Stephen W Pacala

List of Publications by Year
in descending order

59 papers	12,485 citations	101384 36 h-index	149479 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 Worldâ€™s Forests. Science, 2011, 333, 988-993.	6.0	5,393
2	Greater focus needed on methane leakage from natural gas infrastructure. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 6435-6440.	3.3	576
3	The emergence and promise of functional biogeography. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13690-13696.	3.3	525
4	Assessment of methane emissions from the U.S. oil and gas supply chain. Science, 2018, 361, 186-188.	6.0	519
5	Contributions of Land-Use History to Carbon Accumulation in U.S. Forests. Science, 2000, 290, 1148-1151.	6.0	452
6	Climate-driven risks to the climate mitigation potential of forests. Science, 2020, 368, .	6.0	346
7	Carbon cycling under 300 years of land use change: Importance of the secondary vegetation sink. Global Biogeochemical Cycles, 2009, 23, .	1.9	338
8	Hydraulic diversity of forests regulates ecosystem resilience during drought. Nature, 2018, 561, 538-541.	13.7	332
9	Microbe-driven turnover offsets mineral-mediated storage of soil carbon under elevated CO2. Nature Climate Change, 2014, 4, 1099-1102.	8.1	309
10	POPULATION REGULATION: HISTORICAL CONTEXT AND CONTEMPORARY CHALLENGES OF OPEN VS. CLOSED SYSTEMS. Ecology, 2002, 83, 1490-1508.	1.5	307
11	Predictive Models of Forest Dynamics. Science, 2008, 320, 1452-1453.	6.0	306
12	Optimal stomatal behavior with competition for water and risk of hydraulic impairment. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7222-E7230.	3.3	215
13	Reconciling divergent estimates of oil and gas methane emissions. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15597-15602.	3.3	209
14	SCALING FROM TREES TO FORESTS: TRACTABLE MACROSCOPIC EQUATIONS FOR FOREST DYNAMICS. Ecological Monographs, 2008, 78, 523-545.	2.4	208
15	Nitrogen cycling and feedbacks in a global dynamic land model. Global Biogeochemical Cycles, 2010, 24, .	1.9	173
16	Effects of social group size on information transfer and task allocation. Evolutionary Ecology, 1996, 10, 127-165.	0.5	161
17	Successional diversity and forest ecosystem function. Ecological Research, 2001, 16, 895-903.	0.7	142
18	BEYOND POTENTIAL VEGETATION: COMBINING LIDAR DATA AND A HEIGHT-STRUCTURED MODEL FOR CARBON STUDIES. , 2004, 14, 873-883.		134

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19	Woody plants optimise stomatal behaviour relative to hydraulic risk. Ecology Letters, 2018, 21, 968-977.	3.0	109
20	Natural climate solutions are not enough. Science, 2019, 363, 933-934.	6.0	104
21	Divergent drivers of leaf trait variation within species, among species, and among functional groups. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5480-5485.	3.3	94
22	Resource limitation in a competitive context determines complex plant responses to experimental resource additions. Ecology, 2013, 94, 2505-2517.	1.5	92
23	Tropical nighttime warming as a dominant driver of variability in the terrestrial carbon sink. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15591-15596.	3.3	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. Ecology Letters, 2017, 20, 307-316.	3.0	90
26	Competition for Water and Light in Closed-Canopy Forests: A Tractable Model of Carbon Allocation with Implications for Carbon Sinks. American Naturalist, 2013, 181, 314-330.	1.0	87
27	Bias in the detection of negative density dependence in plant communities. Ecology Letters, 2019, 22, 1923-1939.	3.0	84
28	Unmask temporal trade-offs in climate policy debates. Science, 2017, 356, 492-493.	6.0	80
29	Plant water potential improves prediction of empirical stomatal models. PLoS ONE, 2017, 12, e0185481.	1.1	77
30	The exploitative segregation of plant roots. Science, 2020, 370, 1197-1199.	6.0	70
31	Contrasting Local versus Regional Effects of Land-Use-Change-Induced Heterogeneity on Historical Climate: Analysis with the GFDL Earth System Model. Journal of Climate, 2015, 28, 5448-5469.	1.2	60
32	Decreased water limitation under elevated CO ₂ amplifies potential for forest carbon sinks. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7213-7218.	3.3	53
33	FISH AGGREGATION RESULTS IN INVERSELY DENSITY-DEPENDENT PREDATION ON CONTINUOUS CORAL REEFS. Ecology, 2005, 86, 1520-1530.	1.5	51
34	ERROR PROPAGATION IN A FOREST SUCCESSION MODEL:THE ROLE OF FINE-SCALE HETEROGENEITY IN LIGHT. Ecology, 1999, 80, 1927-1943.	1.5	50
35	A forest structure model that determines crown layers and partitions growth and mortality rates for landscapeâ€scale applications of tropical forests. Journal of Ecology, 2012, 100, 508-518.	1.9	48
36	Variations of leaf longevity in tropical moist forests predicted by a traitâ€driven carbon optimality model. Ecology Letters, 2017, 20, 1097-1106.	3.0	48

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37	Impact of historical land cover change on the July climate of the United States. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	47
38	Predicting shifts in the functional composition of tropical forests under increased drought and <scp>CO</scp>₂ from tradeâ€offs among plant hydraulic traits. Ecology Letters, 2019, 22, 67-77.	3.0	43
39	Land use change and nitrogen feedbacks constrain the trajectory of the land carbon sink. Geophysical Research Letters, 2013, 40, 5218-5222.	1.5	40
40	Differential declines in Alaskan boreal forest vitality related to climate and competition. Global Change Biology, 2018, 24, 1097-1107.	4.2	37
41	Predicting vegetation type through physiological and environmental interactions with leaf traits: evergreen and deciduous forests in an earth system modeling framework. Global Change Biology, 2017, 23, 2482-2498.	4.2	33
42	Why are nitrogenâ€fixing trees rare at higher compared to lower latitudes?. Ecology, 2017, 98, 3127-3140.	1.5	32
43	Theory predicts a rapid transition from niche-structured to neutral biodiversity patterns across a speciation-rate gradient. Theoretical Ecology, 2011, 4, 195-200.	0.4	31
44	Allometric constraints and competition enable the simulation of size structure and carbon fluxes in a dynamic vegetation model of tropical forests (LM3PPAâ€TV). Global Change Biology, 2020, 26, 4478-4494.	4.2	24
45	Functional groups, species and light interact with nutrient limitation during tropical rainforest sapling bottleneck. Journal of Ecology, 2018, 106, 157-167.	1.9	21
46	Interspecific vs intraspecific patterns in leaf nitrogen of forest trees across nitrogen availability gradients. New Phytologist, 2013, 200, 112-121.	3.5	20
47	A modelâ€based metaâ€analysis for estimating speciesâ€specific wood density and identifying potential sources of variation. Journal of Ecology, 2014, 102, 194-208.	1.9	19
48	Maintenance of high diversity in mechanistic forest dynamics models of competition for light. Ecological Monographs, 2022, 92, .	2.4	16
49	Edge fires drive the shape and stability of tropical forests. Ecology Letters, 2018, 21, 794-803.	3.0	15
50	Species-Independent Down-Regulation of Leaf Photosynthesis and Respiration in Response to Shading: Evidence from Six Temperate Tree Species. PLoS ONE, 2014, 9, e91798.	1.1	15
51	Local diversity in heterogeneous landscapes: quantitative assessment with a height-structured forest metacommunity model. Theoretical Ecology, 2011, 4, 269-281.	0.4	12
52	The importance of Durrett and Levin (1994): â€œThe importance of being discrete (and spatial)â€. Theoretical Population Biology, 2020, 133, 33-34.	0.5	9
53	Competition for water and species coexistence in phenologically structured annual plant communities. Ecology Letters, 2022, 25, 1110-1125.	3.0	7
54	Unusual characteristics of the carbon cycle during the 2015â^'2016 El NiÃ±o. Global Change Biology, 2021, 27, 3798-3809.	4.2	6

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55	Plant hydraulics, stomatal control, and the response of a tropical forest to water stress over multiple temporal scales. Global Change Biology, 2022, 28, 4359-4376.	4.2	6
56	Future paths for the â€˜exploitative segregation of plant rootsâ€™ model. Plant Signaling and Behavior, 2021, 16, 1891755.	1.2	3
57	Density-dependent speciation alters the structure and dynamics of neutral communities. Journal of Theoretical Biology, 2015, 372, 128-134.	0.8	1
58	The role of succession in the evolution of flammability. Theoretical Ecology, 2018, 11, 291-303.	0.4	1
59	Resolution of Respect Robert M. May (1936â€“2020). Bulletin of the Ecological Society of America, 2021, 102, e01769.	0.2	0