progress in Physical Geography, 2019, 43, 707-719.	3.2	27
54	Increasing the spatial and temporal impact of ecological research: A roadmap for integrating a novel terrestrial process into an Earth system model. Global Change Biology, 2022, 28, 665-684.	9.5	27

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55	Leveraging Environmental Research and Observation Networks to Advance Soil Carbon Science. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1047-1055.	3.0	24
56	Cover Crops May Cause Winter Warming in Snowâ€Covered Regions. Geophysical Research Letters, 2018, 45, 9889-9897.	4.0	22
57	Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. BioScience, 2016, 66, 317-326.	4.9	20
58	Ecosystem function in complex mountain terrain: Combining models and longâ€term observations to advance processâ€based understanding. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 825-845.	3.0	19
59	A Comparison of the Diel Cycle of Modeled and Measured Latent Heat Flux During the Warm Season in a Colorado Subalpine Forest. Journal of Advances in Modeling Earth Systems, 2018, 10, 617-651.	3.8	19
60	Divergent controls of soil organic carbon between observations and process-based models. Biogeochemistry, 2021, 156, 5-17.	3.5	19
61	Modest Gaseous Nitrogen Losses Point to Conservative Nitrogen Cycling in a Lowland Tropical Forest Watershed. Ecosystems, 2018, 21, 901-912.	3.4	18
62	Soil organic carbon is not just for soil scientists: measurement recommendations for diverse practitioners. Ecological Applications, 2021, 31, e02290.	3.8	18
63	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
64	Multi-century dynamics of the climate and carbon cycle under both high and net negative emissions scenarios. Earth System Dynamics, 2022, 13, 885-909.	7.1	17
65	An improved mechanistic model for ammonia volatilization in Earth system models: Flow of Agricultural Nitrogen version 2 (FANv2). Geoscientific Model Development, 2020, 13, 4459-4490.	3.6	16
66	Digging Into the World Beneath Our Feet: Bridging Across Scales in the Age of Global Change. Eos, 2014, 95, 96-97.	0.1	13
67	Palm oil wastewater methane emissions and bioenergy potential. Nature Climate Change, 2014, 4, 151-152.	18.8	13
68	Pervasive alterations to snow-dominated ecosystem functions under climate change. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	13
69	Model-based analysis of environmental controls over ecosystem primary production in an alpine tundra dry meadow. Biogeochemistry, 2016, 128, 35-49.	3.5	11
70	The role of physical properties in controlling soil nitrogen cycling across a tundra-forest ecotone of the Colorado Rocky Mountains, U.S.A. Catena, 2020, 186, 104369.	5.0	11
71	Microbes, roots and global carbon. Nature Climate Change, 2014, 4, 1052-1053.	18.8	10
72	Decadal fates and impacts of nitrogen additions on temperate forest carbon storage: a dataâ€"model comparison. Biogeosciences, 2019, 16, 2771-2793.	3.3	10

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73	Leveraging observed soil heterotrophic respiration fluxes as a novel constraint on globalâ€scale models. Global Change Biology, 2021, 27, 5392-5403.	9.5	10
74	Interannual and Seasonal Drivers of Carbon Cycle Variability Represented by the Community Earth System Model (CESM2). Global Biogeochemical Cycles, 2021, 35, e2021GB007034.	4.9	9
75	Leveraging the signature of heterotrophic respiration on atmospheric CO₂ for model benchmarking. Biogeosciences, 2020, 17, 1293-1308.	3.3	8
76	N and P constrain C in ecosystems under climate change: Role of nutrient redistribution, accumulation, and stoichiometry. Ecological Applications, 2022, 32, .	3.8	8
77	Greater stem growth, woody allocation, and aboveground biomass in Paleotropical forests than in Neotropical forests. Ecology, 2019, 100, e02589.	3.2	7
78	The signature of internal variability in the terrestrial carbon cycle. Environmental Research Letters, 2021, 16, 034022.	5.2	7
79	Synergies Among Environmental Science Research and Monitoring Networks: A Research Agenda. Earth's Future, 2021, 9, e2020EF001631.	6.3	5
80	FIRE HISTORY OF THE AIKEN CANYON GRASSLAND-WOODLAND ECOTONE IN THE SOUTHERN FOOTHILLS OF THE COLORADO FRONT RANGE. Southwestern Naturalist, 2004, 49, 239-243.	0.1	4
81	Reply to 'Land unlikely to become large carbon source'. Nature Geoscience, 2015, 8, 893-894.	12.9	4
82	Patterns and trends of organic matter processing and transport: Insights from the US long-term ecological research network. Climate Change Ecology, 2021, 2, 100025.	1.9	3
83	Scale dependence in functional equivalence and difference in the soil microbiome. Soil Biology and Biochemistry, 2021, 163, 108451.	8.8	3
84	Nitrification and denitrification in the Community Land Model compared to observations at Hubbard Brook Forest. Ecological Applications, 2022, , e2530.	3.8	3
85	Optimizing process-based models to predict current and future soil organic carbon stocks at high-resolution. Scientific Reports, 2022, 12, .	3.3	3
86	Automated Integration of Continental-Scale Observations in Near-Real Time for Simulation and Analysis of Biosphereâ€"Atmosphere Interactions. Communications in Computer and Information Science, 2020, , 204-225.	0.5	1