Pierre Friedlingstein

List of Publications by Year
in descending order

242 papers	67,681 citations	1536 106 h-index	1009 236 g-index
327 all docs	327 docs citations	327 times ranked	47370 citing authors

#	Article	IF	Citations
1	Europe-wide reduction in primary productivity caused by the heat and drought in 2003. Nature, 2005, 437, 529-533.	27.8	3,245
2	The impacts of climate change on water resources and agriculture in China. Nature, 2010, 467, 43-51.	27.8	2,656
3	Climateâ€“Carbon Cycle Feedback Analysis: Results from the C4MIP Model Intercomparison. Journal of Climate, 2006, 19, 3337-3353.	3.2	2,647
4	Irreversible climate change due to carbon dioxide emissions. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 1704-1709.	7.1	2,294
5	The Scenario Model Intercomparison Project (ScenarioMIP) for CMIP6. Geoscientific Model Development, 2016, 9, 3461-3482.	3.6	2,084
6	A dynamic global vegetation model for studies of the coupled atmosphere-biosphere system. Global Biogeochemical Cycles, 2005, 19, .	4.9	1,755
7	Trends in the sources and sinks of carbon dioxide. Nature Geoscience, 2009, 2, 831-836.	12.9	1,746
8	Greening of the Earth and its drivers. Nature Climate Change, 2016, 6, 791-795.	18.8	1,675
9	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	9.9	1,477
10	Climate change projections using the IPSL-CM5 Earth System Model: from CMIP3 to CMIP5. Climate Dynamics, 2013, 40, 2123-2165.	3.8	1,425
11	Temporary reduction in daily global CO2 emissions during the COVID-19 forced confinement. Nature Climate Change, 2020, 10, 647-653.	18.8	1,408
12	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	9.9	1,167
13	Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. Nature, 2001, 414, 169-172.	27.8	1,162
14	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	9.9	1,159
15	Evaluation of the terrestrial carbon cycle, future plant geography and climateâ€carbon cycle feedbacks using five Dynamic Global Vegetation Models (DGVMs). Global Change Biology, 2008, 14, 2015-2039.	9.5	1,097
16	The dominant role of semi-arid ecosystems in the trend and variability of the land CO ₂ sink. Science, 2015, 348, 895-899.	12.6	1,002
17	Biophysical and economic limits to negative CO2 emissions. Nature Climate Change, 2016, 6, 42-50.	18.8	973
18	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937

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19	Net carbon dioxide losses of northern ecosystems in response to autumn warming. Nature, 2008, 451, 49-52.	27.8	930
20	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	9.9	905
21	Uncertainties in CMIP5 Climate Projections due to Carbon Cycle Feedbacks. Journal of Climate, 2014, 27, 511-526.	3.2	870
22	Surface Urban Heat Island Across 419 Global Big Cities. Environmental Science & Technology, 2012, 46, 696-703.	10.0	864
23	The HadGEM2-ES implementation of CMIP5 centennial simulations. Geoscientific Model Development, 2011, 4, 543-570.	3.6	803
24	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	9.9	801
25	The LMDZ4 general circulation model: climate performance and sensitivity to parametrized physics with emphasis on tropical convection. Climate Dynamics, 2006, 27, 787-813.	3.8	795
26	Permafrost carbon-climate feedbacks accelerate global warming. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14769-14774.	7.1	742
27	Regional Changes in Carbon Dioxide Fluxes of Land and Oceans Since 1980. Science, 2000, 290, 1342-1346.	12.6	680
28	Climatic Control of the High-Latitude Vegetation Greening Trend and Pinatubo Effect. Science, 2002, 296, 1687-1689.	12.6	672
29	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	9.9	663
30	Evaluation of terrestrial carbon cycle models for their response to climate variability and to <scp><scp>CO₂</scp></scp> trends. Global Change Biology, 2013, 19, 2117-2132.	9.5	617
31	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	9.9	616
32	Persistent growth of CO2 emissions and implications for reaching climate targets. Nature Geoscience, 2014, 7, 709-715.	12.9	615
33	Sensitivity of tropical carbon to climate change constrained by carbon dioxide variability. Nature, 2013, 494, 341-344.	27.8	608
34	Growing season extension and its impact on terrestrial carbon cycle in the Northern Hemisphere over the past 2 decades. Global Biogeochemical Cycles, 2007, 21, .	4.9	598
35	Recent trends and drivers of regional sources and sinks of carbon dioxide. Biogeosciences, 2015, 12, 653-679.	3.3	587
36	Carbonâ€“Concentration and Carbonâ€“Climate Feedbacks in CMIP5 Earth System Models. Journal of Climate, 2013, 26, 5289-5314.	3.2	576

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37	Update on CO2 emissions. Nature Geoscience, 2010, 3, 811-812.	12.9	561
38	The global carbon budget 1959â€"2011. Earth System Science Data, 2013, 5, 165-185.	9.9	527
39	Changes in climate and land use have a larger direct impact than rising CO ₂ on global river runoff trends. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 15242-15247.	7.1	504
40	Compensatory water effects link yearly global land CO2 sink changes to temperature. Nature, 2017, 541, 516-520.	27.8	480
41	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	9.9	463
42	Spring temperature change and its implication in the change of vegetation growth in North America from 1982 to 2006. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 1240-1245.	7.1	432
43	Spatiotemporal patterns of terrestrial gross primary production: A review. Reviews of Geophysics, 2015, 53, 785-818.	23.0	432
44	Emission budgets and pathways consistent with limiting warming to 1.5â€‰Â°C. Nature Geoscience, 2017, 10, 741-747.	12.9	422
45	Evidence for a weakening relationship between interannual temperature variability and northern vegetation activity. Nature Communications, 2014, 5, 5018.	12.8	414
46	The terrestrial biosphere as a net source of greenhouse gases to the atmosphere. Nature, 2016, 531, 225-228.	27.8	402
47	Evaluating the Land and Ocean Components of the Global Carbon Cycle in the CMIP5 Earth System Models. Journal of Climate, 2013, 26, 6801-6843.	3.2	398
48	ENVIRONMENT: Tropical Forests and Climate Policy. Science, 2007, 316, 985-986.	12.6	386
49	Water-use efficiency and transpiration across European forests during the Anthropocene. Nature Climate Change, 2015, 5, 579-583.	18.8	357
50	Effect of Anthropogenic Land-Use and Land-Cover Changes on Climate and Land Carbon Storage in CMIP5 Projections for the Twenty-First Century. Journal of Climate, 2013, 26, 6859-6881.	3.2	329
51	Carbon dioxide emissions continue to grow amidst slowly emerging climate policies. Nature Climate Change, 2020, 10, 3-6.	18.8	324
52	Climate mitigation from vegetation biophysical feedbacks during the past three decades. Nature Climate Change, 2017, 7, 432-436.	18.8	323
53	Recent global decline of CO ₂ fertilization effects on vegetation photosynthesis. Science, 2020, 370, 1295-1300.	12.6	317
54	Global carbon budget 2013. Earth System Science Data, 2014, 6, 235-263.	9.9	311

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55	Toward an allocation scheme for global terrestrial carbon models. Global Change Biology, 1999, 5, 755-770.	9.5	307
56	BELOWGROUND CONSEQUENCES OF VEGETATION CHANGE AND THEIR TREATMENT IN MODELS. , 2000, 10, 470-483.		295
57	Sharing a quota on cumulative carbon emissions. Nature Climate Change, 2014, 4, 873-879.	18.8	295
58	Positive feedback between future climate change and the carbon cycle. Geophysical Research Letters, 2001, 28, 1543-1546.	4.0	287
59	A two-fold increase of carbon cycle sensitivity to tropical temperature variations. Nature, 2014, 506, 212-215.	27.8	284
60	Historical carbon dioxide emissions caused by land-use changes are possibly larger than assumed. Nature Geoscience, 2017, 10, 79-84.	12.9	284
61	The status and challenge of global fire modelling. Biogeosciences, 2016, 13, 3359-3375.	3.3	274
62	A framework for benchmarking land models. Biogeosciences, 2012, 9, 3857-3874.	3.3	267
63	An observation-based constraint on permafrost loss as a function of global warming. Nature Climate Change, 2017, 7, 340-344.	18.8	257
64	How positive is the feedback between climate change and the carbon cycle?. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 692-700.	1.6	256
65	Carbonâ€“concentration and carbonâ€“climate feedbacks in CMIP6 models and their comparison to CMIP5 models. Biogeosciences, 2020, 17, 4173-4222.	3.3	255
66	A global prognostic scheme of leaf onset using satellite data. Global Change Biology, 2000, 6, 709-725.	9.5	251
67	Twenty-First-Century Compatible CO2 Emissions and Airborne Fraction Simulated by CMIP5 Earth System Models under Four Representative Concentration Pathways. Journal of Climate, 2013, 26, 4398-4413.	3.2	248
68	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.	9.5	246
69	Widespread seasonal compensation effects of spring warming on northern plant productivity. Nature, 2018, 562, 110-114.	27.8	240
70	Climate model projections from the Scenario Model Intercomparison ProjectÂ(ScenarioMIP) of CMIP6. Earth System Dynamics, 2021, 12, 253-293.	7.1	236
71	Key features of the IPSL ocean atmosphere model and its sensitivity to atmospheric resolution. Climate Dynamics, 2010, 34, 1-26.	3.8	235
72	Carbon and nitrogen cycle dynamics in the Oâ€CN land surface model: 2. Role of the nitrogen cycle in the historical terrestrial carbon balance. Global Biogeochemical Cycles, 2010, 24, .	4.9	235

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73	Terrestrial nitrogen feedbacks may accelerate future climate change. Geophysical Research Letters, 2010, 37, .	4.0	230
74	Direct and seasonal legacy effects of the 2018 heat wave and drought on European ecosystem productivity. Science Advances, 2020, 6, eaba2724.	10.3	229
75	Differences between carbon budget estimates unravelled. Nature Climate Change, 2016, 6, 245-252.	18.8	228
76	Quantifying Carbon Cycle Feedbacks. Journal of Climate, 2009, 22, 5232-5250.	3.2	225
77	Interannual variation of terrestrial carbon cycle: Issues and perspectives. Global Change Biology, 2020, 26, 300-318.	9.5	214
78	A Review of Uncertainties in Global Temperature Projections over the Twenty-First Century. Journal of Climate, 2008, 21, 2651-2663.	3.2	209
79	Long-Term Climate Change Commitment and Reversibility: An EMIC Intercomparison. Journal of Climate, 2013, 26, 5782-5809.	3.2	208
80	Effect of climate and CO2changes on the greening of the Northern Hemisphere over the past two decades. Geophysical Research Letters, 2006, 33, .	4.0	207
81	Predictability of biomass burning in response to climate changes. Global Biogeochemical Cycles, 2012, 26, .	4.9	201
82	The indirect global warming potential and global temperature change potential due to methane oxidation. Environmental Research Letters, 2009, 4, 044007.	5.2	199
83	Possible role of wetlands, permafrost, and methane hydrates in the methane cycle under future climate change: A review. Reviews of Geophysics, 2010, 48, .	23.0	199
84	On the contribution of CO2fertilization to the missing biospheric sink. Global Biogeochemical Cycles, 1995, 9, 541-556.	4.9	191
85	Latitudinal limits to the predicted increase of the peatland carbon sink with warming. Nature Climate Change, 2018, 8, 907-913.	18.8	188
86	C4MIP â€“ The Coupled Climateâ€“Carbon Cycle Model Intercomparison Project: experimental protocol for CMIP6. Geoscientific Model Development, 2016, 9, 2853-2880.	3.6	186
87	Spatiotemporal patterns of terrestrial carbon cycle during the 20th century. Global Biogeochemical Cycles, 2009, 23, .	4.9	180
88	On the magnitude of positive feedback between future climate change and the carbon cycle. Geophysical Research Letters, 2002, 29, 43-1-43-4.	4.0	178
89	Forest annual carbon cost: a globalâ€scale analysis of autotrophic respiration. Ecology, 2010, 91, 652-661.	3.2	171
90	Fossil CO2 emissions in the post-COVID-19 era. Nature Climate Change, 2021, 11, 197-199.	18.8	171

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91	Towards real-time verification of CO2 emissions. Nature Climate Change, 2017, 7, 848-850.	18.8	168
92	Global trends in carbon sinks and their relationships with CO2 and temperature. Nature Climate Change, 2019, 9, 73-79.	18.8	163
93	Multiple constraints on regional CO2flux variations over land and oceans. Global Biogeochemical Cycles, 2005, 19, .	4.9	154
94	Modeling fire and the terrestrial carbon balance. Global Biogeochemical Cycles, 2011, 25, n/a-n/a.	4.9	152
95	Increased control of vegetation on global terrestrial energy fluxes. Nature Climate Change, 2020, 10, 356-362.	18.8	152
96	Accelerating net terrestrial carbon uptake during the warming hiatus due to reduced respiration. Nature Climate Change, 2017, 7, 148-152.	18.8	151
97	Impact of land cover change on surface climate: Relevance of the radiative forcing concept. Geophysical Research Letters, 2007, 34, .	4.0	148
98	Late Holocene methane rise caused by orbitally controlled increase in tropical sources. Nature, 2011, 470, 82-85.	27.8	145
99	Persistence of climate changes due to a range of greenhouse gases. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 18354-18359.	7.1	144
100	Projected land photosynthesis constrained by changes in the seasonal cycle of atmospheric CO2. Nature, 2016, 538, 499-501.	27.8	137
101	Persistent fossil fuel growth threatens the Paris Agreement and planetary health. Environmental Research Letters, 2019, 14, 121001.	5.2	133
102	On the formation of highâ€latitude soil carbon stocks: Effects of cryoturbation and insulation by organic matter in a land surface model. Geophysical Research Letters, 2009, 36, .	4.0	132
103	Evaluation of global terrestrial evapotranspiration using state-of-the-art approaches in remote sensing, machine learning and land surface modeling. Hydrology and Earth System Sciences, 2020, 24, 1485-1509.	4.9	130
104	ESMValTool (v1.0) â€“ a community diagnostic and performance metrics tool for routine evaluation of Earth system models in CMIP. Geoscientific Model Development, 2016, 9, 1747-1802.	3.6	127
105	Change in snow phenology and its potential feedback to temperature in the Northern Hemisphere over the last three decades. Environmental Research Letters, 2013, 8, 014008.	5.2	125
106	A modified impulse-response representation of the global near-surface air temperature and atmospheric concentration response to carbon dioxide emissions. Atmospheric Chemistry and Physics, 2017, 17, 7213-7228.	4.9	120
107	Improved representation of plant functional types and physiology in the Joint UK Land Environment Simulator (JULES v4.2) using plant trait information. Geoscientific Model Development, 2016, 9, 2415-2440.	3.6	115
108	Emergent constraints on climateâ€carbon cycle feedbacks in the CMIP5 Earth system models. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 794-807.	3.0	113

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109	A strategy for climate change stabilization experiments. Eos, 2007, 88, 217-221.	0.1	111
110	Changes in climate extremes, fresh water availability and vulnerability to food insecurity projected at 1.5Â°C and 2Â°C global warming with a higher-resolution global climate model. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20160452.	3.4	110
111	Lower land-use emissions responsible for increased net land carbon sink during the slow warming period. Nature Geoscience, 2018, 11, 739-743.	12.9	110
112	Modelling the role of fires in the terrestrial carbon balance by incorporating SPITFIRE into the global vegetation model ORCHIDEE â€" Part 1: simulating historical global burned area and fire regimes. Geoscientific Model Development, 2014, 7, 2747-2767.	3.6	109
113	Climate-induced interannual variability of marine primary and export production in three global coupled climate carbon cycle models. Biogeosciences, 2008, 5, 597-614.	3.3	104
114	Measuring a fair and ambitious climate agreement using cumulative emissions. Environmental Research Letters, 2015, 10, 105004.	5.2	103
115	Three-dimensional transport and concentration of SF6. A model intercomparison study (TransCom 2). Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 266-297.	1.6	101
116	Reconciling global-model estimates and country reporting of anthropogenic forest CO2 sinks. Nature Climate Change, 2018, 8, 914-920.	18.8	101
117	Simulating the Earth system response to negative emissions. Environmental Research Letters, 2016, 11, 095012.	5.2	98
118	Benchmarking coupled climateâ€carbon models against longâ€term atmospheric CO₂ measurements. Global Biogeochemical Cycles, 2010, 24, .	4.9	97
119	Carbonâ€"climate feedbacks: a review of model and observation based estimates. Current Opinion in Environmental Sustainability, 2010, 2, 251-257.	6.3	94
120	The climate induced variation of the continental biosphere: A model simulation of the Last Glacial Maximum. Geophysical Research Letters, 1992, 19, 897-900.	4.0	93
121	Climate-CH₄ feedback from wetlands and its interaction with the climate-CO₂ feedback. Biogeosciences, 2011, 8, 2137-2157.	3.3	90
122	Three-dimensional transport and concentration of SF₆ A model intercomparison study (TransCom 2). Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 266.	1.6	88
123	Long-term climate implications of twenty-first century options for carbon dioxide emissionÂmitigation. Nature Climate Change, 2011, 1, 457-461.	18.8	87
124	Contribution of climate change and rising CO2 to terrestrial carbon balance in East Asia: A multi-model analysis. Global and Planetary Change, 2011, 75, 133-142.	3.5	84
125	The Origin and Limits of the Near Proportionality between Climate Warming and Cumulative CO2 Emissions. Journal of Climate, 2015, 28, 4217-4230.	3.2	83
126	Comparing concentrationâ€based (AOT40) and stomatal uptake (PODY) metrics for ozone risk assessment to European forests. Global Change Biology, 2016, 22, 1608-1627.	9.5	83

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127	Evaluation of Land Surface Models in Reproducing Satellite-Derived LAI over the High-Latitude Northern Hemisphere. Part I: Uncoupled DGVMs. Remote Sensing, 2013, 5, 4819-4838.	4.0	82
128	Controls on terrestrial carbon feedbacks by productivity versus turnover in the CMIP5 Earth System Models. Biogeosciences, 2015, 12, 5211-5228.	3.3	81
129	A model of the Earth's Dole effect. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	79
130	An improved representation of physical permafrost dynamics in the JULES land-surface model. Geoscientific Model Development, 2015, 8, 1493-1508.	3.6	79
131	The Global Distribution of Biological Nitrogen Fixation in Terrestrial Natural Ecosystems. Global Biogeochemical Cycles, 2020, 34, e2019GB006387.	4.9	77
132	Evaluation of Land Surface Models in Reproducing Satellite Derived Leaf Area Index over the High-Latitude Northern Hemisphere. Part II: Earth System Models. Remote Sensing, 2013, 5, 3637-3661.	4.0	75
133	Mapping the climate change challenge. Nature Climate Change, 2016, 6, 663-668.	18.8	75
134	European land CO2 sink influenced by NAO and East-Atlantic Pattern coupling. Nature Communications, 2016, 7, 10315.	12.8	74
135	Opportunities and challenges in using remaining carbon budgets to guide climate policy. Nature Geoscience, 2020, 13, 769-779.	12.9	68
136	How positive is the feedback between climate change and the carbon cycle?. Tellus, Series B: Chemical and Physical Meteorology, 2022, 55, 692.	1.6	67
137	How uncertainties in future climate change predictions translate into future terrestrial carbon fluxes. Global Change Biology, 2005, 11, 959-970.	9.5	67
138	Carbon cycle feedbacks and future climate change. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140421.	3.4	67
139	Comment on â€œThe global tree restoration potentialâ€. Science, 2019, 366, .	12.6	67
140	A unifying conceptual model for the environmental responses of isoprene emissions from plants. Annals of Botany, 2013, 112, 1223-1238.	2.9	66
141	Impacts of extreme summers on European ecosystems: a comparative analysis of 2003, 2010 and 2018. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190507.	4.0	64
142	Attributing the increase in atmospheric CO2 to emitters and absorbers. Nature Climate Change, 2013, 3, 926-930.	18.8	63
143	Impact of the 2015/2016 El NiÃ±o on the terrestrial carbon cycle constrained by bottom-up and top-down approaches. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170304.	4.0	63
144	Interactions of the carbon cycle, human activity, and the climate system: a research portfolio. Current Opinion in Environmental Sustainability, 2010, 2, 301-311.	6.3	62

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145	Variability and recent trends in the African terrestrial carbon balance. Biogeosciences, 2009, 6, 1935-1948.	3.3	60
146	The dry season intensity as a key driver of NPP trends. Geophysical Research Letters, 2016, 43, 2632-2639.	4.0	60
147	Nitrogen cycling in CMIP6 land surface models: progress and limitations. Biogeosciences, 2020, 17, 5129-5148.	3.3	60
148	Quantifying uncertainties of permafrost carbonâ€“climate feedbacks. Biogeosciences, 2017, 14, 3051-3066.	3.3	59
149	Sources of Uncertainty in Regional and Global Terrestrial CO₂ Exchange Estimates. Global Biogeochemical Cycles, 2020, 34, e2019GB006393.	4.9	59
150	The relationship between peak warming and cumulative CO₂ emissions, and its use to quantify vulnerabilities in the carbonâ€“climateâ€“human system. Tellus, Series B: Chemical and Physical Meteorology, 2022, 63, 145.	1.6	58
151	Modelling sub-grid wetland in the ORCHIDEE global land surface model: evaluation against river discharges and remotely sensed data. Geoscientific Model Development, 2012, 5, 941-962.	3.6	58
152	Forest production efficiency increases with growth temperature. Nature Communications, 2020, 11, 5322.	12.8	57
153	What determines the magnitude of carbon cycle-climate feedbacks?. Global Biogeochemical Cycles, 2007, 21, n/a-n/a.	4.9	54
154	Impact of model developments on present and future simulations of permafrost in a global land-surface model. Cryosphere, 2015, 9, 1505-1521.	3.9	54
155	Estimating Carbon Budgets for Ambitious Climate Targets. Current Climate Change Reports, 2017, 3, 69-77.	8.6	52
156	Contributions of past and present human generations to committed warming caused by carbon dioxide. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 10832-10836.	7.1	50
157	A spatial emergent constraint on the sensitivity of soil carbon turnover to global warming. Nature Communications, 2020, 11, 5544.	12.8	50
158	Greening drylands despite warming consistent with carbon dioxide fertilization effect. Global Change Biology, 2021, 27, 3336-3349.	9.5	50
159	Vegetation distribution and terrestrial carbon cycle in a carbon cycle configuration of JULES4.6 with new plant functional types. Geoscientific Model Development, 2018, 11, 2857-2873.	3.6	49
160	Slowdown of the greening trend in natural vegetation with further rise in atmospheric CO₂. Biogeosciences, 2021, 18, 4985-5010.	3.3	49
161	Carbon Dioxide and Climate: Perspectives on a Scientific Assessment. , 2013, , 391-413.		48
162	On the causes of trends in the seasonal amplitude of atmospheric <scp>CO</scp>₂. Global Change Biology, 2018, 24, 608-616.	9.5	48

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163	The cumulative carbon budget and its implications. Oxford Review of Economic Policy, 2016, 32, 323-342.	1.9	47
164	Leaching of dissolved organic carbon from mineral soils plays a significant role in the terrestrial carbon balance. Global Change Biology, 2021, 27, 1083-1096.	9.5	47
165	ESD Reviews: Climate feedbacks in the Earth system and prospects for their evaluation. Earth System Dynamics, 2019, 10, 379-452.	7.1	46
166	Global patterns of daily CO2 emissions reductions in the first year of COVID-19. Nature Geoscience, 2022, 15, 615-620.	12.9	46
167	A global calculation of the Î´13C of soil respired carbon: Implications for the biospheric uptake of anthropogenic CO2. Global Biogeochemical Cycles, 1999, 13, 519-530.	4.9	44
168	State of the science in reconciling topâ€down and bottomâ€up approaches for terrestrial CO₂ budget. Global Change Biology, 2020, 26, 1068-1084.	9.5	43
169	Global fossil carbon emissions rebound near pre-COVID-19 levels. Environmental Research Letters, 2022, 17, 031001.	5.2	42
170	KEYNOTE PERSPECTIVE. Can a strong atmospheric CO2 rectifier effect be reconciled with a "reasonable" carbon budget?. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 249-253.	1.6	41
171	Carbon-biosphere-climate interactions in the last glacial maximum climate. Journal of Geophysical Research, 1995, 100, 7203-7221.	3.3	40
172	Limitations of single-basket trading: lessons from the Montreal Protocol for climate policy. Climatic Change, 2012, 111, 241-248.	3.6	40
173	Delayed detection of climate mitigation benefits due to climate inertia and variability. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 17229-17234.	7.1	40
174	Negative extreme events in gross primary productivity and their drivers in China during the past three decades. Agricultural and Forest Meteorology, 2019, 275, 47-58.	4.8	40
175	The terrestrial carbon budget of South and Southeast Asia. Environmental Research Letters, 2016, 11, 105006.	5.2	39
176	Reducing uncertainties in decadal variability of the global carbon budget with multiple datasets. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13104-13108.	7.1	39
177	Response of global land evapotranspiration to climate change, elevated CO2, and land use change. Agricultural and Forest Meteorology, 2021, 311, 108663.	4.8	39
178	Footprint of temperature changes in the temperate and boreal forest carbon balance. Geophysical Research Letters, 2009, 36, .	4.0	38
179	The seasonal cycle of atmospheric CO2: A study based on the NCAR Community Climate Model (CCM2). Journal of Geophysical Research, 1996, 101, 15079-15097.	3.3	36
180	Global response of the terrestrial biosphere to CO2and climate change using a coupled climate-carbon cycle model. Global Biogeochemical Cycles, 2002, 16, 31-1-31-15.	4.9	36

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181	Scenario and modelling uncertainty in global mean temperature change derived from emission-driven global climate models. Earth System Dynamics, 2013, 4, 95-108.	7.1	36
182	Climateâ€Driven Variability and Trends in Plant Productivity Over Recent Decades Based on Three Global Products. Global Biogeochemical Cycles, 2020, 34, e2020GB006613.	4.9	36
183	Indicate separate contributions of long-lived and short-lived greenhouse gases in emission targets. Npj Climate and Atmospheric Science, 2022, 5, 5.	6.8	36
184	A steep road to climate stabilization. Nature, 2008, 451, 297-298.	27.8	35
185	Observation and integrated Earth-system science: A roadmap for 2016â€"2025. Advances in Space Research, 2016, 57, 2037-2103.	2.6	35
186	Largeâ€Scale Droughts Responsible for Dramatic Reductions of Terrestrial Net Carbon Uptake Over North America in 2011 and 2012. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 2053-2071.	3.0	35
187	Can a strong atmospheric CO₂ rectifier effect be reconciled with a “reasonable” carbon budget?. Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 249.	1.6	34
188	Benchmarking CMIP5 models with a subset of ESA CCI Phase 2 data using the ESMValTool. Remote Sensing of Environment, 2017, 203, 9-39.	11.0	34
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