Benjamin Smith

List of Publications by Year
in descending order

140 papers	23,854 citations	18436 62 h-index	11030 137 g-index
187 all docs	187 docs citations	187 times ranked	22113 citing authors

#	Article	IF	Citations
1	Evaluation of ecosystem dynamics, plant geography and terrestrial carbon cycling in the LPJ dynamic global vegetation model. Global Change Biology, 2003, 9, 161-185.	4.2	2,681
2	Global response of terrestrial ecosystem structure and function to CO2 and climate change: results from six dynamic global vegetation models. Global Change Biology, 2001, 7, 357-373.	4.2	1,718
3	Ecosystem Service Supply and Vulnerability to Global Change in Europe. Science, 2005, 310, 1333-1337.	6.0	1,355
4	Modelling the role of agriculture for the 20th century global terrestrial carbon balance. Global Change Biology, 2007, 13, 679-706.	4.2	1,133
5	The dominant role of semi-arid ecosystems in the trend and variability of the land CO ₂ sink. Science, 2015, 348, 895-899.	6.0	1,002
6	A Consumer's Guide to Evenness Indices. Oikos, 1996, 76, 70.	1.2	980
7	Consequences of More Extreme Precipitation Regimes for Terrestrial Ecosystems. BioScience, 2008, 58, 811-821.	2.2	959
8	Climatic Control of the High-Latitude Vegetation Greening Trend and Pinatubo Effect. Science, 2002, 296, 1687-1689.	6.0	672
9	Representation of vegetation dynamics in the modelling of terrestrial ecosystems: comparing two contrasting approaches within European climate space. Global Ecology and Biogeography, 2001, 10, 621-637.	2.7	629
10	Recent trends and drivers of regional sources and sinks of carbon dioxide. Biogeosciences, 2015, 12, 653-679.	1.3	587
11	Vegetation demographics in Earth System Models: A review of progress and priorities. Global Change Biology, 2018, 24, 35-54.	4.2	478
12	Implications of incorporating N cycling and N limitations on primary production in an individual-based dynamic vegetation model. Biogeosciences, 2014, 11, 2027-2054.	1.3	476
13	Climate change and Arctic ecosystems: 2. Modeling, paleodata-model comparisons, and future projections. Journal of Geophysical Research, 2003, 108, .	3.3	429
14	Projecting the future distribution of European potential natural vegetation zones with a generalized, tree speciesâ€based dynamic vegetation model. Global Ecology and Biogeography, 2012, 21, 50-63.	2.7	372
15	Role of forest regrowth in global carbon sink dynamics. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 4382-4387.	3.3	370
16	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
17	Impact of soil moistureâ€climate feedbacks on CMIP5 projections: First results from the GLACEâ€CMIP5 experiment. Geophysical Research Letters, 2013, 40, 5212-5217.	1.5	314
18	Uncertainties in projected impacts of climate change on European agriculture and terrestrial ecosystems based on scenarios from regional climate models. Climatic Change, 2007, 81, 123-143.	1.7	304

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19	Process-based estimates of terrestrial ecosystem isoprene emissions: incorporating the effects of a direct CO₂-isoprene interaction. Atmospheric Chemistry and Physics, 2007, 7, 31-53.	1.9	276
20	CO₂ fertilization in temperate FACE experiments not representative of boreal and tropical forests. Global Change Biology, 2008, 14, 1531-1542.	4.2	276
21	Effects of parameter uncertainties on the modeling of terrestrial biosphere dynamics. Global Biogeochemical Cycles, 2005, 19, .	1.9	274
22	Representation of vegetation dynamics in the modelling of terrestrial ecosystems: comparing two contrasting approaches within European climate space. Global Ecology and Biogeography, 2001, 10, 621-637.	2.7	269
23	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
24	Climate change and Arctic ecosystems: 1. Vegetation changes north of 55Â°N between the last glacial maximum, mid-Holocene, and present. Journal of Geophysical Research, 2003, 108, .	3.3	261
25	Comparing and evaluating process-based ecosystem model predictions of carbon and water fluxes in major European forest biomes. Global Change Biology, 2005, 11, 2211-2233.	4.2	246
26	Robustness and uncertainty in terrestrial ecosystem carbon response to CMIP5 climate change projections. Environmental Research Letters, 2012, 7, 044008.	2.2	220
27	The fate of carbon in a mature forest under carbon dioxide enrichment. Nature, 2020, 580, 227-231.	13.7	218
28	Holocene land-cover reconstructions for studies on land cover-climate feedbacks. Climate of the Past, 2010, 6, 483-499.	1.3	214
29	Precipitation controls Sahel greening trend. Geophysical Research Letters, 2005, 32, .	1.5	195
30	The EC-Earth3 Earth system model for the Coupled Model Intercomparison Project 6. Geoscientific Model Development, 2022, 15, 2973-3020.	1.3	192
31	Tropical forests and the global carbon cycle: impacts of atmospheric carbon dioxide, climate change and rate of deforestation. Philosophical Transactions of the Royal Society B: Biological Sciences, 2004, 359, 331-343.	1.8	184
32	Modelâ€“data synthesis for the next generation of forest freeâ€air <scp>CO</scp>₂ enrichment (<scp>FACE</scp>) experiments. New Phytologist, 2016, 209, 17-28.	3.5	178
33	USING A GENERALIZED VEGETATION MODEL TO SIMULATE VEGETATION DYNAMICS IN NORTHEASTERN USA. Ecology, 2004, 85, 519-530.	1.5	177
34	Vulnerability of Mediterranean Basin ecosystems to climate change and invasion by exotic plant species. Journal of Biogeography, 2006, 33, 145-157.	1.4	152
35	Modelling Regional Climate Change Effects On Potential Natural Ecosystems in Sweden. Climatic Change, 2006, 78, 381-406.	1.7	148
36	Implementing plant hydraulic architecture within the LPJ Dynamic Global Vegetation Model. Global Ecology and Biogeography, 2006, 15, 567-577.	2.7	140

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37	Changes in European ecosystem productivity and carbon balance driven by regional climate model output. Global Change Biology, 2007, 13, 108-122.	4.2	135
38	Projected Changes in Terrestrial Carbon Storage in Europe under Climate and Land-use Change, 1990â€“2100. Ecosystems, 2007, 10, 380-401.	1.6	131
39	Properties of ecotones: Evidence from five ecotones objectively determined from a coastal vegetation gradient. Journal of Vegetation Science, 2003, 14, 579-590.	1.1	130
40	Simulating past and future dynamics of natural ecosystems in the United States. Global Biogeochemical Cycles, 2003, 17, n/a-n/a.	1.9	127
41	Exploring climatic and biotic controls on Holocene vegetation change in Fennoscandia. Journal of Ecology, 2008, 96, 247-259.	1.9	122
42	Implications of accounting for land use in simulations of ecosystem carbon cycling in Africa. Earth System Dynamics, 2013, 4, 385-407.	2.7	118
43	THE IMPORTANCE OF AGE-RELATED DECLINE IN FOREST NPP FOR MODELING REGIONAL CARBON BALANCES. , 2006, 16, 1555-1574.		116
44	Variability in the sensitivity among model simulations of permafrost and carbon dynamics in the permafrost region between 1960 and 2009. Global Biogeochemical Cycles, 2016, 30, 1015-1037.	1.9	116
45	A new version of the CABLE land surface model (Subversion revision r4601) incorporating land use and land cover change, woody vegetation demography, and a novel optimisation-based approach to plant coordination of photosynthesis. Geoscientific Model Development, 2018, 11, 2995-3026.	1.3	114
46	Regeneration in Gap Models: Priority Issues for Studying Forest Responses to Climate Change. Climatic Change, 2001, 51, 475-508.	1.7	111
47	CO₂ inhibition of global terrestrial isoprene emissions: Potential implications for atmospheric chemistry. Geophysical Research Letters, 2007, 34, .	1.5	111
48	Tundra shrubification and tree-line advance amplify arctic climate warming: results from an individual-based dynamic vegetation model. Environmental Research Letters, 2013, 8, 034023.	2.2	107
49	Important role of forest disturbances in the global biomass turnover and carbon sinks. Nature Geoscience, 2019, 12, 730-735.	5.4	105
50	High-resolution regional simulation of last glacial maximum climate in Europe. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 63, 107.	0.8	101
51	Higher than expected CO₂ fertilization inferred from leaf to global observations. Global Change Biology, 2020, 26, 2390-2402.	4.2	98
52	Quantifying the effects of land use and climate on Holocene vegetation in Europe. Quaternary Science Reviews, 2017, 171, 20-37.	1.4	97
53	LIFE HISTORY DIFFERENCES AND TREE SPECIES COEXISTENCE IN AN OLD-GROWTH NEW ZEALAND RAIN FOREST. Ecology, 1998, 79, 795-806.	1.5	92
54	Sensitivity of African biomes to changes in the precipitation regime. Global Ecology and Biogeography, 2006, 15, 258-270.	2.7	86

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55	Parameter uncertainties in the modelling of vegetation dynamicsâ€"Effects on tree community structure and ecosystem functioning in European forest biomes. Ecological Modelling, 2008, 216, 277-290.	1.2	86
56	Estimating carbon emissions from African wildfires. Biogeosciences, 2009, 6, 349-360.	1.3	84
57	Future changes in the Baltic Sea acidâ€“base (pH) and oxygen balances. Tellus, Series B: Chemical and Physical Meteorology, 2022, 64, 19586.	0.8	84
58	Hot spots of vegetationâ€climate feedbacks under future greenhouse forcing in Europe. Journal of Geophysical Research, 2010, 115, .	3.3	78
59	Using models to guide field experiments: <i>a priori</i> predictions for the <scp>CO</scp>₂ response of a nutrientâ€and waterâ€limited native Eucalypt woodland. Global Change Biology, 2016, 22, 2834-2851.	4.2	77
60	Guess the impact of Ips typographusâ€"An ecosystem modelling approach for simulating spruce bark beetle outbreaks. Agricultural and Forest Meteorology, 2012, 166-167, 188-200.	1.9	74
61	Sensitivity of African biomes to changes in the precipitation regime. Global Ecology and Biogeography, 2006, 15, 258-270.	2.7	73
62	Implications of future climate and atmospheric CO₂ content for regional biogeochemistry, biogeography and ecosystem services across East Africa. Global Change Biology, 2010, 16, 617-640.	4.2	71
63	A model of the coupled dynamics of climate, vegetation and terrestrial ecosystem biogeochemistry for regional applications. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 63, 87.	0.8	70
64	Regional climate model simulations for Europe at 6 and 0.2 k BP: sensitivity to changes in anthropogenic deforestation. Climate of the Past, 2014, 10, 661-680.	1.3	68
65	Title is missing!. Climatic Change, 2001, 51, 307-347.	1.7	67
66	Modelling Tundra Vegetation Response to Recent Arctic Warming. Ambio, 2012, 41, 281-291.	2.8	66
67	Carbon cycle responses of semiâ€arid ecosystems to positive asymmetry in rainfall. Global Change Biology, 2017, 23, 793-800.	4.2	66
68	Combining remote sensing data with process modelling to monitor boreal conifer forest carbon balances. Forest Ecology and Management, 2008, 255, 3985-3994.	1.4	65
69	Importance of vegetation dynamics for future terrestrial carbon cycling. Environmental Research Letters, 2015, 10, 054019.	2.2	60
70	Nitrogen cycling in CMIP6 land surface models: progress and limitations. Biogeosciences, 2020, 17, 5129-5148.	1.3	60
71	The Relation between Community Biomass and Evenness: What Does Community Theory Predict, and Can These Predictions Be Tested?. Oikos, 1998, 82, 295.	1.2	59
72	Modelling past and future peatland carbon dynamics across the panâ€Arctic. Global Change Biology, 2020, 26, 4119-4133.	4.2	58

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73	Climate data induced uncertainty in model-based estimations of terrestrial primary productivity. Environmental Research Letters, 2017, 12, 064013.	2.2	55
74	Nitrogen feedbacks increase future terrestrial ecosystem carbon uptake in an individual-based dynamic vegetation model. Biogeosciences, 2014, 11, 6131-6146.	1.3	54
75	Biogeophysical feedbacks enhance the Arctic terrestrial carbon sink in regional Earth system dynamics. Biogeosciences, 2014, 11, 5503-5519.	1.3	53
76	Estimating potential forest NPP, biomass and their climatic sensitivity in New England using a dynamic ecosystem model. Ecosphere, 2010, 1, 1-20.	1.0	50
77	Spring photosynthetic onset and net <scp>CO</scp>₂ uptake in Alaska triggered by landscape thawing. Global Change Biology, 2018, 24, 3416-3435.	4.2	48
78	Modelling the response of yields and tissue C : N to changes in atmospheric CO₂ and N management in the main wheat regions of western Europe. Biogeosciences, 2015, 12, 2489-2515.	1.3	47
79	Terrestrial ecosystem model performance in simulating productivity and its vulnerability to climate change in the northern permafrost region. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 430-446.	1.3	47
80	Vegetationâ€“climate feedbacks modulate rainfall patterns in Africa under future climate change. Earth System Dynamics, 2016, 7, 627-647.	2.7	46
81	An introduction to the European Terrestrial Ecosystem Modelling Activity. Global Ecology and Biogeography, 2001, 10, 581-593.	2.7	45
82	Challenges and opportunities in land surface modelling of savanna ecosystems. Biogeosciences, 2017, 14, 4711-4732.	1.3	45
83	Understanding the uncertainty in global forest carbon turnover. Biogeosciences, 2020, 17, 3961-3989.	1.3	45
84	Biogeochemical Control of the Coupled CO2â€“O2 System of the Baltic Sea: A Review of the Results of Baltic-C. Ambio, 2014, 43, 49-59.	2.8	42
85	Forest management facing climate change - an ecosystem model analysis of adaptation strategies. Mitigation and Adaptation Strategies for Global Change, 2015, 20, 201-220.	1.0	42
86	Key knowledge and data gaps in modelling the influence of CO2 concentration on the terrestrial carbon sink. Journal of Plant Physiology, 2016, 203, 3-15.	1.6	41
87	GCM characteristics explain the majority of uncertainty in projected 21st century terrestrial ecosystem carbon balance. Biogeosciences, 2013, 10, 1517-1528.	1.3	40
88	Soil carbon management in large-scale Earth system modelling: implications for crop yields and nitrogen leaching. Earth System Dynamics, 2015, 6, 745-768.	2.7	40
89	Too early to infer a global NPP decline since 2000. Geophysical Research Letters, 2012, 39, .	1.5	39
90	Evaluation of airâ€“soil temperature relationships simulated by land surface models during winter across the permafrost region. Cryosphere, 2016, 10, 1721-1737.	1.5	38

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91	Modelling past, present and future peatland carbon accumulation across the pan-Arctic region. Biogeosciences, 2017, 14, 4023-4044.	1.3	36
92	Dryland vegetation response to wet episode, not inherent shift in sensitivity to rainfall, behind Australia's role in 2011 global carbon sink anomaly. Global Change Biology, 2016, 22, 2315-2316.	4.2	35
93	Selfâ€Amplifying Feedbacks Accelerate Greening and Warming of the Arctic. Geophysical Research Letters, 2018, 45, 7102-7111.	1.5	35
94	The large influence of climate model bias on terrestrial carbon cycle simulations. Environmental Research Letters, 2017, 12, 014004.	2.2	33
95	Implementing storm damage in a dynamic vegetation model for regional applications in Sweden. Ecological Modelling, 2012, 247, 71-82.	1.2	32
96	A model inter-comparison study to examine limiting factors in modelling Australian tropical savannas. Biogeosciences, 2016, 13, 3245-3265.	1.3	32
97	Coupling carbon allocation with leaf and root phenology predicts treeâ€“grass partitioning along a savanna rainfall gradient. Biogeosciences, 2016, 13, 761-779.	1.3	32
98	Community convergence: Ecological and evolutionary. Folia Geobotanica, 2002, 37, 171-183.	0.4	31
99	The potential transient dynamics of forests in New England under historical and projected future climate change. Climatic Change, 2012, 114, 357-377.	1.7	31
100	Creating spatially continuous maps of past land cover from point estimates: A new statistical approach applied to pollen data. Ecological Complexity, 2014, 20, 127-141.	1.4	31
101	Low historical nitrogen deposition effect on carbon sequestration in the boreal zone. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 2542-2561.	1.3	29
102	A standâ€alone tree demography and landscape structure module for Earth system models. Geophysical Research Letters, 2013, 40, 5234-5239.	1.5	28
103	A stand-alone tree demography and landscape structure module for Earth system models: integration with inventory data from temperate and boreal forests. Biogeosciences, 2014, 11, 4039-4055.	1.3	28
104	Dynamic Vegetation Simulations of the Midâ€Holocene Green Sahara. Geophysical Research Letters, 2018, 45, 8294-8303.	1.5	27
105	Impacts of Largeâ€Scale Sahara Solar Farms on Global Climate and Vegetation Cover. Geophysical Research Letters, 2021, 48, e2020GL090789.	1.5	27
106	Process contributions of Australian ecosystems to interannual variations in the carbon cycle. Environmental Research Letters, 2016, 11, 054013.	2.2	26
107	Frost and leafâ€size gradients in forests: global patterns and experimental evidence. New Phytologist, 2018, 219, 565-573.	3.5	26
108	Assessment of model estimates of land-atmosphere CO₂ exchange across Northern Eurasia. Biogeosciences, 2015, 12, 4385-4405.	1.3	25

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109	Impacts of changing frost regimes on Swedish forests: Incorporating cold hardiness in a regional ecosystem model. Ecological Modelling, 2010, 221, 303-313.	1.2	24
110	Modelling of growing season methane fluxes in a high-Arctic wet tundra ecosystem 1997â€“2010 using in situ and high-resolution satellite data. Tellus, Series B: Chemical and Physical Meteorology, 2013, 65, 19722.	0.8	24
111	Contribution of Dynamic Vegetation Phenology to Decadal Climate Predictability. Journal of Climate, 2014, 27, 8563-8577.	1.2	22
112	Modelling Holocene peatland dynamics with an individual-based dynamic vegetation model. Biogeosciences, 2017, 14, 2571-2596.	1.3	20
113	Drivers of dissolved organic carbon export in a subarctic catchment: Importance of microbial decomposition, sorption-desorption, peatland and lateral flow. Science of the Total Environment, 2018, 622-623, 260-274.	3.9	20
114	Carbon budget estimation of a subarctic catchment using a dynamic ecosystem model at high spatial resolution. Biogeosciences, 2015, 12, 2791-2808.	1.3	19
115	Applications of the Google Earth Engine and Phenology-Based Threshold Classification Method for Mapping Forest Cover and Carbon Stock Changes in Siem Reap Province, Cambodia. Remote Sensing, 2020, 12, 3110.	1.8	19
116	Impacts of land use on climate and ecosystem productivity over the Amazon and the South American continent. Environmental Research Letters, 2017, 12, 054016.	2.2	18
117	A Functional Analysis of New Zealand Alpine Vegetation: Variation in Canopy Roughness and Functional Diversity in Response to an Experimental Wind Barrier. Functional Ecology, 1995, 9, 904.	1.7	17
118	Simulated high-latitude soil thermal dynamics during the past 4 decades. Cryosphere, 2016, 10, 179-192.	1.5	17
119	Nitrogen leaching from natural ecosystems under global change: a modelling study. Earth System Dynamics, 2017, 8, 1121-1139.	2.7	17
120	Accounting for forest management in the estimation of forest carbon balance using the dynamic vegetation model LPJ-GUESS (v4.0, r9710): implementation and evaluation of simulations for Europe. Geoscientific Model Development, 2021, 14, 6071-6112.	1.3	17
121	Climate Sensitivity Controls Uncertainty in Future Terrestrial Carbon Sink. Geophysical Research Letters, 2018, 45, 4329-4336.	1.5	16
122	Biotic and Abiotic Drivers of Peatland Growth and Microtopography: A Model Demonstration. Ecosystems, 2018, 21, 1196-1214.	1.6	15
123	Approaching the potential of model-data comparisons of global land carbon storage. Scientific Reports, 2019, 9, 3367.	1.6	15
124	Methods for testing for texture convergence using abundance data: a randomisation test and a method for comparing the shape of distributions. Community Ecology, 2001, 2, 57-66.	0.5	15
125	A strong mitigation scenario maintains climate neutrality of northern peatlands. One Earth, 2022, 5, 86-97.	3.6	14
126	Vegetation Pattern and Terrestrial Carbon Variation in Past Warm and Cold Climates. Geophysical Research Letters, 2019, 46, 8133-8143.	1.5	13

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127	Climate-related Change in Terrestrial and Freshwater Ecosystems. , 2008, , 221-308.		12
128	Mapping the Natural Distribution of Bamboo and Related Carbon Stocks in the Tropics Using Google Earth Engine, Phenological Behavior, Landsat 8, and Sentinel-2. Remote Sensing, 2020, 12, 3109.	1.8	11
129	Estimating Net Primary Production of Swedish Forest Landscapes by Combining Mechanistic Modeling and Remote Sensing. Ambio, 2009, 38, 316-324.	2.8	8
130	The Interplay of Recent Vegetation and Sea Ice Dynamicsâ€"Results From a Regional Earth System Model Over the Arctic. Geophysical Research Letters, 2020, 47, e2019GL085982.	1.5	7
131	Vegetationâ€Climate Feedbacks Enhance Spatial Heterogeneity of Panâ€Amazonian Ecosystem States Under Climate Change. Geophysical Research Letters, 2021, 48, e2020GL092001.	1.5	7
132	Implementing plant hydraulic architecture within the LPJ Dynamic Global Vegetation Model. Global Ecology and Biogeography, 2006, .	2.7	7
133	Matrix Approach to Land Carbon Cycle Modeling. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	7
134	Nitrogen restricts future sub-arctic treeline advance in an individual-based dynamic vegetation model. Biogeosciences, 2021, 18, 6329-6347.	1.3	6
135	Potential future dynamics of carbon fluxes and pools in New England forests and their climatic sensitivities: A modelâ€based study. Global Biogeochemical Cycles, 2014, 28, 286-299.	1.9	5
136	Responses of Arctic cyclones to biogeophysical feedbacks under future warming scenarios in a regional Earth system model. Environmental Research Letters, 2021, 16, 064076.	2.2	5
137	Impacts of climate mitigation strategies in the energy sector on global land use and carbon balance. Earth System Dynamics, 2017, 8, 773-799.	2.7	3
138	Examining the sensitivity of the terrestrial carbon cycle to the expression of El NiÃ±o. Biogeosciences, 2021, 18, 2181-2203.	1.3	2
139	High-resolution regional simulation of last glacial maximum climate in Europe. Tellus, Series A: Dynamic Meteorology and Oceanography, 2011, , .	0.8	2
140	Declining global leaf nitrogen content: smart resource use by flexible plants?. New Phytologist, 2022, 235, 1683-1685.	3.5	1