Qing Zhu

List of Publications by Year
in descending order

50 papers	3,637 citations	304368 22 h-index	189595 50 g-index
56 all docs	56 docs citations	56 times ranked	5684 citing authors

#	Article	IF	Citations
1	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	3.7	1,199
2	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
3	Interactions between urban heat islands and heat waves. Environmental Research Letters, 2018, 13, 034003.	2.2	246
4	The North American Carbon Program Multi-Scale Synthesis and Terrestrial Model Intercomparison Project â€“ Part 1: Overview and experimental design. Geoscientific Model Development, 2013, 6, 2121-2133.	1.3	212
5	Amazon forest response to CO2 fertilization dependent on plant phosphorus acquisition. Nature Geoscience, 2019, 12, 736-741.	5.4	177
6	Global multi-model projections of local urban climates. Nature Climate Change, 2021, 11, 152-157.	8.1	149
7	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
8	The age distribution of global soil carbon inferred from radiocarbon measurements. Nature Geoscience, 2020, 13, 555-559.	5.4	123
9	A new theory of plantâ€“microbe nutrient competition resolves inconsistencies between observations and model predictions. Ecological Applications, 2017, 27, 875-886.	1.8	90
10	Modelling methane emissions from natural wetlands by development and application of the TRIPLEX-GHG model. Geoscientific Model Development, 2014, 7, 981-999.	1.3	84
11	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
12	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
13	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. Global Change Biology, 2021, 27, 3582-3604.	4.2	59
14	Improved modelling of soil nitrogen losses. Nature Climate Change, 2015, 5, 705-706.	8.1	56
15	Root traits explain observed tundra vegetation nitrogen uptake patterns: Implications for traitâ€based land models. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 3101-3112.	1.3	52
16	Estimating hourly land surface downward shortwave and photosynthetically active radiation from DSCOVR/EPIC observations. Remote Sensing of Environment, 2019, 232, 111320.	4.6	40
17	Observed variation in soil properties can drive large variation in modelled forest functioning and composition during tropical forest secondary succession. New Phytologist, 2019, 223, 1820-1833.	3.5	40
18	Weaker landâ€“climate feedbacks from nutrient uptake during photosynthesis-inactive periods. Nature Climate Change, 2018, 8, 1002-1006.	8.1	37

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19	A substantial role of soil erosion in the land carbon sink and its future changes. Global Change Biology, 2020, 26, 2642-2655.	4.2	30
20	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
21	Evapotranspiration in Northern Eurasia: Impact of forcing uncertainties on terrestrial ecosystem model estimates. Journal of Geophysical Research D: Atmospheres, 2015, 120, 2647-2660.	1.2	26
22	Parameterization and sensitivity analysis of a processâ€based terrestrial ecosystem model using adjoint method. Journal of Advances in Modeling Earth Systems, 2014, 6, 315-331.	1.3	23
23	The Central Amazon Biomass Sink Under Current and Future Atmospheric CO₂: Predictions From Bigâ€Leaf and Demographic Vegetation Models. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005500.	1.3	23
24	Modeling the effects of organic nitrogen uptake by plants on the carbon cycling of boreal forest and tundra ecosystems. Biogeosciences, 2013, 10, 7943-7955.	1.3	22
25	DSCOVR/EPIC-derived global hourly and daily downward shortwave and photosynthetically active radiation data at 0.1Â°â€‰Ã—â€‰0.1Â° resolution. Earth System Science Data, 2020, 12, 2209-2221.	3.7	21
26	Deforestation reshapes land-surface energy-flux partitioning. Environmental Research Letters, 2021, 16, 024014.	2.2	19
27	Alaskan carbon-climate feedbacks will be weaker than inferred from short-term experiments. Nature Communications, 2020, 11, 5798.	5.8	18
28	Global soil consumption of atmospheric carbon monoxide: an analysis using a process-based biogeochemistry model. Atmospheric Chemistry and Physics, 2018, 18, 7913-7931.	1.9	16
29	Understanding and reducing the uncertainties of land surface energy flux partitioning within CMIP6 land models. Agricultural and Forest Meteorology, 2022, 319, 108920.	1.9	16
30	Assessing Impacts of Plant Stoichiometric Traits on Terrestrial Ecosystem Carbon Accumulation Using the E3SM Land Model. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001841.	1.3	14
31	Non-growing season plant nutrient uptake controls Arctic tundra vegetation composition under future climate. Environmental Research Letters, 2021, 16, 074047.	2.2	13
32	Building a machine learning surrogate model for wildfire activities within a global Earth system model. Geoscientific Model Development, 2022, 15, 1899-1911.	1.3	13
33	Increased extreme rains intensify erosional nitrogen and phosphorus fluxes to the northern Gulf of Mexico in recent decades. Environmental Research Letters, 2021, 16, 054080.	2.2	12
34	Wetter California Projected by CMIP6 Models With Observational Constraints Under a High GHG Emission Scenario. Earth's Future, 2022, 10, .	2.4	11
35	Ecosystem biogeochemistry model parameterization: Do more flux data result in a better model in predicting carbon flux?. Ecosphere, 2015, 6, 1-20.	1.0	10
36	Improving the quantification of terrestrial ecosystem carbon dynamics over the United States using an adjoint method. Ecosphere, 2013, 4, 1-21.	1.0	9

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37	Comparison With Global Soil Radiocarbon Observations Indicates Needed Carbon Cycle Improvements in the E3SM Land Model. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 1098-1114.	1.3	9
38	Using Information Theory to Evaluate Directional Precipitation Interactions Over the West Sahel Region in Observations and Models. Journal of Geophysical Research D: Atmospheres, 2019, 124, 1463-1473.	1.2	8
39	Mathematical Reconstruction of Land Carbon Models From Their Numerical Output: Computing Soil Radiocarbon From C Dynamics. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001776.	1.3	6
40	Warm-season net CO2 uptake outweighs cold-season emissions over Alaskan North Slope tundra under current and RCP8.5 climate. Environmental Research Letters, 2021, 16, 055012.	2.2	6
41	Nitrification, denitrification, and competition for soil<scp>N</scp>: Evaluation of two<scp>Earth System Models</scp>against observations. Ecological Applications, 2022, 32, e2528.	1.8	6
42	Microbial contribution to post-fire tundra ecosystem recovery over the 21st century. Communications Earth & Environment, 2022, 3, .	2.6	6
43	Improved ELMv1-ECA simulations of zero-curtain periods and cold-season CH₄ and CO₂ emissions at Alaskan Arctic tundra sites. Cryosphere, 2021, 15, 5281-5307.	1.5	5
44	Warming and Increased Respiration Have Transformed an Alpine Steppe Ecosystem on the Tibetan Plateau From a Carbon Dioxide Sink Into a Source. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	1.3	5
45	The influence of fire aerosols on surface climate and gross primary production in the Energy Exascale Earth System Model (E3SM). Journal of Climate, 2021, , 1-60.	1.2	3
46	Toward a framework for the multimodel ensemble prediction of soil nitrogen losses. Ecological Modelling, 2021, 456, 109675.	1.2	3
47	Guidelines for Publicly Archiving Terrestrial Model Data to Enhance Usability, Intercomparison, and Synthesis. Data Science Journal, 2022, 21, 3.	0.6	3
48	Quantifying microbial ecophysiological effects on the carbon fluxes of forest ecosystems over the conterminous United States. Climatic Change, 2015, 133, 695-708.	1.7	2
49	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
50	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