Jinyun Tang

List of Publications by Year
in descending order

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Version: 2024-02-01

59 papers	5,800 citations	172207 29 h-index	138251 58 g-index
80 all docs	80 docs citations	80 times ranked	7643 citing authors

#	Article	IF	Citations
1	Reduction of forest soil respiration in response to nitrogen deposition. Nature Geoscience, 2010, 3, 315-322.	5.4	1,254
2	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.	1.3	692
3	Soil warming, carbonâ€“nitrogen interactions, and forest carbon budgets. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9508-9512.	3.3	459
4	The DOE E3SM Coupled Model Version 1: Overview and Evaluation at Standard Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2089-2129.	1.3	404
5	The effect of vertically resolved soil biogeochemistry and alternate soil C and N models on C dynamics of CLM4. Biogeosciences, 2013, 10, 7109-7131.	1.3	359
6	Life and death in the soil microbiome: how ecological processes influence biogeochemistry. Nature Reviews Microbiology, 2022, 20, 415-430.	13.6	282
7	Weaker soil carbonâ€“climate feedbacks resulting from microbial and abiotic interactions. Nature Climate Change, 2015, 5, 56-60.	8.1	184
8	Towards a multiscale crop modelling framework for climate change adaptation assessment. Nature Plants, 2020, 6, 338-348.	4.7	181
9	Multiple models and experiments underscore large uncertainty in soil carbon dynamics. Biogeochemistry, 2018, 141, 109-123.	1.7	169
10	Multiple soil nutrient competition between plants, microbes, and mineral surfaces: model development, parameterization, and example applications in several tropical forests. Biogeosciences, 2016, 13, 341-363.	1.3	125
11	Long residence times of rapidly decomposable soil organic matter: application of a multi-phase, multi-component, and vertically resolved model (BAMS1) to soil carbon dynamics. Geoscientific Model Development, 2014, 7, 1335-1355.	1.3	97
12	Trait-Based Representation of Biological Nitrification: Model Development, Testing, and Predicted Community Composition. Frontiers in Microbiology, 2012, 3, 364.	1.5	94
13	A new theory of plantâ€“microbe nutrient competition resolves inconsistencies between observations and model predictions. Ecological Applications, 2017, 27, 875-886.	1.8	90
14	Response of global soil consumption of atmospheric methane to changes in atmospheric climate and nitrogen deposition. Global Biogeochemical Cycles, 2013, 27, 650-663.	1.9	88
15	A total quasi-steady-state formulation of substrate uptake kinetics in complex networks and an example application to microbial litter decomposition. Biogeosciences, 2013, 10, 8329-8351.	1.3	79
16	Equifinality in parameterization of processâ€based biogeochemistry models: A significant uncertainty source to the estimation of regional carbon dynamics. Journal of Geophysical Research, 2008, 113, .	3.3	75
17	Representing Nitrogen, Phosphorus, and Carbon Interactions in the E3SM Land Model: Development and Global Benchmarking. Journal of Advances in Modeling Earth Systems, 2019, 11, 2238-2258.	1.3	74
18	The DOE E3SM v1.1 Biogeochemistry Configuration: Description and Simulated Ecosystemâ€Climate Responses to Historical Changes in Forcing. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001766.	1.3	65

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19	Mineral properties, microbes, transport, and plant-input profiles control vertical distribution and age of soil carbon stocks. Soil Biology and Biochemistry, 2017, 107, 244-259.	4.2	64
20	A global sensitivity analysis and Bayesian inference framework for improving the parameter estimation and prediction of a processâ€based Terrestrial Ecosystem Model. Journal of Geophysical Research, 2009, 114, .	3.3	57
21	Quantifying wetland methane emissions with process-based models of different complexities. Biogeosciences, 2010, 7, 3817-3837.	1.3	53
22	A new top boundary condition for modeling surface diffusive exchange of a generic volatile tracer: theoretical analysis and application to soil evaporation. Hydrology and Earth System Sciences, 2013, 17, 873-893.	1.9	51
23	CLM4-BeTR, a generic biogeochemical transport and reaction module for CLM4: model development, evaluation, and application. Geoscientific Model Development, 2013, 6, 127-140.	1.3	50
24	Predicting the Responses of Soil Nitrite-Oxidizers to Multi-Factorial Global Change: A Trait-Based Approach. Frontiers in Microbiology, 2016, 7, 628.	1.5	50
25	Incorporating root hydraulic redistribution in <scp>CLM</scp>4.5: Effects on predicted site and global evapotranspiration, soil moisture, and water storage. Journal of Advances in Modeling Earth Systems, 2015, 7, 1828-1848.	1.3	46
26	Abiotic and Biotic Controls on Soil Organoâ€“Mineral Interactions: Developing Model Structures to Analyze Why Soil Organic Matter Persists. Reviews in Mineralogy and Geochemistry, 2019, 85, 329-348.	2.2	42
27	Assessing the impacts of cover crops on maize and soybean yield in the U.S. Midwestern agroecosystems. Field Crops Research, 2021, 273, 108264.	2.3	40
28	Weaker landâ€“climate feedbacks from nutrient uptake during photosynthesis-inactive periods. Nature Climate Change, 2018, 8, 1002-1006.	8.1	37
29	Meta-analysis of high-latitude nitrogen-addition and warming studies implies ecological mechanisms overlooked by land models. Biogeosciences, 2014, 11, 6969-6983.	1.3	34
30	On the relationships between the Michaelisâ€“Menten kinetics, reverse Michaelisâ€“Menten kinetics, equilibrium chemistry approximation kinetics, and quadratic kinetics. Geoscientific Model Development, 2015, 8, 3823-3835.	1.3	34
31	Improving Representation of Deforestation Effects on Evapotranspiration in the E3SM Land Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 2412-2427.	1.3	28
32	Quantifying carbon budget, crop yields and their responses to environmental variability using the ecosys model for U.S. Midwestern agroecosystems. Agricultural and Forest Meteorology, 2021, 307, 108521.	1.9	27
33	Impacts of a new bareâ€soil evaporation formulation on site, regional, and global surface energy and water budgets in CLM4. Journal of Advances in Modeling Earth Systems, 2013, 5, 558-571.	1.3	26
34	A Theory of Effective Microbial Substrate Affinity Parameters in Variably Saturated Soils and an Example Application to Aerobic Soil Heterotrophic Respiration. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 918-940.	1.3	26
35	Modeling soil thermal and hydrological dynamics and changes of growing season in Alaskan terrestrial ecosystems. Climatic Change, 2011, 107, 481-510.	1.7	25
36	Competitor and substrate sizes and diffusion together define enzymatic depolymerization and microbial substrate uptake rates. Soil Biology and Biochemistry, 2019, 139, 107624.	4.2	25

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37	SUPECA kinetics for scaling redox reactions in networks of mixed substrates and consumers and an example application to aerobic soil respiration. Geoscientific Model Development, 2017, 10, 3277-3295.	1.3	20
38	Evaluation of the WRF lake module (v1.0) and its improvements at a deep reservoir. Geoscientific Model Development, 2019, 12, 2119-2138.	1.3	20
39	Evaluation of simulated soil carbon dynamics in Arctic-Boreal ecosystems. Environmental Research Letters, 2020, 15, 025005.	2.2	19
40	Identifying the dominant controls on macropore flow velocity in soils: A meta-analysis. Journal of Hydrology, 2018, 567, 590-604.	2.3	17
41	Role of underlying surface, rainstorm and antecedent wetness condition on flood responses in small and medium sized watersheds in the Yangtze River Delta region, China. Catena, 2021, 206, 105489.	2.2	17
42	Soil Organic Matter Temperature Sensitivity Cannot be Directly Inferred From Spatial Gradients. Global Biogeochemical Cycles, 2019, 33, 761-776.	1.9	16
43	Predicted Land Carbon Dynamics Are Strongly Dependent on the Numerical Coupling of Nitrogen Mobilizing and Immobilizing Processes: A Demonstration with the E3SM Land Model. Earth Interactions, 2018, 22, 1-18.	0.7	15
44	Linear two-pool models are insufficient to infer soil organic matter decomposition temperature sensitivity from incubations. Biogeochemistry, 2020, 149, 251-261.	1.7	13
45	Non-growing season plant nutrient uptake controls Arctic tundra vegetation composition under future climate. Environmental Research Letters, 2021, 16, 074047.	2.2	13
46	Finding Liebigâ€™s law of the minimum. Ecological Applications, 2021, 31, e02458.	1.8	13
47	KGML-ag: a modeling framework of knowledge-guided machine learning to simulate agroecosystems: a case study of estimating N₂O emission using data from mesocosm experiments. Geoscientific Model Development, 2022, 15, 2839-2858.	1.3	13
48	Technical Note: Simple formulations and solutions of the dual-phase diffusive transport for biogeochemical modeling. Biogeosciences, 2014, 11, 3721-3728.	1.3	9
49	On the modeling paradigm of plant root nutrient acquisition. Plant and Soil, 2021, 459, 441-451.	1.8	9
50	Aquatic Carbonâ€Nutrient Dynamics as Emergent Properties of Hydrological, Biogeochemical, and Ecological Interactions: Scientific Advances. Water Resources Research, 2018, 54, 7138-7142.	1.7	7
51	Long-term leaf C:N ratio change under elevated CO2 and nitrogen deposition in China: Evidence from observations and process-based modeling. Science of the Total Environment, 2021, 800, 149591.	3.9	7
52	Assessing the impacts of pre-growing-season weather conditions on soil nitrogen dynamics and corn productivity in the U.S. Midwest. Field Crops Research, 2022, 284, 108563.	2.3	7
53	Technical Note: A generic law-of-the-minimum flux limiter for simulating substrate limitation in biogeochemical models. Biogeosciences, 2016, 13, 723-735.	1.3	6
54	Analytical investigation on 3D non-Boussinesq mountain wave drag for wind profiles with vertical variations. Applied Mathematics and Mechanics (English Edition), 2007, 28, 317-325.	1.9	4

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55	Technical Note: Propagating correlations in atmospheric inversions using different Kalman update smoothers. Atmospheric Chemistry and Physics, 2011, 11, 921-929.	1.9	3
56	Conceptualizing Biogeochemical Reactions With an Ohm's Law Analogy. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002469.	1.3	2
57	Supporting hierarchical soil biogeochemical modeling: version 2 of the Biogeochemical Transport and Reaction model (BeTR-v2). Geoscientific Model Development, 2022, 15, 1619-1632.	1.3	1
58	Diurnal Rainfall Response to the Physiological and Radiative Effects of CO₂ in Tropical Forests in the Energy Exascale Earth System Model v1. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	1
59	11. Abiotic and Biotic Controls on Soil Organoâ€“Mineral Interactions: Developing Model Structures to Analyze Why Soil Organic Matter Persists. , 2019, , 329-348.		0