Ben Bond-Lamberty

List of Publications by Year
in descending order

157 papers	15,696 citations

23500

58 h-index

18606

119 g-index

225 all docs	225 docs citations	225 times ranked	19180 citing authors

#	Article	IF	Citations
1	RCP4.5: a pathway for stabilization of radiative forcing by 2100. Climatic Change, 2011, 109, 77-94.	1.7	1,238
2	Temperature-associated increases in the global soil respiration record. Nature, 2010, 464, 579-582.	13.7	1,230
3	TRY plant trait database â€" enhanced coverage and open access. Global Change Biology, 2020, 26, 119-188.	4.2	1,038
4	Implications of Limiting CO_2 Concentrations for Land Use and Energy. Science, 2009, 324, 1183-1186.	6.0	778
5	Pervasive shifts in forest dynamics in a changing world. Science, 2020, 368, .	6.0	576
6	A global relationship between the heterotrophic and autotrophic components of soil respiration?. Global Change Biology, 2004, 10, 1756-1766.	4.2	482
7	Plant functional trait change across a warming tundra biome. Nature, 2018, 562, 57-62.	13.7	451
8	Fire as the dominant driver of central Canadian boreal forest carbon balance. Nature, 2007, 450, 89-92.	13.7	441
9	A global database of soil respiration data. Biogeosciences, 2010, 7, 1915-1926.	1.3	437
10	Patterns of NPP, GPP, respiration, and NEP during boreal forest succession. Global Change Biology, 2011, 17, 855-871.	4.2	391
11	Effects of soil rewetting and thawing on soil gas fluxes: a review of current literature and suggestions for future research. Biogeosciences, 2012, 9, 2459-2483.	1.3	378
12	Globally rising soil heterotrophic respiration over recent decades. Nature, 2018, 560, 80-83.	13.7	360
13	The resilience and functional role of moss in boreal and arctic ecosystems. New Phytologist, 2012, 196, 49-67.	3.5	322
14	The SSP4: A world of deepening inequality. Global Environmental Change, 2017, 42, 284-296.	3.6	265
15	Effects of stand age and tree species on canopy transpiration and average stomatal conductance of boreal forests. Plant, Cell and Environment, 2005, 28, 660-678.	2.8	245
16	Net primary production and net ecosystem production of a boreal black spruce wildfire chronosequence. Global Change Biology, 2004, 10, 473-487.	4.2	244
17	A global map of urban extent from nightlights. Environmental Research Letters, 2015, 10, 054011.	2.2	228
18	Aboveground and belowground biomass and sapwood area allometric equations for six boreal tree species of northern Manitoba. Canadian Journal of Forest Research, 2002, 32, 1441-1450.	0.8	214

#	ARTICLE	IF	CITATIONS
19	GCAM v5.1: representing the linkages between energy, water, land, climate, and economic systems. Geoscientific Model Development, 2019, 12, 677-698.	1.3	211
20	Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment. Environmental Research Letters, 2016, 11, 034014.	2.2	199
21	Optical vegetation indices for monitoring terrestrial ecosystems globally. Nature Reviews Earth & Environment, 2022, 3, 477-493.	12.2	191
22	Mapping local and global variability in plant trait distributions. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E10937-E10946.	3.3	159
23	Representing the function and sensitivity of coastal interfaces in Earth system models. Nature Communications, 2020, 11, 2458.	5.8	153
24	Heterotrophic respiration in disturbed forests: A review with examples from North America. Journal of Geophysical Research, 2011, 116, .	3.3	137
25	Simulating the impacts of disturbances on forest carbon cycling in North America: Processes, data, models, and challenges. Journal of Geophysical Research, 2011, 116, .	3.3	129
26	Contribution of root respiration to soil surface CO_2 flux in a boreal black spruce chronosequence. Tree Physiology, 2004, 24, 1387-1395.	1.4	128
27	A moisture function of soil heterotrophic respiration that incorporates microscale processes. Nature Communications, 2018, 9, 2562.	5.8	124
28	BAAD: a Biomass And Allometry Database for woody plants. Ecology, 2015, 96, 1445-1445.	1.5	122
29	The influence of fire on carbon distribution and net primary production of boreal Larix gmelinii forests in north-eastern China. Global Change Biology, 2001, 7, 719-730.	4.2	121
30	Carbon distribution of a well- and poorly-drained black spruce fire chronosequence. Global Change Biology, 2003, 9, 1066-1079.	4.2	116
31	Observations and assessment of forest carbon dynamics following disturbance in North America. Journal of Geophysical Research, 2012, 117, .	3.3	112
32	Differences in soluble organic carbon chemistry in pore waters sampled from different pore size domains. Soil Biology and Biochemistry, 2017, 107, 133-143.	4.2	107
33	2.6: Limiting climate change to 450Âppm CO2 equivalent in the 21st century. Energy Economics, 2009, 31, S107-S120.	5.6	106
34	Leaf area dynamics of a boreal black spruce fire chronosequence. Tree Physiology, 2002, 22, 993-1001.	1.4	95
35	A simple object-oriented and open-source model for scientific and policy analyses of the global climate system â€" Hector v1.0. Geoscientific Model Development, 2015, 8, 939-955.	1.3	92
36	Networking our science to characterize the state, vulnerabilities, and management opportunities of soil organic matter. Global Change Biology, 2018, 24, e705-e718.	4.2	92

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37	Environmental controls on carbon dioxide flux from black spruce coarse woody debris. Oecologia, 2002, 132, 374-381.	0.9	91
38	Comparing ecosystem and soil respiration: Review and key challenges of tower-based and soil measurements. Agricultural and Forest Meteorology, 2018, 249, 434-443.	1.9	89
39	Shifts in pore connectivity from precipitation versus groundwater rewetting increases soil carbon loss after drought. Nature Communications, 2017, 8, 1335.	5.8	88
40	Effects of fire on regional evapotranspiration in the central Canadian boreal forest. Global Change Biology, 2009, 15, 1242-1254.	4.2	86
41	The value of soil respiration measurements for interpreting and modeling terrestrial carbon cycling. Plant and Soil, 2017, 413, 1-25.	1.8	81
42	Climate mitigation and the future of tropical landscapes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 19633-19638.	3.3	76
43	Annual carbon flux from woody debris for a boreal black spruce fire chronosequence. Journal of Geophysical Research, 2002, 107, WFX 1-1-WFX 1-10.	3.3	75
44	Disturbance legacies and climate jointly drive tree growth and mortality in an intensively studied boreal forest. Global Change Biology, 2014, 20, 216-227.	4.2	74
45	A comparison of trenched plot techniques for partitioning soil respiration. Soil Biology and Biochemistry, 2011, 43, 2108-2114.	4.2	72
46	Integrated human-earth system modeling—state of the science and future directions. Environmental Research Letters, 2018, 13, 063006.	2.2	72
47	Completing the data life cycle: using information management in macrosystems ecology research. Frontiers in Ecology and the Environment, 2014, 12, 24-30.	1.9	71
48	Synergy between land use and climate change increases future fire risk in Amazon forests. Earth System Dynamics, 2017, 8, 1237-1246.	2.7	71
49	Decomposition and Fragmentation of Coarse Woody Debris: Re-visiting a Boreal Black Spruce Chronosequence. Ecosystems, 2008, 11, 831-840.	1.6	70
50	Reimplementation of the Biome-BGC model to simulate successional change. Tree Physiology, 2005, 25, 413-424.	1.4	69
51	Soil surface CO2 flux in a boreal black spruce fire chronosequence. Journal of Geophysical Research, 2003, 108, WFX 5-1.	3.3	68
52	Woody debris along an upland chronosequence in boreal Manitoba and its impact on long-term carbon storage. Canadian Journal of Forest Research, 2005, 35, 472-482.	0.8	68
53	Spatial Predictions and Associated Uncertainty of Annual Soil Respiration at the Global Scale. Global Biogeochemical Cycles, 2019, 33, 1733-1745.	1.9	68
54	Carbon allocation in boreal black spruce forests across regions varying in soil temperature and precipitation. Global Change Biology, 2008, 14, 1503-1516.	4.2	65

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55	Seasonality of soil CO2 efflux in a temperate forest: Biophysical effects of snowpack and spring freeze–thaw cycles. Agricultural and Forest Meteorology, 2013, 177, 83-92.	1.9	65
56	Regional contribution to variability and trends of global gross primary productivity. Environmental Research Letters, 2017, 12, 105005.	2.2	65
57	The DOE E3SM v1.1 Biogeochemistry Configuration: Description and Simulated Ecosystem–Climate Responses to Historical Changes in Forcing. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001766.	1.3	65
58	Quantifying the role of fire in the Earth system – Part 2: Impact on the net carbon balance of global terrestrial ecosystems for the 20th century. Biogeosciences, 2014, 11, 1345-1360.	1.3	62
59	Soil carbon cycling proxies: Understanding their critical role in predicting climate change feedbacks. Global Change Biology, 2018, 24, 895-905.	4.2	61
60	Soil Respiration and Bacterial Structure and Function after 17 Years of a Reciprocal Soil Transplant Experiment. PLoS ONE, 2016, 11, e0150599.	1.1	60
61	Disturbance, complexity, and succession of net ecosystem production in North America's temperate deciduous forests. Ecosphere, 2016, 7, e01375.	1.0	60
62	Estimation of stand-level leaf area for boreal bryophytes. Oecologia, 2007, 151, 584-592.	0.9	57
63	Approaches to advance scientific understanding of macrosystems ecology. Frontiers in Ecology and the Environment, 2014, 12, 15-23.	1.9	57
64	Thinning Can Reduce Losses in Carbon Use Efficiency and Carbon Stocks in Managed Forests Under Warmer Climate. Journal of Advances in Modeling Earth Systems, 2018, 10, 2427-2452.	1.3	56
65	Spatiotemporal measurement and modeling of stand-level boreal forest soil temperatures. Agricultural and Forest Meteorology, 2005, 131, 27-40.	1.9	54
66	Ocean acidification over the next three centuries using a simple global climate carbon-cycle model: projections and sensitivities. Biogeosciences, 2016, 13, 4329-4342.	1.3	54
67	Pore-scale investigation on the response of heterotrophic respiration to moisture conditions in heterogeneous soils. Biogeochemistry, 2016, 131, 121-134.	1.7	54
68	Global plant trait relationships extend to the climatic extremes of the tundra biome. Nature Communications, 2020, 11, 1351.	5.8	52
69	Nitrogen dynamics of a boreal black spruce wildfire chronosequence. Biogeochemistry, 2006, 81, 1-16.	1.7	51
70	Improved simulation of poorly drained forests using Biome-BGC. Tree Physiology, 2007, 27, 703-715.	1.4	50
71	COSORE: A community database for continuous soil respiration and other soil–atmosphere greenhouse gas flux data. Global Change Biology, 2020, 26, 7268-7283.	4.2	50
72	From land use to land cover: restoring the afforestation signal in a coupled integrated assessment–earth system model and the implications for CMIP5 RCP simulations. Biogeosciences, 2014, 11, 6435-6450.	1.3	49

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73	Biospheric feedback effects in a synchronously coupled model of human and Earth systems. Nature Climate Change, 2017, 7, 496-500.	8.1	46
74	A Novel Modelling Approach for Predicting Forest Growth and Yield under Climate Change. PLoS ONE, 2015, 10, e0132066.	1.1	46
75	Impact of fire on global land surface air temperature and energy budget for the 20th century due to changes within ecosystems. Environmental Research Letters, 2017, 12, 044014.	2.2	45
76	The integrated Earth system model version 1: formulation and functionality. Geoscientific Model Development, 2015, 8, 2203-2219.	1.3	44
77	New Techniques and Data for Understanding the Global Soil Respiration Flux. Earth's Future, 2018, 6, 1176-1180.	2.4	44
78	A restructured and updated global soil respiration database (SRDB-V5). Earth System Science Data, 2021, 13, 255-267.	3.7	42
79	Carbon cycling in mature and regrowth forests globally. Environmental Research Letters, 2021, 16, 053009.	2.2	41
80	Quantifying and reducing the differences in forest CO_2-fluxes estimated by eddy covariance, biometric and chamber methods: A global synthesis. Agricultural and Forest Meteorology, 2017, 247, 93-103.	1.9	40
81	ForC: a global database of forest carbon stocks and fluxes. Ecology, 2018, 99, 1507-1507.	1.5	37
82	Quantifying and Mapping the Supply of and Demand for Carbon Storage and Sequestration Service from Urban Trees. PLoS ONE, 2015, 10, e0136392.	1.1	37
83	HESFIRE: a global fire model to explore the role of anthropogenic and weather drivers. Biogeosciences, 2015, 12, 887-903.	1.3	36
84	Estimating heterotrophic respiration at large scales: challenges, approaches, and next steps. Ecosphere, 2016, 7, e01380.	1.0	35
85	Soil texture and environmental conditions influence the biogeochemical responses of soils to drought and flooding. Communications Earth & Environment, 2021, 2, .	2.6	35
86	Application of multidimensional structural characterization to detect and describe moderate forest disturbance. Ecosphere, 2020, 11, e03156.	1.0	32
87	Spatial biases of information influence global estimates of soil respiration: How can we improve global predictions?. Global Change Biology, 2021, 27, 3923-3938.	4.2	32
88	Measurement and modelling of bryophyte evaporation in a boreal forest chronosequence. Ecohydrology, 2011, 4, 26-35.	1.1	30
89	Soil carbon dynamics during drying vs. rewetting: Importance of antecedent moisture conditions. Soil Biology and Biochemistry, 2021, 156, 108165.	4.2	30
90	Apparent temperature sensitivity of soil respiration can result from temperature driven changes in microbial biomass. Soil Biology and Biochemistry, 2019, 135, 286-293.	4.2	29

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91	Dynamics of fine roots in five Chinese temperate forests. Journal of Plant Research, 2010, 123, 497-507.	1.2	27
92	On linking an Earth system model to the equilibrium carbon representation of an economically optimizing land use model. Geoscientific Model Development, 2014, 7, 2545-2555.	1.3	26
93	Human impacts on 20th century fire dynamics and implications for global carbon and water trajectories. Global and Planetary Change, 2018, 162, 18-27.	1.6	25
94	Structure and parameter uncertainty in centennial projections of forest community structure and carbon cycling. Global Change Biology, 2020, 26, 6080-6096.	4.2	25
95	Historically inconsistent productivity and respiration fluxes in the global terrestrial carbon cycle. Nature Communications, 2022, 13, 1733.	5.8	25
96	Grand Challenges in Understanding the Interplay of Climate and Land Changes. Earth Interactions, 2017, 21, 1-43.	0.7	24
97	Temperature and moisture effects on greenhouse gas emissions from deep active-layer boreal soils. Biogeosciences, 2016, 13, 6669-6681.	1.3	22
98	Processes and mechanisms of coastal woodyâ€plant mortality. Global Change Biology, 2022, 28, 5881-5900.	4.2	22
99	The use of multiple measurement techniques to refine estimates of conifer needle geometry. Canadian Journal of Forest Research, 2003, 33, 101-105.	0.8	21
100	Sensitivity of climate mitigation strategies to natural disturbances. Environmental Research Letters, 2013, 8, 015018.	2.2	21
101	An open-access CMIP5 pattern library for temperature and precipitation: description and methodology. Earth System Science Data, 2017, 9, 281-292.	3.7	20
102	Simulation of boreal black spruce chronosequences: Comparison to field measurements and model evaluation. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	19
103	Decadalâ€Scale Recovery of Carbon Stocks After Wildfires Throughout the Boreal Forests. Global Biogeochemical Cycles, 2020, 34, e2020GB006612.	1.9	19
104	Multi-Year Lags between Forest Browning and Soil Respiration at High Northern Latitudes. PLoS ONE, 2012, 7, e50441.	1.1	18
105	Global patterns of forest autotrophic carbon fluxes. Global Change Biology, 2021, 27, 2840-2855.	4.2	18
106	A Dataâ€Driven Global Soil Heterotrophic Respiration Dataset and the Drivers of Its Interâ€Annual Variability. Global Biogeochemical Cycles, 2021, 35, e2020GB006918.	1.9	18
107	A new approach to evaluate the MODIS annual NPP product (MOD17A3) using forest field data from Turkey. International Journal of Remote Sensing, 2018, 39, 2560-2578.	1.3	17
108	Fldgen v1.0: an emulator with internal variability and spaceâ€"time correlation for Earth system models. Geoscientific Model Development, 2019, 12, 1477-1489.	1.3	17

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109	Forest Structural Complexity and Biomass Predict First-Year Carbon Cycling Responses to Disturbance. Ecosystems, 2021, 24, 699-712.	1.6	17
110	<i>gcamdata</i>: An R Package for Preparation, Synthesis, andÂTracking of Input Data for the GCAM Integrated Human-Earth Systems Model. Journal of Open Research Software, 2019, 7, 6.	2.7	17
111	The global contribution of roots to total soil respiration. Global Ecology and Biogeography, 2022, 31, 685-699.	2.7	17
112	Moderate forest disturbance as a stringent test for gap and big-leaf models. Biogeosciences, 2015, 12, 513-526.	1.3	16
113	Prediction of annual soil respiration from its flux at mean annual temperature. Agricultural and Forest Meteorology, 2020, 287, 107961.	1.9	16
114	Using greenhouse gas fluxes to define soil functional types. Plant and Soil, 2018, 423, 285-294.	1.8	15
115	Disturbanceâ€accelerated succession increases the production of a temperate forest. Ecological Applications, 2021, 31, e02417.	1.8	15
116	Aligning the Measurement of Microbial Diversity with Macroecological Theory. Frontiers in Microbiology, 2016, 7, 1487.	1.5	13
117	Running an open experiment: transparency and reproducibility in soil and ecosystem science. Environmental Research Letters, 2016, 11, 084004.	2.2	13
118	Data Sharing and Scientific Impact in Eddy Covariance Research. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 1440-1443.	1.3	13
119	Power laws and critical fragmentation in global forests. Scientific Reports, 2018, 8, 17766.	1.6	13
120	A multidimensional stability framework enhances interpretation and comparison of carbon cycling response to disturbance. Ecosphere, 2021, 12, e03800.	1.0	13
121	Exploring precipitation pattern scaling methodologies and robustness among CMIP5 models. Geoscientific Model Development, 2017, 10, 1889-1902.	1.3	12
122	Frozen Cropland Soil in Northeast China as Source of N2O and CO2 Emissions. PLoS ONE, 2014, 9, e115761.	1.1	12
123	The influence of increasing atmospheric CO_2, temperature, and vapor pressure deficit on seawaterâ€induced tree mortality. New Phytologist, 2022, 235, 1767-1779.	3.5	12
124	Simulations of ecosystem hydrological processes using a unified multi-scale model. Ecological Modelling, 2015, 296, 93-101.	1.2	10
125	Characteristics of human-climate feedbacks differ at different radiative forcing levels. Global and Planetary Change, 2019, 180, 126-135.	1.6	10
126	Leveraging observed soil heterotrophic respiration fluxes as a novel constraint on globalâ€scale models. Global Change Biology, 2021, 27, 5392-5403.	4.2	10

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127	Spatial dynamics of soil moisture and temperature in a black spruce boreal chronosequence. Canadian Journal of Forest Research, 2006, 36, 2794-2802.	0.8	9
128	Soil Respiration Variability and Correlation Across a Wide Range of Temporal Scales. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 3672-3683.	1.3	9
129	The &lt;i&gt;fortedata&lt;/i&gt; R package: open-science datasets from a manipulative experiment testing forest resilience. Earth System Science Data, 2021, 13, 943-952.	3.7	9
130	A reporting format for field measurements of soil respiration. Ecological Informatics, 2021, 62, 101280.	2.3	9
131	Coastal Forest Seawater Exposure Increases Stem Methane Concentration. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005915.	1.3	8
132	Active layer depth and soil properties impact specific leaf area variation and ecosystem productivity in a boreal forest. PLoS ONE, 2020, 15, e0232506.	1.1	8
133	Soil respiration across aÂpermafrost transition zone: spatial structure and environmental correlates. Biogeosciences, 2017, 14, 4341-4354.	1.3	7
134	Quantifying Human‐Mediated Carbon Cycle Feedbacks. Geophysical Research Letters, 2018, 45, 11,370.	1.5	7
135	Tree growth, transpiration, and water-use efficiency between shoreline and upland red maple (Acer) Tj ETQq1 1 0.784314 rgBT /Overlo	1.9	7
136	Aboveground Wood Production Is Sustained in the First Growing Season after Phloem-Disrupting Disturbance. Forests, 2020, 11, 1306.	0.9	7
137	Antecedent conditions determine the biogeochemical response of coastal soils to seawater exposure. Soil Biology and Biochemistry, 2021, 153, 108104.	4.2	7
138	A Guide to Using GitHub for Developing and Versioning Data Standards and Reporting Formats. Earth and Space Science, 2021, 8, e2021EA001797.	1.1	7
139	Spatial access and resource limitations control carbon mineralization in soils. Soil Biology and Biochemistry, 2021, 162, 108427.	4.2	7
140	Disturbance has variable effects on the structural complexity of a temperate forest landscape. Ecological Indicators, 2022, 140, 109004.	2.6	7
141	Initial Land Use/Cover Distribution Substantially Affects Global Carbon and Local Temperature Projections in the Integrated Earth System Model. Global Biogeochemical Cycles, 2020, 34, e2019GB006383.	1.9	6
142	A decreasing carbon allocation to belowground autotrophic respiration in global forest ecosystems. Science of the Total Environment, 2021, 798, 149273.	3.9	6
143	Revisiting diffusion-based moisture functions: why do they fail?. Soil Biology and Biochemistry, 2022, 165, 108525.	4.2	6
144	Disturbance legacies regulate coastal forest soil stability to changing salinity and inundation: A soil transplant experiment. Soil Biology and Biochemistry, 2022, 169, 108675.	4.2	6

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145	Localized basal area affects soil respiration temperature sensitivity in a coastal deciduous forest. Biogeosciences, 2020, 17, 771-780.	1.3	5
146	Consequences of Stand Age and Species' Functional Trait Changes on Ecosystem Water Use of Forests. Tree Physiology, 2011, , 481-505.	0.9	5
147	Structural complexity and primary production resistance are coupled in a temperate forest. Frontiers in Forests and Global Change, 0, 5, .	1.0	5
148	The effects of climate sensitivity and carbon cycle interactions on mitigation policy stringency. Climatic Change, 2015, 131, 35-50.	1.7	4
149	Joint emulation of Earth System Model temperature-precipitation realizations with internal variability and space-time and cross-variable correlation: fldgen v2.0 software description. PLoS ONE, 2019, 14, e0223542.	1.1	4
150	Collar Properties and Measurement Time Confer Minimal Bias Overall on Annual Soil Respiration Estimates in a Global Database. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG006066.	1.3	4
151	Climate Drives Modeled Forest Carbon Cycling Resistance and Resilience in the Upper Great Lakes Region, USA. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	1.3	4
152	Ideas and perspectives: Enhancing research and monitoring of carbon pools and land-to-atmosphere greenhouse gases exchange in developing countries. Biogeosciences, 2022, 19, 1435-1450.	1.3	4
153	HIRM v1.0: a hybrid impulse response model for climate modeling and uncertainty analyses. Geoscientific Model Development, 2021, 14, 365-375.	1.3	3
154	A permafrost implementation in the simple carbon–climate model Hector v.2.3pf. Geoscientific Model Development, 2021, 14, 4751-4767.	1.3	3
155	Inferring the effects of partial defoliation on the carbon cycle from forest structure: challenges and opportunities. Environmental Research Letters, 2022, 17, 011002.	2.2	3
156	Global vegetation model diversity and the risks of climate-driven ecosystem shifts. Environmental Research Letters, 2013, 8, 041004.	2.2	1
157	Peer review report 1 on "N and P fertilization reduced soil autotrophic and heterotrophic respiration in a young Cunninghamia lanceolata forest" Agricultural and Forest Meteorology, 2016, 217, 440-441.	1.9	0