

# William R Wieder

## List of Publications by Year in descending order

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Version: 2024-02-01

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	Increasing the spatial and temporal impact of ecological research: A roadmap for integrating a novel terrestrial process into an Earth system model. <i>Global Change Biology</i> , 2022, 28, 665-684.	9.5	27
2	Nitrification and denitrification in the Community Land Model compared to observations at Hubbard Brook Forest. <i>Ecological Applications</i> , 2022, , e2530.	3.8	3
3	Multi-century dynamics of the climate and carbon cycle under both high and net negative emissions scenarios. <i>Earth System Dynamics</i> , 2022, 13, 885-909.	7.1	17
4	N and P constrain C in ecosystems under climate change: Role of nutrient redistribution, accumulation, and stoichiometry. <i>Ecological Applications</i> , 2022, 32, .	3.8	8
5	Optimizing process-based models to predict current and future soil organic carbon stocks at high-resolution. <i>Scientific Reports</i> , 2022, 12, .	3.3	3
6	Pervasive alterations to snow-dominated ecosystem functions under climate change. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2022, 119, .	7.1	13
7	The signature of internal variability in the terrestrial carbon cycle. <i>Environmental Research Letters</i> , 2021, 16, 034022.	5.2	7
8	Soil organic carbon is not just for soil scientists: measurement recommendations for diverse practitioners. <i>Ecological Applications</i> , 2021, 31, e02290.	3.8	18
9	Synergies Among Environmental Science Research and Monitoring Networks: A Research Agenda. <i>Earth's Future</i> , 2021, 9, e2020EF001631.	6.3	5
10	Quantifying microbial control of soil organic matter dynamics at macrosystem scales. <i>Biogeochemistry</i> , 2021, 156, 19-40.	3.5	37
11	SoDaH: the SOils DAta Harmonization database, an open-source synthesis of soil data from research networks, version 1.0. <i>Earth System Science Data</i> , 2021, 13, 1843-1854.	9.9	17
12	Divergent controls of soil organic carbon between observations and process-based models. <i>Biogeochemistry</i> , 2021, 156, 5-17.	3.5	19
13	Leveraging observed soil heterotrophic respiration fluxes as a novel constraint on global-scale models. <i>Global Change Biology</i> , 2021, 27, 5392-5403.	9.5	10
14	Interannual and Seasonal Drivers of Carbon Cycle Variability Represented by the Community Earth System Model (CESM2). <i>Global Biogeochemical Cycles</i> , 2021, 35, e2021GB007034.	4.9	9
15	Patterns and trends of organic matter processing and transport: Insights from the US long-term ecological research network. <i>Climate Change Ecology</i> , 2021, 2, 100025.	1.9	3
16	Scale dependence in functional equivalence and difference in the soil microbiome. <i>Soil Biology and Biochemistry</i> , 2021, 163, 108451.	8.8	3
17	Ubiquity of human-induced changes in climate variability. <i>Earth System Dynamics</i> , 2021, 12, 1393-1411.	7.1	131
18	The role of physical properties in controlling soil nitrogen cycling across a tundra-forest ecotone of the Colorado Rocky Mountains, U.S.A. <i>Catena</i> , 2020, 186, 104369.	5.0	11

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19	Persistence of soil organic carbon caused by functional complexity. <i>Nature Geoscience</i> , 2020, 13, 529-534.	12.9	363
20	Simulating Agriculture in the Community Land Model Version 5. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2020, 125, e2019JG005529.	3.0	53
21	Leveraging the signature of heterotrophic respiration on atmospheric CO <sub>2</sub> for model benchmarking. <i>Biogeosciences</i> , 2020, 17, 1293-1308.	3.3	8
22	The age distribution of global soil carbon inferred from radiocarbon measurements. <i>Nature Geoscience</i> , 2020, 13, 555-559.	12.9	123
23	Microbial dynamics and soil physicochemical properties explain large-scale variations in soil organic carbon. <i>Global Change Biology</i> , 2020, 26, 2668-2685.	9.5	56
24	Stoichiometrically coupled carbon and nitrogen cycling in the Microbial-Mineral Carbon Stabilization model version 1.0 (MIMICS-CN v1.0). <i>Geoscientific Model Development</i> , 2020, 13, 4413-4434.	3.6	35
25	An improved mechanistic model for ammonia volatilization in Earth system models: Flow of Agricultural Nitrogen version 2 (FANv2). <i>Geoscientific Model Development</i> , 2020, 13, 4459-4490.	3.6	16
26	Automated Integration of Continental-Scale Observations in Near-Real Time for Simulation and Analysis of Biosphere-Atmosphere Interactions. <i>Communications in Computer and Information Science</i> , 2020, , 204-225.	0.5	1
27	Parametric Controls on Vegetation Responses to Biogeochemical Forcing in the CLM5. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 2879-2895.	3.8	69
28	Leveraging Environmental Research and Observation Networks to Advance Soil Carbon Science. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2019, 124, 1047-1055.	3.0	24
29	Beyond Static Benchmarking: Using Experimental Manipulations to Evaluate Land Model Assumptions. <i>Global Biogeochemical Cycles</i> , 2019, 33, 1289-1309.	4.9	59
30	The Community Land Model Version 5: Description of New Features, Benchmarking, and Impact of Forcing Uncertainty. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 4245-4287.	3.8	692
31	The landscape of soil carbon data: Emerging questions, synergies and databases. <i>Progress in Physical Geography</i> , 2019, 43, 707-719.	3.2	27
32	Decadal fates and impacts of nitrogen additions on temperate forest carbon storage: a data-model comparison. <i>Biogeosciences</i> , 2019, 16, 2771-2793.	3.3	10
33	Model Structure and Climate Data Uncertainty in Historical Simulations of the Terrestrial Carbon Cycle (1850-2014). <i>Global Biogeochemical Cycles</i> , 2019, 33, 1310-1326.	4.9	53
34	Greater stem growth, woody allocation, and aboveground biomass in Paleotropical forests than in Neotropical forests. <i>Ecology</i> , 2019, 100, e02589.	3.2	7
35	Arctic Soil Governs Whether Climate Change Drives Global Losses or Gains in Soil Carbon. <i>Geophysical Research Letters</i> , 2019, 46, 14486-14495.	4.0	44
36	Beyond clay: towards an improved set of variables for predicting soil organic matter content. <i>Biogeochemistry</i> , 2018, 137, 297-306.	3.5	423

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37	A Comparison of the Diel Cycle of Modeled and Measured Latent Heat Flux During the Warm Season in a Colorado Subalpine Forest. <i>Journal of Advances in Modeling Earth Systems</i> , 2018, 10, 617-651.	3.8	19
38	Modest Gaseous Nitrogen Losses Point to Conservative Nitrogen Cycling in a Lowland Tropical Forest Watershed. <i>Ecosystems</i> , 2018, 21, 901-912.	3.4	18
39	Carbon cycle confidence and uncertainty: Exploring variation among soil biogeochemical models. <i>Global Change Biology</i> , 2018, 24, 1563-1579.	9.5	122
40	Multiple models and experiments underscore large uncertainty in soil carbon dynamics. <i>Biogeochemistry</i> , 2018, 141, 109-123.	3.5	169
41	Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling. <i>Environmental Research Letters</i> , 2018, 13, 125006.	5.2	36
42	Divergent patterns of experimental and model-derived permafrost ecosystem carbon dynamics in response to Arctic warming. <i>Environmental Research Letters</i> , 2018, 13, 105002.	5.2	31
43	Cover Crops May Cause Winter Warming in Snow-Covered Regions. <i>Geophysical Research Letters</i> , 2018, 45, 9889-9897.	4.0	22
44	Improving understanding of soil organic matter dynamics by triangulating theories, measurements, and models. <i>Biogeochemistry</i> , 2018, 140, 1-13.	3.5	83
45	Addressing agricultural nitrogen losses in a changing climate. <i>Nature Sustainability</i> , 2018, 1, 399-408.	23.7	175
46	Applying population and community ecology theory to advance understanding of belowground biogeochemistry. <i>Ecology Letters</i> , 2017, 20, 231-245.	6.4	69
47	Temperature and rainfall interact to control carbon cycling in tropical forests. <i>Ecology Letters</i> , 2017, 20, 779-788.	6.4	107
48	Higher climatological temperature sensitivity of soil carbon in cold than warm climates. <i>Nature Climate Change</i> , 2017, 7, 817-822.	18.8	195
49	A test of the hierarchical model of litter decomposition. <i>Nature Ecology and Evolution</i> , 2017, 1, 1836-1845.	7.8	172
50	Ecosystem function in complex mountain terrain: Combining models and long-term observations to advance process-based understanding. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2017, 122, 825-845.	3.0	19
51	Quantifying global soil carbon losses in response to warming. <i>Nature</i> , 2016, 540, 104-108.	27.8	879
52	Understanding the dominant controls on litter decomposition. <i>Journal of Ecology</i> , 2016, 104, 229-238.	4.0	409
53	Beyond microbes: Are fauna the next frontier in soil biogeochemical models?. <i>Soil Biology and Biochemistry</i> , 2016, 102, 40-44.	8.8	107
54	Managing uncertainty in soil carbon feedbacks to climate change. <i>Nature Climate Change</i> , 2016, 6, 751-758.	18.8	491

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55	Toward more realistic projections of soil carbon dynamics by Earth system models. <i>Global Biogeochemical Cycles</i> , 2016, 30, 40-56.	4.9	343
56	Large divergence of satellite and Earth system model estimates of global terrestrial CO <sub>2</sub> fertilization. <i>Nature Climate Change</i> , 2016, 6, 306-310.	18.8	309
57	Model-based analysis of environmental controls over ecosystem primary production in an alpine tundra dry meadow. <i>Biogeochemistry</i> , 2016, 128, 35-49.	3.5	11
58	Optimizing Available Network Resources to Address Questions in Environmental Biogeochemistry. <i>BioScience</i> , 2016, 66, 317-326.	4.9	20
59	Explicitly representing soil microbial processes in Earth system models. <i>Global Biogeochemical Cycles</i> , 2015, 29, 1782-1800.	4.9	286
60	Representing life in the Earth system with soil microbial functional traits in the MIMICS model. <i>Geoscientific Model Development</i> , 2015, 8, 1789-1808.	3.6	154
61	Effects of model structural uncertainty on carbon cycle projections: biological nitrogen fixation as a case study. <i>Environmental Research Letters</i> , 2015, 10, 044016.	5.2	109
62	Reply to 'Land unlikely to become large carbon source'. <i>Nature Geoscience</i> , 2015, 8, 893-894.	12.9	4
63	A comparison of plot-based satellite and Earth system model estimates of tropical forest net primary production. <i>Global Biogeochemical Cycles</i> , 2015, 29, 626-644.	4.9	55
64	Future productivity and carbon storage limited by terrestrial nutrient availability. <i>Nature Geoscience</i> , 2015, 8, 441-444.	12.9	529
65	Organic forms dominate hydrologic nitrogen export from a lowland tropical watershed. <i>Ecology</i> , 2015, 96, 1229-1241.	3.2	40
66	Integrating microbial physiology and physio-chemical principles in soils with the Microbial-Mineral Carbon Stabilization (MIMICS) model. <i>Biogeosciences</i> , 2014, 11, 3899-3917.	3.3	243
67	Oscillatory behavior of two nonlinear microbial models of soil carbon decomposition. <i>Biogeosciences</i> , 2014, 11, 1817-1831.	3.3	53
68	Digging Into the World Beneath Our Feet: Bridging Across Scales in the Age of Global Change. <i>Eos</i> , 2014, 95, 96-97.	0.1	13
69	Microbes, roots and global carbon. <i>Nature Climate Change</i> , 2014, 4, 1052-1053.	18.8	10
70	Climate fails to predict wood decomposition at regional scales. <i>Nature Climate Change</i> , 2014, 4, 625-630.	18.8	281
71	Palm oil wastewater methane emissions and bioenergy potential. <i>Nature Climate Change</i> , 2014, 4, 151-152.	18.8	13
72	Do we need to understand microbial communities to predict ecosystem function? A comparison of statistical models of nitrogen cycling processes. <i>Soil Biology and Biochemistry</i> , 2014, 68, 279-282.	8.8	143

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73	Evaluating soil biogeochemistry parameterizations in Earth system models with observations. <i>Global Biogeochemical Cycles</i> , 2014, 28, 211-222.	4.9	76
74	Global soil carbon projections are improved by modelling microbial processes. <i>Nature Climate Change</i> , 2013, 3, 909-912.	18.8	772
75	Organic matter inputs shift soil enzyme activity and allocation patterns in a wet tropical forest. <i>Biogeochemistry</i> , 2013, 114, 313-326.	3.5	91
76	Impacts of human alteration of the nitrogen cycle in the US on radiative forcing. <i>Biogeochemistry</i> , 2013, 114, 25-40.	3.5	51
77	Experimental removal and addition of leaf litter inputs reduces nitrate production and loss in a lowland tropical forest. <i>Biogeochemistry</i> , 2013, 113, 629-642.	3.5	36
78	Evaluating litter decomposition in earth system models with long-term litterbag experiments: an example using the Community Land Model version 4 (<scp>CLM</scp>4). <i>Global Change Biology</i> , 2013, 19, 957-974.	9.5	164
79	Experimental litterfall manipulation drives large and rapid changes in soil carbon cycling in a wet tropical forest. <i>Global Change Biology</i> , 2012, 18, 2969-2979.	9.5	152
80	Relationships among net primary productivity, nutrients and climate in tropical rain forest: a pan-tropical analysis. <i>Ecology Letters</i> , 2011, 14, 939-947.	6.4	379
81	Throughfall exclusion and leaf litter addition drive higher rates of soil nitrous oxide emissions from a lowland wet tropical forest. <i>Global Change Biology</i> , 2011, 17, 3195-3207.	9.5	61
82	Plot-scale manipulations of organic matter inputs to soils correlate with shifts in microbial community composition in a lowland tropical rain forest. <i>Soil Biology and Biochemistry</i> , 2010, 42, 2153-2160.	8.8	223
83	Experimental drought in a tropical rain forest increases soil carbon dioxide losses to the atmosphere. <i>Ecology</i> , 2010, 91, 2313-2323.	3.2	155
84	Controls over leaf litter decomposition in wet tropical forests. <i>Ecology</i> , 2009, 90, 3333-3341.	3.2	176
85	Tropical tree species composition affects the oxidation of dissolved organic matter from litter. <i>Biogeochemistry</i> , 2008, 88, 127-138.	3.5	54
86	FIRE HISTORY OF THE AIKEN CANYON GRASSLAND-WOODLAND ECOTONE IN THE SOUTHERN FOOTHILLS OF THE COLORADO FRONT RANGE. <i>Southwestern Naturalist</i> , 2004, 49, 239-243.	0.1	4