Michael C Dietze

List of Publications by Year
in descending order

113 papers	10,284 citations	44042 48 h-index	37183 96 g-index
142 all docs	142 docs citations	142 times ranked	12343 citing authors

#	Article	IF	Citations
1	Terrestrial biosphere models need better representation of vegetation phenology: results from the <scp>N</scp>orth <scp>A</scp>merican <scp>C</scp>arbon <scp>P</scp>rogram <scp>S</scp>ite <scp>S</scp>ynthesis. Global Change Biology, 2012, 18, 566-584.	4.2	583
2	Pervasive shifts in forest dynamics in a changing world. Science, 2020, 368, .	6.0	576
3	Nonstructural Carbon in Woody Plants. Annual Review of Plant Biology, 2014, 65, 667-687.	8.6	533
4	Vegetation demographics in Earth System Models: A review of progress and priorities. Global Change Biology, 2018, 24, 35-54.	4.2	478
5	Effects of biotic disturbances on forest carbon cycling in the<scp>U</scp>nited<scp>S</scp>tates and<scp>C</scp>anada. Global Change Biology, 2012, 18, 7-34.	4.2	418
6	Iterative near-term ecological forecasting: Needs, opportunities, and challenges. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1424-1432.	3.3	400
7	Evaluation of 11 terrestrial carbonâ€“nitrogen cycle models against observations from two temperate <scp>F</scp>reeâ€<scp>A</scp>ir <scp>CO</scp>₂<scp> E</scp>nrichment studies. New Phytologist, 2014, 202, 803-822.	3.5	378
8	A roadmap for improving the representation of photosynthesis in Earth system models. New Phytologist, 2017, 213, 22-42.	3.5	365
9	Forest water use and water use efficiency at elevated <scp><scp>CO₂</scp></scp>: a modelâ€data intercomparison at two contrasting temperate forest <scp>FACE</scp> sites. Global Change Biology, 2013, 19, 1759-1779.	4.2	314
10	A modelâ€data comparison of gross primary productivity: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2012, 117, .	3.3	274
11	Where does the carbon go? A modelâ€“data intercomparison of vegetation carbon allocation and turnover processes at two temperate forest freeâ€air CO₂ enrichment sites. New Phytologist, 2014, 203, 883-899.	3.5	263
12	Using ecosystem experiments to improve vegetation models. Nature Climate Change, 2015, 5, 528-534.	8.1	249
13	A modelâ€data intercomparison of CO₂ exchange across North America: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2010, 115, .	3.3	247
14	Terrestrial biosphere model performance for interâ€annual variability of landâ€atmosphere <scp><scp>CO₂</scp></scp> exchange. Global Change Biology, 2012, 18, 1971-1987.	4.2	232
15	Resolving the biodiversity paradox. Ecology Letters, 2007, 10, 647-659.	3.0	185
16	Global imprint of mycorrhizal fungi on whole-plant nutrient economics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 23163-23168.	3.3	169
17	PREDICTING BIODIVERSITY CHANGE: OUTSIDE THE CLIMATE ENVELOPE, BEYOND THE SPECIESâ€“AREA CURVE. Ecology, 2006, 87, 1896-1906.	1.5	160
18	CHANGING THE GAP DYNAMICS PARADIGM: VEGETATIVE REGENERATION CONTROL ON FOREST RESPONSE TO DISTURBANCE. Ecological Monographs, 2008, 78, 331-347.	2.4	160

#	ARTICLE	IF	CITATIONS
19	Tree mortality in the eastern and central United States: patterns and drivers. Global Change Biology, 2011, 17, 3312-3326.	4.2	151
20	Highâ€dimensional coexistence based on individual variation: a synthesis of evidence. Ecological Monographs, 2010, 80, 569-608.	2.4	141
21	Facilitating feedbacks between field measurements and ecosystem models. Ecological Monographs, 2013, 83, 133-154.	2.4	137
22	Arctic tundra fires: natural variability and responses to climate change. Frontiers in Ecology and the Environment, 2015, 13, 369-377.	1.9	135
23	Forest biogeochemistry in response to drought. Global Change Biology, 2016, 22, 2318-2328.	4.2	133
24	When tree rings go global: Challenges and opportunities for retro- and prospective insight. Quaternary Science Reviews, 2018, 197, 1-20.	1.4	131
25	Continentalâ€scale nitrogen pollution is shifting forest mycorrhizal associations and soil carbon stocks. Global Change Biology, 2018, 24, 4544-4553.	4.2	115
26	Prediction in ecology: a firstâ€principles framework. Ecological Applications, 2017, 27, 2048-2060.	1.8	112
27	COEXISTENCE: HOW TO IDENTIFY TROPHIC TRADE-OFFS. Ecology, 2003, 84, 17-31.	1.5	95
28	Comprehensive ecosystem modelâ€data synthesis using multiple data sets at two temperate forest freeâ€air CO₂ enrichment experiments: Model performance at ambient CO₂ concentration. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 937-964.	1.3	95
29	On improving the communication between models and data. Plant, Cell and Environment, 2013, 36, 1575-1585.	2.8	92
30	Carbon cycle uncertainty in the Alaskan Arctic. Biogeosciences, 2014, 11, 4271-4288.	1.3	92
31	A quantitative assessment of a terrestrial biosphere model's data needs across North American biomes. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 286-300.	1.3	92
32	A general ecophysiological framework for modelling the impact of pests and pathogens on forest ecosystems.. Ecology Letters, 2014, 17, 1418-1426.	3.0	91
33	A quantitative review comparing the yield of switchgrass in monocultures and mixtures in relation to climate and management factors. GCB Bioenergy, 2010, 2, 16-25.	2.5	83
34	Benchmarking and parameter sensitivity of physiological and vegetation dynamics using the Functionally Assembled Terrestrial Ecosystem Simulator (FATES) at Barro Colorado Island, Panama. Biogeosciences, 2020, 17, 3017-3044.	1.3	82
35	Bioenergy crop models: descriptions, data requirements, and future challenges. GCB Bioenergy, 2012, 4, 620-633.	2.5	79
36	TREE GROWTH INFERENCE AND PREDICTION FROM DIAMETER CENSUSES AND RING WIDTHS. Ecological Applications, 2007, 17, 1942-1953.	1.8	78

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37	Addressing data integration challenges to link ecological processes across scales. Frontiers in Ecology and the Environment, 2021, 19, 30-38.	1.9	74
38	Characterizing the performance of ecosystem models across time scales: A spectral analysis of the North American Carbon Program site-level synthesis. Journal of Geophysical Research, 2011, 116, .	3.3	72
39	Capturing diversity and interspecific variability in allometries: A hierarchical approach. Forest Ecology and Management, 2008, 256, 1939-1948.	1.4	71
40	Linking big models to big data: efficient ecosystem model calibration through Bayesian model emulation. Biogeosciences, 2018, 15, 5801-5830.	1.3	71
41	Characterizing the diurnal patterns of errors in the prediction of evapotranspiration by several landâ€surface models: An NACP analysis. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1458-1473.	1.3	69
42	Carbon budget of the Harvard Forest Longâ€Term Ecological Research site: pattern, process, and response to global change. Ecological Monographs, 2020, 90, e01423.	2.4	67
43	The role of data assimilation in predictive ecology. Ecosphere, 2014, 5, 1-16.	1.0	65
44	Gaps in knowledge and data driving uncertainty in models of photosynthesis. Photosynthesis Research, 2014, 119, 3-14.	1.6	63
45	The biophysics, ecology, and biogeochemistry of functionally diverse, vertically and horizontally heterogeneous ecosystems: the Ecosystem Demography model, version 2.2 â€“ Part 1: Model description. Geoscientific Model Development, 2019, 12, 4309-4346.	1.3	62
46	Impact of nitrogen allocation on growth and photosynthesis of Miscanthus (<i>MiscanthusÂÃ—Âgiganteus</i>). GCB Bioenergy, 2012, 4, 688-697.	2.5	61
47	Quantifying the influences of spectral resolution on uncertainty in leaf trait estimates through a Bayesian approach to RTM inversion. Remote Sensing of Environment, 2016, 183, 226-238.	4.6	60
48	Scale dependence in the effects of leaf ecophysiological traits on photosynthesis: <scp>B</scp>ayesian parameterization of photosynthesis models. New Phytologist, 2013, 200, 1132-1144.	3.5	52
49	Estimating colonization potential of migrant tree species. Global Change Biology, 2009, 15, 1173-1188.	4.2	50
50	EVALUATING THE SOURCES OF POTENTIAL MIGRANT SPECIES: IMPLICATIONS UNDER CLIMATE CHANGE. Ecological Applications, 2008, 18, 1664-1678.	1.8	48
51	Novel and Lost Forests in the Upper Midwestern United States, from New Estimates of Settlement-Era Composition, Stem Density, and Biomass. PLoS ONE, 2016, 11, e0151935.	1.1	48
52	Chapter 19 Concession Agreements as Port Governance Tools. Research in Transportation Economics, 2006, 17, 437-455.	2.2	47
53	Continent-wide tree fecundity driven by indirect climate effects. Nature Communications, 2021, 12, 1242.	5.8	46
54	Beyond ecosystem modeling: A roadmap to community cyberinfrastructure for ecological dataâ€model integration. Global Change Biology, 2021, 27, 13-26.	4.2	44

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55	Emergent climate and <scp>CO</scp>₂ sensitivities of net primary productivity in ecosystem models do not agree with empirical data in temperate forests of eastern North America. Global Change Biology, 2017, 23, 2755-2767.	4.2	43
56	Spatial vs. temporal controls over soil fungal community similarity at continental and global scales. ISME Journal, 2019, 13, 2082-2093.	4.4	41
57	BETYdb: a yield, trait, and ecosystem service database applied to secondâ€generation bioenergy feedstock production. GCB Bioenergy, 2018, 10, 61-71.	2.5	40
58	Assessing Interactions Among Changing Climate, Management, and Disturbance in Forests: A Macrosystems Approach. BioScience, 2015, 65, 263-274.	2.2	38
59	Predicting yields of shortâ€rotation hybrid poplar (<i>Populus</i> spp.) for the United States through modelâ€“data synthesis. Ecological Applications, 2013, 23, 944-958.	1.8	36
60	Declining Radial Growth Response of Coastal Forests to Hurricanes and Nor'easters. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 832-849.	1.3	34
61	Probing the limits of predictability: data assimilation of chaotic dynamics in complex food webs. Ecology Letters, 2018, 21, 93-103.	3.0	33
62	The PROFOUND Database for evaluating vegetation models and simulating climate impacts on European forests. Earth System Science Data, 2020, 12, 1295-1320.	3.7	33
63	Evaluating the agreement between measurements and models of net ecosystem exchange at different times and timescales using wavelet coherence: an example using data from the North American Carbon Program Site-Level Interim Synthesis. Biogeosciences, 2013, 10, 6893-6909.	1.3	30
64	Modelâ€data assimilation of multiple phenological observations to constrain and predict leaf area index. Ecological Applications, 2015, 25, 546-558.	1.8	30
65	Alteration of forest succession and carbon cycling under elevated CO₂. Global Change Biology, 2016, 22, 351-363.	4.2	30
66	Effects of the COVID-19 pandemic on noise pollution in three protected areas in metropolitan Boston (USA). Biological Conservation, 2021, 256, 109039.	1.9	30
67	Climatic history of the northeastern United States during the past 3000 years. Climate of the Past, 2017, 13, 1355-1379.	1.3	29
68	The biophysics, ecology, and biogeochemistry of functionally diverse, vertically and horizontally heterogeneous ecosystems: the Ecosystem Demography model, version 2.2 â€“ Part 2: Model evaluation for tropical South America. Geoscientific Model Development, 2019, 12, 4347-4374.	1.3	29
69	Ecological forecasting of tree growth: Regional fusion of treeâ€ring and forest inventory data to quantify drivers and characterize uncertainty. Global Change Biology, 2022, 28, 2442-2460.	4.2	29
70	North American tree migration paced by climate in the West, lagging in the East. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	27
71	Sub-daily Statistical Downscaling of Meteorological Variables Using Neural Networks. Procedia Computer Science, 2012, 9, 887-896.	1.2	24
72	Harvesting Carbon from Eastern US Forests: Opportunities and Impacts of an Expanding Bioenergy Industry. Forests, 2012, 3, 370-397.	0.9	24

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73	Carbon and energy fluxes in cropland ecosystems: a model-data comparison. Biogeochemistry, 2016, 129, 53-76.	1.7	24
74	Guidelines and considerations for designing field experiments simulating precipitation extremes in forest ecosystems. Methods in Ecology and Evolution, 2018, 9, 2310-2325.	2.2	24
75	Unraveling the relative role of light and water competition between lianas and trees in tropical forests: A vegetation model analysis. Journal of Ecology, 2021, 109, 519-540.	1.9	24
76	Reanalysis in Earth System Science: Toward Terrestrial Ecosystem Reanalysis. Reviews of Geophysics, 2021, 59, e2020RG000715.	9.0	24
77	Forecasting a bright future for ecology. Frontiers in Ecology and the Environment, 2019, 17, 3-3.	1.9	23
78	Soil microbiome predictability increases with spatial and taxonomic scale. Nature Ecology and Evolution, 2021, 5, 747-756.	3.4	23
79	Does the leaf economic spectrum hold within plant functional types? A Bayesian multivariate trait metaâ€analysis. Ecological Applications, 2020, 30, e02064.	1.8	22
80	Towards robust statistical inference for complex computer models. Ecology Letters, 2021, 24, 1251-1261.	3.0	22
81	A reporting format for leaf-level gas exchange data and metadata. Ecological Informatics, 2021, 61, 101232.	2.3	22
82	What Limits Predictive Certainty of Longâ€Term Carbon Uptake?. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 3570-3588.	1.3	21
83	Alternative stable states of the forest mycobiome are maintained through positive feedbacks. Nature Ecology and Evolution, 2022, 6, 375-382.	3.4	21
84	Limits to reproduction and seed size-number trade-offs that shape forest dominance and future recovery. Nature Communications, 2022, 13, 2381.	5.8	21
85	A Predictive Framework to Understand Forest Responses to Global Change. Annals of the New York Academy of Sciences, 2009, 1162, 221-236.	1.8	20
86	Benchmarking historical CMIP5 plant functional types across the Upper Midwest and Northeastern United States. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 523-535.	1.3	19
87	Adding Tree Rings to North America's National Forest Inventories: An Essential Tool to Guide Drawdown of Atmospheric CO2. BioScience, 2022, 72, 233-246.	2.2	18
88	Ecophysiological screening of tree species for biomass production: trade-off between production and water use. Ecosphere, 2013, 4, art138.	1.0	16
89	Cutting out the middleman: calibrating and validating a dynamic vegetation model (ED2-PROSPECT5) using remotely sensed surface reflectance. Geoscientific Model Development, 2021, 14, 2603-2633.	1.3	16
90	Improving the monitoring of deciduous broadleaf phenology using the Geostationary Operational Environmental Satellite (GOES) 16 and 17. Biogeosciences, 2021, 18, 1971-1985.	1.3	15

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91	An ecosystem-scale model for the spread of a host-specific forest pathogen in the Greater Yellowstone Ecosystem. , 2011, 21, 1138-1153.		14
92	Bridging the divide between ecological forecasts and environmental decision making. Ecosphere, 2021, 12, .	1.0	14
93	Brown Dog: Leveraging everything towards autocuration. , 2015, , .		13
94	The influence of canopy radiation parameter uncertainty on model projections of terrestrial carbon and energy cycling. PLoS ONE, 2019, 14, e0216512.	1.1	13
95	A hierarchical Bayesian approach to the classification of C3 and C4 grass pollen based on SPIRAL Î´13C data. Geochimica Et Cosmochimica Acta, 2013, 121, 168-176.	1.6	12
96	Training macrosystems scientists requires both interpersonal and technical skills. Frontiers in Ecology and the Environment, 2021, 19, 39-46.	1.9	12
97	Globally, tree fecundity exceeds productivity gradients. Ecology Letters, 2022, 25, 1471-1482.	3.0	11
98	A scalable algorithm for dispersing population. Journal of Intelligent Information Systems, 2007, 29, 39-61.	2.8	10
99	Liana optical traits increase tropical forest albedo and reduce ecosystem productivity. Global Change Biology, 2022, 28, 227-244.	4.2	10
100	Toward a Social-Ecological Theory of Forest Macrosystems for Improved Ecosystem Management. Forests, 2018, 9, 200.	0.9	9
101	Forest responses to lastâ€millennium hydroclimate variability are governed by spatial variations in ecosystem sensitivity. Ecology Letters, 2021, 24, 498-508.	3.0	7
102	A scalable simulator for forest dynamics. , 2004, , .		6
103	A Statistical Model for Estimating Midday NDVI from the Geostationary Operational Environmental Satellite (GOES) 16 and 17. Remote Sensing, 2019, 11, 2507.	1.8	6
104	Using nearâ€term forecasts and uncertainty partitioning to inform prediction of oligotrophic lake cyanobacterial density. Ecological Applications, 2022, 32, e2590.	1.8	6
105	Development of an open-source regional data assimilation system in PEcAn v. 1.7.2: application to carbon cycle reanalysis across the contiguous US using SIPNET. Geoscientific Model Development, 2022, 15, 3233-3252.	1.3	6
106	Targeting Extreme Events: Complementing Near-Term Ecological Forecasting With Rapid Experiments and Regional Surveys. Frontiers in Environmental Science, 2019, 7, .	1.5	5
107	The Terrestrial Biosphere Model Farm. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	5
108	An Architecture for Automatic Deployment of Brown Dog Services at Scale into Diverse Computing Infrastructures. , 2016, , .		4

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109	Brown Dog. , 2018, , .		4
110	Scaling Contagious Disturbance: A Spatially-Implicit Dynamic Model. Frontiers in Ecology and Evolution, 2019, 7, .	1.1	4
111	Translating Probability Density Functions: From R to BUGS and Back Again. R Journal, 2013, 5, 207.	0.7	4
112	Autocuration Cyberinfrastructure for Scientific Discovery and Preservation. , 2015, , .		2
113	Identifying Data Needed to Reduce Parameter Uncertainty in a Coupled Microbial Soil C and N Decomposition Model. Journal of Geophysical Research G: Biogeosciences, 2021, 126, .	1.3	0