

# Stephen W Pacala

## List of Publications by Year in descending order

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Version: 2024-02-01

59  
papers

12,485  
citations

101543

36  
h-index

149698

56  
g-index

60  
all docs

60  
docs citations

60  
times ranked

17025  
citing authors

#	ARTICLE	IF	CITATIONS
1	A Large and Persistent Carbon Sink in the World's Forests. <i>Science</i> , 2011, 333, 988-993.	12.6	5,393
2	Greater focus needed on methane leakage from natural gas infrastructure. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012, 109, 6435-6440.	7.1	576
3	The emergence and promise of functional biogeography. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 13690-13696.	7.1	525
4	Assessment of methane emissions from the U.S. oil and gas supply chain. <i>Science</i> , 2018, 361, 186-188.	12.6	519
5	Contributions of Land-Use History to Carbon Accumulation in U.S. Forests. <i>Science</i> , 2000, 290, 1148-1151.	12.6	452
6	Climate-driven risks to the climate mitigation potential of forests. <i>Science</i> , 2020, 368, .	12.6	346
7	Carbon cycling under 300 years of land use change: Importance of the secondary vegetation sink. <i>Global Biogeochemical Cycles</i> , 2009, 23, .	4.9	338
8	Hydraulic diversity of forests regulates ecosystem resilience during drought. <i>Nature</i> , 2018, 561, 538-541.	27.8	332
9	Microbe-driven turnover offsets mineral-mediated storage of soil carbon under elevated CO <sub>2</sub> . <i>Nature Climate Change</i> , 2014, 4, 1099-1102.	18.8	309
10	POPULATION REGULATION: HISTORICAL CONTEXT AND CONTEMPORARY CHALLENGES OF OPEN VS. CLOSED SYSTEMS. <i>Ecology</i> , 2002, 83, 1490-1508.	3.2	307
11	Predictive Models of Forest Dynamics. <i>Science</i> , 2008, 320, 1452-1453.	12.6	306
12	Optimal stomatal behavior with competition for water and risk of hydraulic impairment. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016, 113, E7222-E7230.	7.1	215
13	Reconciling divergent estimates of oil and gas methane emissions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 15597-15602.	7.1	209
14	SCALING FROM TREES TO FORESTS: TRACTABLE MACROSCOPIC EQUATIONS FOR FOREST DYNAMICS. <i>Ecological Monographs</i> , 2008, 78, 523-545.	5.4	208
15	Nitrogen cycling and feedbacks in a global dynamic land model. <i>Global Biogeochemical Cycles</i> , 2010, 24, .	4.9	173
16	Effects of social group size on information transfer and task allocation. <i>Evolutionary Ecology</i> , 1996, 10, 127-165.	1.2	161
17	Successional diversity and forest ecosystem function. <i>Ecological Research</i> , 2001, 16, 895-903.	1.5	142
18	BEYOND POTENTIAL VEGETATION: COMBINING LIDAR DATA AND A HEIGHT-STRUCTURED MODEL FOR CARBON STUDIES. , 2004, 14, 873-883.		134

#	ARTICLE	IF	CITATIONS
19	Woody plants optimise stomatal behaviour relative to hydraulic risk. <i>Ecology Letters</i> , 2018, 21, 968-977.	6.4	109
20	Natural climate solutions are not enough. <i>Science</i> , 2019, 363, 933-934.	12.6	104
21	Divergent drivers of leaf trait variation within species, among species, and among functional groups. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 5480-5485.	7.1	94
22	Resource limitation in a competitive context determines complex plant responses to experimental resource additions. <i>Ecology</i> , 2013, 94, 2505-2517.	3.2	92
23	Tropical nighttime warming as a dominant driver of variability in the terrestrial carbon sink. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 15591-15596.	7.1	92
24	LINEAR ANALYSIS OF SOIL DECOMPOSITION: INSIGHTS FROM THE CENTURY MODEL. , 1998, 8, 425-439.		91
25	Convergence of bark investment according to fire and climate structures ecosystem vulnerability to future change. <i>Ecology Letters</i> , 2017, 20, 307-316.	6.4	90
26	Competition for Water and Light in Closed-Canopy Forests: A Tractable Model of Carbon Allocation with Implications for Carbon Sinks. <i>American Naturalist</i> , 2013, 181, 314-330.	2.1	87
27	Bias in the detection of negative density dependence in plant communities. <i>Ecology Letters</i> , 2019, 22, 1923-1939.	6.4	84
28	Unmask temporal trade-offs in climate policy debates. <i>Science</i> , 2017, 356, 492-493.	12.6	80
29	Plant water potential improves prediction of empirical stomatal models. <i>PLoS ONE</i> , 2017, 12, e0185481.	2.5	77
30	The exploitative segregation of plant roots. <i>Science</i> , 2020, 370, 1197-1199.	12.6	70
31	Contrasting Local versus Regional Effects of Land-Use-Change-Induced Heterogeneity on Historical Climate: Analysis with the GFDL Earth System Model. <i>Journal of Climate</i> , 2015, 28, 5448-5469.	3.2	60
32	Decreased water limitation under elevated CO <sub>2</sub> amplifies potential for forest carbon sinks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015, 112, 7213-7218.	7.1	53
33	FISH AGGREGATION RESULTS IN INVERSELY DENSITY-DEPENDENT PREDATION ON CONTINUOUS CORAL REEFS. <i>Ecology</i> , 2005, 86, 1520-1530.	3.2	51
34	ERROR PROPAGATION IN A FOREST SUCCESSION MODEL:THE ROLE OF FINE-SCALE HETEROGENEITY IN LIGHT. <i>Ecology</i> , 1999, 80, 1927-1943.	3.2	50
35	A forest structure model that determines crown layers and partitions growth and mortality rates for landscape-scale applications of tropical forests. <i>Journal of Ecology</i> , 2012, 100, 508-518.	4.0	48
36	Variations of leaf longevity in tropical moist forests predicted by a trait-driven carbon optimality model. <i>Ecology Letters</i> , 2017, 20, 1097-1106.	6.4	48

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37	Impact of historical land cover change on the July climate of the United States. <i>Journal of Geophysical Research</i> , 2003, 108, n/a-n/a.	3.3	47
38	Predicting shifts in the functional composition of tropical forests under increased drought and $\text{CO}_2$ from trade-offs among plant hydraulic traits. <i>Ecology Letters</i> , 2019, 22, 67-77.	6.4	43
39	Land use change and nitrogen feedbacks constrain the trajectory of the land carbon sink. <i>Geophysical Research Letters</i> , 2013, 40, 5218-5222.	4.0	40
40	Differential declines in Alaskan boreal forest vitality related to climate and competition. <i>Global Change Biology</i> , 2018, 24, 1097-1107.	9.5	37
41	Predicting vegetation type through physiological and environmental interactions with leaf traits: evergreen and deciduous forests in an earth system modeling framework. <i>Global Change Biology</i> , 2017, 23, 2482-2498.	9.5	33
42	Why are nitrogen-fixing trees rare at higher compared to lower latitudes?. <i>Ecology</i> , 2017, 98, 3127-3140.	3.2	32
43	Theory predicts a rapid transition from niche-structured to neutral biodiversity patterns across a speciation-rate gradient. <i>Theoretical Ecology</i> , 2011, 4, 195-200.	1.0	31
44	Allometric constraints and competition enable the simulation of size structure and carbon fluxes in a dynamic vegetation model of tropical forests (LM3PPA). <i>Global Change Biology</i> , 2020, 26, 4478-4494.	9.5	24
45	Functional groups, species and light interact with nutrient limitation during tropical rainforest sapling bottleneck. <i>Journal of Ecology</i> , 2018, 106, 157-167.	4.0	21
46	Interspecific vs intraspecific patterns in leaf nitrogen of forest trees across nitrogen availability gradients. <i>New Phytologist</i> , 2013, 200, 112-121.	7.3	20
47	A model-based meta-analysis for estimating species-specific wood density and identifying potential sources of variation. <i>Journal of Ecology</i> , 2014, 102, 194-208.	4.0	19
48	Maintenance of high diversity in mechanistic forest dynamics models of competition for light. <i>Ecological Monographs</i> , 2022, 92, .	5.4	16
49	Edge fires drive the shape and stability of tropical forests. <i>Ecology Letters</i> , 2018, 21, 794-803.	6.4	15
50	Species-Independent Down-Regulation of Leaf Photosynthesis and Respiration in Response to Shading: Evidence from Six Temperate Tree Species. <i>PLoS ONE</i> , 2014, 9, e91798.	2.5	15
51	Local diversity in heterogeneous landscapes: quantitative assessment with a height-structured forest metacommunity model. <i>Theoretical Ecology</i> , 2011, 4, 269-281.	1.0	12
52	The importance of Durrett and Levin (1994): "The importance of being discrete (and spatial)". <i>Theoretical Population Biology</i> , 2020, 133, 33-34.	1.1	9
53	Competition for water and species coexistence in phenologically structured annual plant communities. <i>Ecology Letters</i> , 2022, 25, 1110-1125.	6.4	7
54	Unusual characteristics of the carbon cycle during the 2015-2016 El Niño. <i>Global Change Biology</i> , 2021, 27, 3798-3809.	9.5	6

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55	Plant hydraulics, stomatal control, and the response of a tropical forest to water stress over multiple temporal scales. <i>Global Change Biology</i> , 2022, 28, 4359-4376.	9.5	6
56	Future paths for the "exploitative segregation of plant roots" model. <i>Plant Signaling and Behavior</i> , 2021, 16, 1891755.	2.4	3
57	Density-dependent speciation alters the structure and dynamics of neutral communities. <i>Journal of Theoretical Biology</i> , 2015, 372, 128-134.	1.7	1
58	The role of succession in the evolution of flammability. <i>Theoretical Ecology</i> , 2018, 11, 291-303.	1.0	1
59	Resolution of Respect Robert M. May (1936-2020). <i>Bulletin of the Ecological Society of America</i> , 2021, 102, e01769.	0.2	0