Philippe Ciais

List of Publications by Year
in descending order

946	145,277	82	123
papers	citations	170 h-index	340 g-index

1050	1050	1050	70194
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	A Large and Persistent Carbon Sink in the Worldâ€™s Forests. Science, 2011, 333, 988-993.	12.6	5,393
2	The impacts of climate change on water resources and agriculture in China. Nature, 2010, 467, 43-51.	27.8	2,656
3	Terrestrial Gross Carbon Dioxide Uptake: Global Distribution and Covariation with Climate. Science, 2010, 329, 834-838.	12.6	2,056
4	Recent decline in the global land evapotranspiration trend due to limited moisture supply. Nature, 2010, 467, 951-954.	27.8	1,771
5	Contributions to accelerating atmospheric CO ₂ growth from economic activity, carbon intensity, and efficiency of natural sinks. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18866-18870.	7.1	1,770
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	Temperature increase reduces global yields of major crops in four independent estimates. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9326-9331.	7.1	1,708
9	Greening of the Earth and its drivers. Nature Climate Change, 2016, 6, 791-795.	18.8	1,675
10	Global carbon dioxide emissions from inland waters. Nature, 2013, 503, 355-359.	27.8	1,670
11	Three decades of global methane sources and sinks. Nature Geoscience, 2013, 6, 813-823.	12.9	1,649
12	China and India lead in greening of the world through land-use management. Nature Sustainability, 2019, 2, 122-129.	23.7	1,636
13	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	9.9	1,477
14	Global and regional drivers of accelerating CO2 emissions. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 10288-10293.	7.1	1,426
15	Old-growth forests as global carbon sinks. Nature, 2008, 455, 213-215.	27.8	1,399
16	Climate extremes and the carbon cycle. Nature, 2013, 500, 287-295.	27.8	1,357
17	Revegetation in Chinaâ€™s Loess Plateau is approaching sustainable water resource limits. Nature Climate Change, 2016, 6, 1019-1022.	18.8	1,270
18	Reduction of forest soil respiration in response to nitrogen deposition. Nature Geoscience, 2010, 3, 315-322.	12.9	1,254

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19	The carbon balance of terrestrial ecosystems in China. Nature, 2009, 458, 1009-1013.	27.8	1,243
20	The Global Methane Budget 2000â€“2017. Earth System Science Data, 2020, 12, 1561-1623.	9.9	1,199
21	Reduced carbon emission estimates from fossil fuel combustion and cement production in China. Nature, 2015, 524, 335-338.	27.8	1,185
22	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	9.9	1,167
23	Recent patterns and mechanisms of carbon exchange by terrestrial ecosystems. Nature, 2001, 414, 169-172.	27.8	1,162
24	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	9.9	1,159
25	Towards robust regional estimates of CO2 sources and sinks using atmospheric transport models. Nature, 2002, 415, 626-630.	27.8	1,157
26	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
27	Contribution of semi-arid ecosystems to interannual variability of the global carbon cycle. Nature, 2014, 509, 600-603.	27.8	1,054
28	Human-induced nitrogenâ€“phosphorus imbalances alter natural and managed ecosystems across the globe. Nature Communications, 2013, 4, 2934.	12.8	1,013
29	Biophysical and economic limits to negative CO2 emissions. Nature Climate Change, 2016, 6, 42-50.	18.8	973
30	Reduced sediment transport in the Yellow River due to anthropogenic changes. Nature Geoscience, 2016, 9, 38-41.	12.9	948
31	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937
32	Contribution of anthropogenic and natural sources to atmospheric methane variability. Nature, 2006, 443, 439-443.	27.8	935
33	Net carbon dioxide losses of northern ecosystems in response to autumn warming. Nature, 2008, 451, 49-52.	27.8	930
34	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	9.9	905
35	Characteristics, drivers and feedbacks of global greening. Nature Reviews Earth & Environment, 2020, 1, 14-27.	29.7	889
36	Surface Urban Heat Island Across 419 Global Big Cities. Environmental Science & Technology, 2012, 46, 696-703.	10.0	864

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37	CO₂ balance of boreal, temperate, and tropical forests derived from a global database. Global Change Biology, 2007, 13, 2509-2537.	9.5	863
38	Betting on negative emissions. Nature Climate Change, 2014, 4, 850-853.	18.8	846
39	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	9.9	824
40	A comprehensive quantification of global nitrous oxide sources and sinks. Nature, 2020, 586, 248-256.	27.8	814
41	The challenge to keep global warming below 2 Â°C. Nature Climate Change, 2013, 3, 4-6.	18.8	809
42	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	9.9	801
43	Weak Northern and Strong Tropical Land Carbon Uptake from Vertical Profiles of Atmospheric CO2. Science, 2007, 316, 1732-1735.	12.6	775
44	Increased atmospheric vapor pressure deficit reduces global vegetation growth. Science Advances, 2019, 5, eaax1396.	10.3	755
45	A Large Northern Hemisphere Terrestrial CO2 Sink Indicated by the 13C/12C Ratio of Atmospheric CO2. Science, 1995, 269, 1098-1102.	12.6	752
46	Influence of spring and autumn phenological transitions on forest ecosystem productivity. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 3227-3246.	4.0	751
47	Consistent Land- and Atmosphere-Based U.S. Carbon Sink Estimates. Science, 2001, 292, 2316-2320.	12.6	746
48	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
49	Effects of climate extremes on the terrestrial carbon cycle: concepts, processes and potential future impacts. Global Change Biology, 2015, 21, 2861-2880.	9.5	683
50	Regional Changes in Carbon Dioxide Fluxes of Land and Oceans Since 1980. Science, 2000, 290, 1342-1346.	12.6	680
51	Managing nitrogen to restore water quality in China. Nature, 2019, 567, 516-520.	27.8	667
52	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	9.9	663
53	Variations in satellite-derived phenology in China's temperate vegetation. Global Change Biology, 2006, 12, 672-685.	9.5	643
54	Declining global warming effects on the phenology of spring leaf unfolding. Nature, 2015, 526, 104-107.	27.8	637

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55	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
56	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	9.9	616
57	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
58	The Orbiting Carbon Observatory (OCO) mission. Advances in Space Research, 2004, 34, 700-709.	2.6	596
59	Recent trends and drivers of regional sources and sinks of carbon dioxide. Biogeosciences, 2015, 12, 653-679.	3.3	587
60	Changes in satelliteâ€derived vegetation growth trend in temperate and boreal Eurasia from 1982 to 2006. Global Change Biology, 2011, 17, 3228-3239.	9.5	586
61	Terrestrial biosphere models need better representation of vegetation phenology: results from the <scp>N</scp>orth <scp>A</scp>merican <scp>C</scp>arbon <scp>P</scp>rogram <scp>S</scp>ite <scp>S</scp>ynthesis. Global Change Biology, 2012, 18, 566-584.	9.5	583
62	Northern Hemisphere atmospheric stilling partly attributed to an increase in surface roughness. Nature Geoscience, 2010, 3, 756-761.	12.9	581
63	Update on CO2 emissions. Nature Geoscience, 2010, 3, 811-812.	12.9	561
64	Europe's Terrestrial Biosphere Absorbs 7 to 12% of European Anthropogenic CO2 Emissions. Science, 2003, 300, 1538-1542.	12.6	551
65	The global carbon budget 1959â€“2011. Earth System Science Data, 2013, 5, 165-185.	9.9	527
66	Evidence for soil water control on carbon and water dynamics in European forests during the extremely dry year: 2003. Agricultural and Forest Meteorology, 2007, 143, 123-145.	4.8	509
67	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
68	Afforestation in China cools local land surface temperature. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 2915-2919.	7.1	501
69	Contrasting response of European forest and grassland energy exchange to heatwaves. Nature Geoscience, 2010, 3, 722-727.	12.9	491
70	Reduction of ecosystem productivity and respiration during the European summer 2003 climate anomaly: a joint flux tower, remote sensing and modelling analysis. Global Change Biology, 2007, 13, 634-651.	9.5	486
71	Temperature and vegetation seasonality diminishment over northern lands. Nature Climate Change, 2013, 3, 581-586.	18.8	485
72	Asymmetric effects of daytime and night-time warming on Northern Hemisphere vegetation. Nature, 2013, 501, 88-92.	27.8	482

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73	Compensatory water effects link yearly global land CO2 sink changes to temperature. Nature, 2017, 541, 516-520.	27.8	480
74	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	9.9	463
75	Carbon residence time dominates uncertainty in terrestrial vegetation responses to future climate and atmospheric CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3280-3285.	7.1	458
76	Drought and ecosystem carbon cycling. Agricultural and Forest Meteorology, 2011, 151, 765-773.	4.8	446
77	Altitude and temperature dependence of change in the spring vegetation green-up date from 1982 to 2006 in the Qinghai-Xizang Plateau. Agricultural and Forest Meteorology, 2011, 151, 1599-1608.	4.8	442
78	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
79	Spatiotemporal patterns of terrestrial gross primary production: A review. Reviews of Geophysics, 2015, 53, 785-818.	23.0	432
80	Temporal and amongâ€site variability of inherent water use efficiency at the ecosystem level. Global Biogeochemical Cycles, 2009, 23, .	4.9	422
81	Near-real-time monitoring of global CO2 emissions reveals the effects of the COVID-19 pandemic. Nature Communications, 2020, 11, 5172.	12.8	420
82	TransCom 3 inversion intercomparison: Impact of transport model errors on the interannual variability of regional CO2fluxes, 1988-2003. Global Biogeochemical Cycles, 2006, 20, n/a-n/a.	4.9	417
83	Evidence for a weakening relationship between interannual temperature variability and northern vegetation activity. Nature Communications, 2014, 5, 5018.	12.8	414
84	Assessing the impacts of 1.5â€Â°C global warming â€“ simulation protocol of the Inter-Sectoral Impact Model Intercomparison Project (ISIMIP2b). Geoscientific Model Development, 2017, 10, 4321-4345.	3.6	410
85	Evaporative cooling over the Tibetan Plateau induced by vegetation growth. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 9299-9304.	7.1	404
86	High carbon dioxide uptake by subtropical forest ecosystems in the East Asian monsoon region. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 4910-4915.	7.1	403
87	The terrestrial biosphere as a net source of greenhouse gases to the atmosphere. Nature, 2016, 531, 225-228.	27.8	402
88	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
89	High-spatiotemporal-resolution mapping of global urban change from 1985 to 2015. Nature Sustainability, 2020, 3, 564-570.	23.7	391
90	Leaf onset in the northern hemisphere triggered by daytime temperature. Nature Communications, 2015, 6, 6911.	12.8	384

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91	Nutrient availability as the key regulator of global forest carbon balance. Nature Climate Change, 2014, 4, 471-476.	18.8	383
92	Water-use efficiency and transpiration across European forests during the Anthropocene. Nature Climate Change, 2015, 5, 579-583.	18.8	357
93	Substantial global carbon uptake by cement carbonation. Nature Geoscience, 2016, 9, 880-883.	12.9	355
94	Widespread decline of Congo rainforest greenness in the past decade. Nature, 2014, 509, 86-90.	27.8	351
95	Climate-driven risks to the climate mitigation potential of forests. Science, 2020, 368, .	12.6	346
96	Toward more realistic projections of soil carbon dynamics by Earth system models. Global Biogeochemical Cycles, 2016, 30, 40-56.	4.9	343
97	Climate mitigation from vegetation biophysical feedbacks during the past three decades. Nature Climate Change, 2017, 7, 432-436.	18.8	323
98	Consistent negative response of US crops to high temperatures in observations and crop models. Nature Communications, 2017, 8, 13931.	12.8	321
99	Recent global decline of CO ₂ fertilization effects on vegetation photosynthesis. Science, 2020, 370, 1295-1300.	12.6	317
100	Air temperature optima of vegetation productivity across global biomes. Nature Ecology and Evolution, 2019, 3, 772-779.	7.8	316
101	Partitioning of ocean and land uptake of CO2as inferred by Î´13C measurements from the NOAA Climate Monitoring and Diagnostics Laboratory Global Air Sampling Network. Journal of Geophysical Research, 1995, 100, 5051.	3.3	315
102	Transcom 3 inversion intercomparison: Model mean results for the estimation of seasonal carbon sources and sinks. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	312
103	Evaluation of global observations-based evapotranspiration datasets and IPCC AR4 simulations. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	312
104	Global carbon budget 2013. Earth System Science Data, 2014, 6, 235-263.	9.9	311
105	Importance of methane and nitrous oxide for Europe's terrestrial greenhouse-gas balance. Nature Geoscience, 2009, 2, 842-850.	12.9	310
106	Benchmark products for land evapotranspiration: LandFlux-EVAL multi-data set synthesis. Hydrology and Earth System Sciences, 2013, 17, 3707-3720.	4.9	310
107	A meta-analysis of 1,119 manipulative experiments on terrestrial carbon-cycling responses to global change. Nature Ecology and Evolution, 2019, 3, 1309-1320.	7.8	304
108	Global greenhouse gas emissions from animal-based foods are twice those of plant-based foods. Nature Food, 2021, 2, 724-732.	14.0	298

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109	Site- and species-specific responses of forest growth to climate across the European continent. Global Ecology and Biogeography, 2013, 22, 706-717.	5.8	297
110	Global patterns of phosphatase activity in natural soils. Scientific Reports, 2017, 7, 1337.	3.3	296
111	Dependence of the evolution of carbon dynamics in the northern permafrost region on the trajectory of climate change. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3882-3887.	7.1	296
112	Sharing a quota on cumulative carbon emissions. Nature Climate Change, 2014, 4, 873-879.	18.8	295
113	Sensitivity of atmospheric CO2 growth rate to observed changes in terrestrial water storage. Nature, 2018, 560, 628-631.	27.8	295
114	Holocene Climate Variability in Antarctica Based on 11 Ice-Core Isotopic Records. Quaternary Research, 2000, 54, 348-358.	1.7	291
115	Summertime European heat and drought waves induced by wintertime Mediterranean rainfall deficit. Geophysical Research Letters, 2007, 34, .	4.0	289
116	Positive feedback between future climate change and the carbon cycle. Geophysical Research Letters, 2001, 28, 1543-1546.	4.0	287
117	Divergent hydrological response to large-scale afforestation and vegetation greening in China. Science Advances, 2018, 4, eaar4182.	10.3	287
118	Reconciling inconsistencies in precipitationâ€“productivity relationships: implications for climate change. New Phytologist, 2017, 214, 41-47.	7.3	286
119	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO₂. New Phytologist, 2021, 229, 2413-2445.	7.3	286
120	A two-fold increase of carbon cycle sensitivity to tropical temperature variations. Nature, 2014, 506, 212-215.	27.8	284
121	Historical carbon dioxide emissions caused by land-use changes are possibly larger than assumed. Nature Geoscience, 2017, 10, 79-84.	12.9	284
122	Modeled interactive effects of precipitation, temperature, and [CO₂] on ecosystem carbon and water dynamics in different climatic zones. Global Change Biology, 2008, 14, 1986-1999.	9.5	277
123	CO₂ surface fluxes at grid point scale estimated from a global 21 year reanalysis of atmospheric measurements. Journal of Geophysical Research, 2010, 115, .	3.3	276
124	The status and challenge of global fire modelling. Biogeosciences, 2016, 13, 3359-3375.	3.3	274
125	Fertile forests produce biomass more efficiently. Ecology Letters, 2012, 15, 520-526.	6.4	273
126	Largeâ€scale variations in the vegetation growing season and annual cycle of atmospheric <scp><scp>CO₂</scp></scp> at high northern latitudes from 1950 to 2011. Global Change Biology, 2013, 19, 3167-3183.	9.5	273

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127	A synthesis of carbon dioxide emissions from fossil-fuel combustion. Biogeosciences, 2012, 9, 1845-1871.	3.3	271
128	Inferring CO2sources and sinks from satellite observations: Method and application to TOVS data. Journal of Geophysical Research, 2005, 110, .	3.3	269
129	A framework for benchmarking land models. Biogeosciences, 2012, 9, 3857-3874.	3.3	267
130	Joint control of terrestrial gross primary productivity by plant phenology and physiology. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2788-2793.	7.1	265
131	Negative emissions physically needed to keep global warming below 2â€‰Â°C. Nature Communications, 2015, 6, 7958.	12.8	265
132	Carbon accumulation in European forests. Nature Geoscience, 2008, 1, 425-429.	12.9	263
133	Intercomparison of MODIS albedo retrievals and in situ measurements across the global FLUXNET network. Remote Sensing of Environment, 2012, 121, 323-334.	11.0	259
134	Forest management in southern China generates short term extensive carbon sequestration. Nature Communications, 2020, 11, 129.	12.8	259
135	Summer soil drying exacerbated by earlier spring greening of northern vegetation. Science Advances, 2020, 6, eaax0255.	10.3	258
136	Expert assessment of vulnerability of permafrost carbon to climate change. Climatic Change, 2013, 119, 359-374.	3.6	257
137	Source attribution of the changes in atmospheric methane for 2006â€“2008. Atmospheric Chemistry and Physics, 2011, 11, 3689-3700.	4.9	252
138	A global prognostic scheme of leaf onset using satellite data. Global Change Biology, 2000, 6, 709-725.	9.5	251
139	Impacts of climate and CO2 changes on the vegetation growth and carbon balance of Qinghaiâ€“Tibetan grasslands over the past five decades. Global and Planetary Change, 2012, 98-99, 73-80.	3.5	248
140	The European carbon balance. Part 3: forests. Global Change Biology, 2010, 16, 1429-1450.	9.5	247
141	A modelâ€data intercomparison of CO₂ exchange across North America: Results from the North American Carbon Program site synthesis. Journal of Geophysical Research, 2010, 115, .	3.3	247
142	A reversal in global terrestrial stilling and its implications for wind energy production. Nature Climate Change, 2019, 9, 979-985.	18.8	246
143	Global patterns and controls of soil organic carbon dynamics as simulated by multiple terrestrial biosphere models: Current status and future directions. Global Biogeochemical Cycles, 2015, 29, 775-792.	4.9	241
144	Soil moistureâ€“atmosphere feedback dominates land carbon uptake variability. Nature, 2021, 592, 65-69.	27.8	241

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145	TransCom 3 CO2 inversion intercomparison: 1. Annual mean control results and sensitivity to transport and prior flux information. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 555-579.	1.6	235
146	Differentiating drought legacy effects on vegetation growth over the temperate Northern Hemisphere. Global Change Biology, 2018, 24, 504-516.	9.5	233
147	Terrestrial biosphere model performance for interâ€annual variability of landâ€atmosphere <scp><scp>CO₂</scp></scp> exchange. Global Change Biology, 2012, 18, 1971-1987.	9.5	232
148	Direct and seasonal legacy effects of the 2018 heat wave and drought on European ecosystem productivity. Science Advances, 2020, 6, eaba2724.	10.3	229
149	Terrestrial carbon cycle affected by non-uniform climate warming. Nature Geoscience, 2014, 7, 173-180.	12.9	226
150	Seven years of recent European net terrestrial carbon dioxide exchange constrained by atmospheric observations. Global Change Biology, 2010, 16, 1317-1337.	9.5	223
151	Spatial patterns in CO₂ evasion from the global river network. Global Biogeochemical Cycles, 2015, 29, 534-554.	4.9	223
152	Inverse modeling of CO₂ sources and sinks using satellite data: a synthetic inter-comparison of measurement techniques and their performance as a function of space and time. Atmospheric Chemistry and Physics, 2004, 4, 523-538.	4.9	222
153	Species interactions slow warming-induced upward shifts of treelines on the Tibetan Plateau. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 4380-4385.	7.1	221
154	Partitioning global land evapotranspiration using CMIP5 models constrained by observations. Nature Climate Change, 2018, 8, 640-646.	18.8	219
155	Carbon benefits of anthropogenic reactive nitrogen offset by nitrous oxide emissions. Nature Geoscience, 2011, 4, 601-605.	12.9	215
156	Change in terrestrial ecosystem waterâ€use efficiency over the last three decades. Global Change Biology, 2015, 21, 2366-2378.	9.5	215
157	Monitoring global carbon emissions in 2021. Nature Reviews Earth & Environment, 2022, 3, 217-219.	29.7	215
158	The contribution of Chinaâ€™s emissions to global climate forcing. Nature, 2016, 531, 357-361.	27.8	214
159	Global soil nitrous oxide emissions since the preindustrial era estimated by an ensemble of terrestrial biosphere models: Magnitude, attribution, and uncertainty. Global Change Biology, 2019, 25, 640-659.	9.5	214
160	Interannual variation of terrestrial carbon cycle: Issues and perspectives. Global Change Biology, 2020, 26, 300-318.	9.5	214
161	Aligning agriculture and climate policy. Nature Climate Change, 2017, 7, 307-309.	18.8	213
162	Global gridded crop model evaluation: benchmarking, skills, deficiencies and implications. Geoscientific Model Development, 2017, 10, 1403-1422.	3.6	213

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163	Matching policy and science: Rationale for the â€˜4 per 1000 - soils for food security and climateâ€™ initiative. Soil and Tillage Research, 2019, 188, 3-15.	5.6	208
164	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
165	Significant contribution of combustion-related emissions to the atmospheric phosphorus budget. Nature Geoscience, 2015, 8, 48-54.	12.9	207
166	Land-use emissions play a critical role in land-based mitigation for Paris climate targets. Nature Communications, 2018, 9, 2938.	12.8	194
167	Gross and net land cover changes in the main plant functional types derived from the annual ESA CCI land cover maps (1992â€“2015). Earth System Science Data, 2018, 10, 219-234.	9.9	193
168	Extension of the growing season increases vegetation exposure to frost. Nature Communications, 2018, 9, 426.	12.8	190
169	Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. Biogeosciences, 2014, 11, 3547-3602.	3.3	189
170	The European carbon balance. Part 2: croplands. Global Change Biology, 2010, 16, 1409-1428.	9.5	185
171	Ten years of global burned area products from spaceborne remote sensingâ€”A review: Analysis of user needs and recommendations for future developments. International Journal of Applied Earth Observation and Geoinformation, 2014, 26, 64-79.	2.8	185
172	Weakening temperature control on the interannual variations of spring carbon uptake across northern lands. Nature Climate Change, 2017, 7, 359-363.	18.8	183
173	Impact of largeâ€scale climate extremes on biospheric carbon fluxes: An intercomparison based on MsTMIP data. Global Biogeochemical Cycles, 2014, 28, 585-600.	4.9	181
174	Spatiotemporal patterns of terrestrial carbon cycle during the 20th century. Global Biogeochemical Cycles, 2009, 23, .	4.9	180
175	Hot European Summers and the Role of Soil Moisture in the Propagation of Mediterranean Drought. Journal of Climate, 2009, 22, 4747-4758.	3.2	180
176	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
177	The carbon budget of terrestrial ecosystems at country-scale â€“ a European case study. Biogeosciences, 2005, 2, 15-26.	3.3	178
178	An attempt to quantify the impact of changes in wetland extent on methane emissions on the seasonal and interannual time scales. Global Biogeochemical Cycles, 2010, 24, .	4.9	177
179	Projected strengthening of Amazonian dry season by constrained climate model simulations. Nature Climate Change, 2015, 5, 656-660.	18.8	174
180	Changes in nutrient concentrations of leaves and roots in response to global change factors. Global Change Biology, 2017, 23, 3849-3856.	9.5	174

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181	Can N₂O emissions offset the benefits from soil organic carbon storage?. Global Change Biology, 2021, 27, 237-256.	9.5	174
182	Forest annual carbon cost: a globalâ€scale analysis of autotrophic respiration. Ecology, 2010, 91, 652-661.	3.2	171
183	Vegetation structural change since 1981 significantly enhanced the terrestrial carbon sink. Nature Communications, 2019, 10, 4259.	12.8	170
184	An attempt at estimating Paris area CO₂ emissions from atmospheric concentration measurements. Atmospheric Chemistry and Physics, 2015, 15, 1707-1724.	4.9	169
185	State-of-the-art global models underestimate impacts from climate extremes. Nature Communications, 2019, 10, 1005.	12.8	168
186	Shifting from a fertilization-dominated to a warming-dominated period. Nature Ecology and Evolution, 2017, 1, 1438-1445.	7.8	167
187	Carbon loss from forest degradation exceeds that from deforestation in the Brazilian Amazon. Nature Climate Change, 2021, 11, 442-448.	18.8	166
188	High-resolution mapping of combustion processes and implications for CO₂ emissions. Atmospheric Chemistry and Physics, 2013, 13, 5189-5203.	4.9	164
189	Global trends in carbon sinks and their relationships with CO2 and temperature. Nature Climate Change, 2019, 9, 73-79.	18.8	163
190	A full greenhouse gases budget of Africa: synthesis, uncertainties, and vulnerabilities. Biogeosciences, 2014, 11, 381-407.	3.3	162
191	Urbanization-induced population migration has reduced ambient PM _{2.5} concentrations in China. Science Advances, 2017, 3, e1700300.	10.3	161
192	Satellite passive microwaves reveal recent climate-induced carbon losses in African drylands. Nature Ecology and Evolution, 2018, 2, 827-835.	7.8	160
193	Unexpected role of winter precipitation in determining heat requirement for spring vegetation greenâ€up at northern middle and high latitudes. Global Change Biology, 2014, 20, 3743-3755.	9.5	159
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