

Josep Canadell

List of Publications by Citations

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209
papers

41,049
citations

85
h-index

202
g-index

243
ext. papers

50,306
ext. citations

11.8
avg, IF

7.07
L-index

#	Paper	IF	Citations
209	A large and persistent carbon sink in the world's forests. <i>Science</i> , 2011 , 333, 988-93	33.3	3950
208	Soil organic carbon pools in the northern circumpolar permafrost region. <i>Global Biogeochemical Cycles</i> , 2009 , 23, n/a-n/a	5.9	1629
207	Contributions to accelerating atmospheric CO ₂ growth from economic activity, carbon intensity, and efficiency of natural sinks. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 18866-70	11.5	1490
206	Trends in the sources and sinks of carbon dioxide. <i>Nature Geoscience</i> , 2009 , 2, 831-836	18.3	1453
205	Three decades of global methane sources and sinks. <i>Nature Geoscience</i> , 2013 , 6, 813-823	18.3	1293
204	Global and regional drivers of accelerating CO ₂ emissions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2007 , 104, 10288-93	11.5	1209
203	Vulnerability of Permafrost Carbon to Climate Change: Implications for the Global Carbon Cycle. <i>BioScience</i> , 2008 , 58, 701-714	5.7	1138
202	Greening of the Earth and its drivers. <i>Nature Climate Change</i> , 2016 , 6, 791-795	21.4	1036
201	Temporary reduction in daily global CO ₂ emissions during the COVID-19 forced confinement. <i>Nature Climate Change</i> , 2020 , 10, 647-653	21.4	842
200	Global Carbon Budget 2018. <i>Earth System Science Data</i> , 2018 , 10, 2141-2194	10.5	831
199	Managing forests for climate change mitigation. <i>Science</i> , 2008 , 320, 1456-7	33.3	826
198	Contribution of semi-arid ecosystems to interannual variability of the global carbon cycle. <i>Nature</i> , 2014 , 509, 600-3	50.4	778
197	Global Carbon Budget 2019. <i>Earth System Science Data</i> , 2019 , 11, 1783-1838	10.5	776
196	Global Carbon Budget 2016. <i>Earth System Science Data</i> , 2016 , 8, 605-649	10.5	730
195	Biophysical and economic limits to negative CO ₂ emissions. <i>Nature Climate Change</i> , 2016 , 6, 42-50	21.4	684
194	Carbon cycle. The dominant role of semi-arid ecosystems in the trend and variability of the land CO ₂ sink. <i>Science</i> , 2015 , 348, 895-9	33.3	684
193	The global methane budget 2000-2012. <i>Earth System Science Data</i> , 2016 , 8, 697-751	10.5	641

192	Global Carbon Budget 2017. <i>Earth System Science Data</i> , 2018 , 10, 405-448	10.5	614
191	Rapid growth in CO ₂ emissions after the 2008–2009 global financial crisis. <i>Nature Climate Change</i> , 2012 , 2, 2-4	21.4	582
190	Global Carbon Budget 2020. <i>Earth System Science Data</i> , 2020 , 12, 3269-3340	10.5	533
189	Global Carbon Budget 2015. <i>Earth System Science Data</i> , 2015 , 7, 349-396	10.5	513
188	Peatlands and the carbon cycle: from local processes to global implications – a synthesis. <i>Biogeosciences</i> , 2008 , 5, 1475-1491	4.6	502
187	Global Warming and Terrestrial Ecosystems: A Conceptual Framework for Analysis. <i>BioScience</i> , 2000 , 50, 871	5.7	500
186	Persistent growth of CO ₂ emissions and implications for reaching climate targets. <i>Nature Geoscience</i> , 2014 , 7, 709-715	18.3	487
185	Evaluation of terrestrial carbon cycle models for their response to climate variability and to CO ₂ trends. <i>Global Change Biology</i> , 2013 , 19, 2117-32	11.4	481
184	The Global Methane Budget 2000–2017. <i>Earth System Science Data</i> , 2020 , 12, 1561-1623	10.5	463
183	Effects of climate extremes on the terrestrial carbon cycle: concepts, processes and potential future impacts. <i>Global Change Biology</i> , 2015 , 21, 2861-80	11.4	454
182	Update on CO ₂ emissions. <i>Nature Geoscience</i> , 2010 , 3, 811-812	18.3	454
181	Current and future CO ₂ emissions from drained peatlands in Southeast Asia. <i>Biogeosciences</i> , 2010 , 7, 1505-1514	4.6	440
180	The global carbon budget 1959–2011. <i>Earth System Science Data</i> , 2013 , 5, 165-185	10.5	436
179	Recent trends and drivers of regional sources and sinks of carbon dioxide. <i>Biogeosciences</i> , 2015 , 12, 653-679	11.4	432
178	Elevated CO ₂ , litter chemistry, and decomposition: a synthesis. <i>Oecologia</i> , 2001 , 127, 153-165	2.9	369
177	Global carbon budget 2014. <i>Earth System Science Data</i> , 2015 , 7, 47-85	10.5	367
176	Increased water-use efficiency during the 20th century did not translate into enhanced tree growth. <i>Global Ecology and Biogeography</i> , 2011 , 20, 597-608	6.1	362
175	Environment. Tropical forests and climate policy. <i>Science</i> , 2007 , 316, 985-6	33.3	327

174	CLIMATE: The Terrestrial Carbon Cycle: Implications for the Kyoto Protocol. <i>Science</i> , 1998 , 280, 1393-1394	35.3	326
173	Recent reversal in loss of global terrestrial biomass. <i>Nature Climate Change</i> , 2015 , 5, 470-474	21.4	322
172	Principles for knowledge co-production in sustainability research. <i>Nature Sustainability</i> , 2020 , 3, 182-190	22.1	317
171	The terrestrial biosphere as a net source of greenhouse gases to the atmosphere. <i>Nature</i> , 2016 , 531, 225-8	50.4	278
170	Evidence for a weakening relationship between interannual temperature variability and northern vegetation activity. <i>Nature Communications</i> , 2014 , 5, 5018	17.4	274
169	A comprehensive quantification of global nitrous oxide sources and sinks. <i>Nature</i> , 2020 , 586, 248-256	50.4	270
168	Global carbon budget 2013. <i>Earth System Science Data</i> , 2014 , 6, 235-263	10.5	264
167	Protecting climate with forests. <i>Environmental Research Letters</i> , 2008 , 3, 044006	6.2	264
166	Sharing a quota on cumulative carbon emissions. <i>Nature Climate Change</i> , 2014 , 4, 873-879	21.4	231
165	Expert assessment of vulnerability of permafrost carbon to climate change. <i>Climatic Change</i> , 2013 , 119, 359-374	4.5	212
164	Key indicators to track current progress and future ambition of the Paris Agreement. <i>Nature Climate Change</i> , 2017 , 7, 118-122	21.4	210
163	Historical greenhouse gas concentrations for climate modelling (CMIP6). <i>Geoscientific Model Development</i> , 2017 , 10, 2057-2116	6.3	210
162	Biophysical considerations in forestry for climate protection. <i>Frontiers in Ecology and the Environment</i> , 2011 , 9, 174-182	5.5	209
161	The Northern Circumpolar Soil Carbon Database: spatially distributed datasets of soil coverage and soil carbon storage in the northern permafrost regions. <i>Earth System Science Data</i> , 2013 , 5, 3-13	10.5	196
160	Recent pause in the growth rate of atmospheric CO due to enhanced terrestrial carbon uptake. <i>Nature Communications</i> , 2016 , 7, 13428	17.4	195
159	The growing role of methane in anthropogenic climate change. <i>Environmental Research Letters</i> , 2016 , 11, 120207	6.2	190
158	Commentary: Carbon Metabolism of the Terrestrial Biosphere: A Multitechnique Approach for Improved Understanding. <i>Ecosystems</i> , 2000 , 3, 115-130	3.9	189
157	Nonlinearities, Feedbacks and Critical Thresholds within the Earth@ Climate System. <i>Climatic Change</i> , 2004 , 65, 11-38	4.5	175

156	Drivers of declining CO ₂ emissions in 18 developed economies. <i>Nature Climate Change</i> , 2019 , 9, 213-217	21.4	164
155	Sustainability of terrestrial carbon sequestration: A case study in Duke Forest with inversion approach. <i>Global Biogeochemical Cycles</i> , 2003 , 17,	5.9	152
154	Current systematic carbon-cycle observations and the need for implementing a policy-relevant carbon observing system. <i>Biogeosciences</i> , 2014 , 11, 3547-3602	4.6	136
153	The shared socio-economic pathway (SSP) greenhouse gas concentrations and their extensions to 2500. <i>Geoscientific Model Development</i> , 2020 , 13, 3571-3605	6.3	130
152	The global carbon budget 1959-2011		122
151	Global carbon budget 2014		121
150	Global potential of biospheric carbon management for climate mitigation. <i>Nature Communications</i> , 2014 , 5, 5282	17.4	119
149	Variations in atmospheric CO ₂ growth rates coupled with tropical temperature. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2013 , 110, 13061-6	11.5	119
148	Global energy growth is outpacing decarbonization. <i>Environmental Research Letters</i> , 2018 , 13, 120401	6.2	119
147	Factoring out natural and indirect human effects on terrestrial carbon sources and sinks. <i>Environmental Science and Policy</i> , 2007 , 10, 370-384	6.2	115
146	Warning signs for stabilizing global CO ₂ emissions. <i>Environmental Research Letters</i> , 2017 , 12, 110202	6.2	111
145	Global soil nitrous oxide emissions since the preindustrial era estimated by an ensemble of terrestrial biosphere models: Magnitude, attribution, and uncertainty. <i>Global Change Biology</i> , 2019 , 25, 640-659	11.4	111
144	Comment on "The global tree restoration potential". <i>Science</i> , 2019 , 366,	33.3	109
143	Acceleration of global N ₂ O emissions seen from two decades of atmospheric inversion. <i>Nature Climate Change</i> , 2019 , 9, 993-998	21.4	106
142	Recent increases in terrestrial carbon uptake at little cost to the water cycle. <i>Nature Communications</i> , 2017 , 8, 110	17.4	103
141	Shifting from a fertilization-dominated to a warming-dominated period. <i>Nature Ecology and Evolution</i> , 2017 , 1, 1438-1445	12.3	99
140	Increasing anthropogenic methane emissions arise equally from agricultural and fossil fuel sources. <i>Environmental Research Letters</i> , 2020 , 15, 071002	6.2	99
139	Anthropogenic and biophysical contributions to increasing atmospheric CO ₂ growth rate and airborne fraction. <i>Biogeosciences</i> , 2008 , 5, 1601-1613	4.6	98

138	Global wetland contribution to 2000–2012 atmospheric methane growth rate dynamics. <i>Environmental Research Letters</i> , 2017 , 12, 094013	6.2	97
137	A synopsis of land use, land-use change and forestry (LULUCF) under the Kyoto Protocol and Marrakech Accords. <i>Environmental Science and Policy</i> , 2007 , 10, 271-282	6.2	96
136	Research priorities for negative emissions. <i>Environmental Research Letters</i> , 2016 , 11, 115007	6.2	95
135	Integrating the evidence for a terrestrial carbon sink caused by increasing atmospheric CO ₂ . <i>New Phytologist</i> , 2021 , 229, 2413-2445	9.8	94
134	The Australian terrestrial carbon budget. <i>Biogeosciences</i> , 2013 , 10, 851-869	4.6	86
133	The effects of elevated [CO ₂] on plant-soil carbon below-ground: A summary and synthesis. <i>Plant and Soil</i> , 1995 , 187, 391-400	4.2	86
132	Multiple observation types reduce uncertainty in Australia's terrestrial carbon and water cycles. <i>Biogeosciences</i> , 2013 , 10, 2011-2040	4.6	85
131	An International Effort to Quantify Regional Carbon Fluxes. <i>Eos</i> , 2011 , 92, 81-82	1.5	85
130	Interannual variation of terrestrial carbon cycle: Issues and perspectives. <i>Global Change Biology</i> , 2020 , 26, 300-318	11.4	83
129	Saturation of the Terrestrial Carbon Sink 2007 , 59-78		79
128	Five decades of northern land carbon uptake revealed by the interhemispheric CO ₂ gradient. <i>Nature</i> , 2019 , 568, 221-225	50.4	77
127	FLUXNET-CH ₄ Synthesis Activity: Objectives, Observations, and Future Directions. <i>Bulletin of the American Meteorological Society</i> , 2019 , 100, 2607-2632	6.1	77
126	Global trends in carbon sinks and their relationships with CO ₂ and temperature. <i>Nature Climate Change</i> , 2019 , 9, 73-79	21.4	77
125	Persistent fossil fuel growth threatens the Paris Agreement and planetary health. <i>Environmental Research Letters</i> , 2019 , 14, 121001	6.2	76
124	Global carbon budget 2013 2013 ,		75
123	Fire in Australian savannas: from leaf to landscape. <i>Global Change Biology</i> , 2015 , 21, 62-81	11.4	74
122	Plant Species Mediate Changes in Soil Microbial N in Response to Elevated CO ₂ . <i>Ecology</i> , 1996 , 77, 2505-2515	4.5	72
121	The Global N ₂ O Model Intercomparison Project. <i>Bulletin of the American Meteorological Society</i> , 2018 , 99, 1231-1251	6.1	71

120	The carbon budget of South Asia. <i>Biogeosciences</i> , 2013 , 10, 513-527	4.6	71
119	Variability and quasi-decadal changes in the methane budget over the period 2000-2012. <i>Atmospheric Chemistry and Physics</i> , 2017 , 17, 11135-11161	6.8	69
118	Simulating the Earth system response to negative emissions. <i>Environmental Research Letters</i> , 2016 , 11, 095012	6.2	69
117	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. <i>Geoscientific Model Development</i> , 2018 , 11, 2995-3026	6.3	69
116	Root biomass of <i>Quercus ilex</i> in a montane Mediterranean forest. <i>Canadian Journal of Forest Research</i> , 1991 , 21, 1771-1778	1.9	67
115	Top-down assessment of the Asian carbon budget since the mid 1990s. <i>Nature Communications</i> , 2016 , 7, 10724	17.4	64
114	Can we reconcile atmospheric estimates of the Northern terrestrial carbon sink with land-based accounting?. <i>Current Opinion in Environmental Sustainability</i> , 2010 , 2, 225-230	7.2	63
113	Lower land-use emissions responsible for increased net land carbon sink during the slow warming period. <i>Nature Geoscience</i> , 2018 , 11, 739-743	18.3	62
112	Peatlands and the carbon cycle: from local processes to global implications in synthesis 2008 ,		62
111	Fossil CO ₂ emissions in the post-COVID-19 era. <i>Nature Climate Change</i> , 2021 , 11, 197-199	21.4	62
110	Gas hydrates: entrance to a methane age or climate threat?. <i>Environmental Research Letters</i> , 2009 , 4, 034007	6.2	60
109	Carbon and the Anthropocene. <i>Current Opinion in Environmental Sustainability</i> , 2010 , 2, 210-218	7.2	60
108	Global Carbon Budget 2017		60
107	Underground Structures of Woody Plants in Mediterranean Ecosystems of Australia, California, and Chile. <i>Ecological Studies</i> , 1995 , 177-210	1.1	59
106	Climate drives global soil carbon sequestration and crop yield changes under conservation agriculture. <i>Global Change Biology</i> , 2020 , 26, 3325-3335	11.4	54
105	Attributing the increase in atmospheric CO ₂ to emitters and absorbers. <i>Nature Climate Change</i> , 2013 , 3, 926-930	21.4	53
104	The declining uptake rate of atmospheric CO ₂ by land and ocean sinks. <i>Biogeosciences</i> , 2014 , 11, 3453-3475	4.6	53
103	Evaluation of six satellite-derived Fraction of Absorbed Photosynthetic Active Radiation (FAPAR) products across the Australian continent. <i>Remote Sensing of Environment</i> , 2014 , 140, 241-256	13.2	51

102	Developing a common strategy for integrative global environmental change research and outreach: the Earth System Science Partnership (ESSP). <i>Current Opinion in Environmental Sustainability</i> , 2009 , 1, 4-13	7.2	50
101	Carbon cycle responses of semi-arid ecosystems to positive asymmetry in rainfall. <i>Global Change Biology</i> , 2017 , 23, 793-800	11.4	49
100	The relationship between peak warming and cumulative CO ₂ emissions, and its use to quantify vulnerabilities in the carbon-climate-human system. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2011 , 63, 145-164	3.3	49
99	Future precipitation changes and their implications for tropical peatlands. <i>Geophysical Research Letters</i> , 2007 , 34,	4.9	49
98	Interactions of the carbon cycle, human activity, and the climate system: a research portfolio. <i>Current Opinion in Environmental Sustainability</i> , 2010 , 2, 301-311	7.2	47
97	Global Carbon Budget 2021. <i>Earth System Science Data</i> , 2022 , 14, 1917-2005	10.5	47
96	Anthropogenic CO ₂ emissions in Africa. <i>Biogeosciences</i> , 2009 , 6, 463-468	4.6	45
95	Trends and drivers of regional sources and sinks of carbon dioxide over the past two decades		44
94	Higher than expected CO ₂ fertilization inferred from leaf to global observations. <i>Global Change Biology</i> , 2020 , 26, 2390	11.4	43
93	Combating ecosystem collapse from the tropics to the Antarctic. <i>Global Change Biology</i> , 2021 , 27, 1692-1703	11.0	43
92	Data-driven estimates of global nitrous oxide emissions from croplands. <i>National Science Review</i> , 2020 , 7, 441-452	10.8	42
91	Atmospheric deposition, CO, and change in the land carbon sink. <i>Scientific Reports</i> , 2017 , 7, 9632	4.9	41
90	Mediterranean terrestrial ecosystems: research priorities on global change effects. <i>Global Ecology and Biogeography</i> , 1998 , 7, 157-166	6.1	41
89	Impact of the 2015/2016 El Niño on the terrestrial carbon cycle constrained by bottom-up and top-down approaches. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2018 , 373,	5.8	41
88	Comment on "The global tree restoration potential". <i>Science</i> , 2019 , 366,	33.3	40
87	A global dataset of CO emissions and ancillary data related to emissions for 343 cities. <i>Scientific Data</i> , 2019 , 6, 180280	8.2	40
86	Increased global nitrous oxide emissions from streams and rivers in the Anthropocene. <i>Nature Climate Change</i> , 2020 , 10, 138-142	21.4	35
85	Anthropogenic-driven rapid shifts in tree distribution lead to increased dominance of broadleaf species. <i>Global Change Biology</i> , 2016 , 22, 3984-3995	11.4	35

84	Responding to complex societal challenges: A decade of Earth System Science Partnership (ESSP) interdisciplinary research. <i>Current Opinion in Environmental Sustainability</i> , 2012 , 4, 147-158	7.2	31
83	Structure and Dynamics of the Root System. <i>Ecological Studies</i> , 1999 , 47-59	1.1	31
82	Systematic long-term observations of the global carbon cycle. <i>Trends in Ecology and Evolution</i> , 2009 , 24, 427-30	10.9	30
81	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000-2016 period. <i>Atmospheric Chemistry and Physics</i> , 2019 , 19, 13701-13723	6.8	30
80	Empirical estimates of regional carbon budgets imply reduced global soil heterotrophic respiration. <i>National Science Review</i> , 2021 , 8, nwa145	10.8	30
79	Reducing uncertainties in decadal variability of the global carbon budget with multiple datasets. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 13104-13108	11.5	28
78	Hydrologic resilience and Amazon productivity. <i>Nature Communications</i> , 2017 , 8, 387	17.4	28
77	Global Nitrous Oxide Emissions From Pasturelands and Rangelands: Magnitude, Spatiotemporal Patterns, and Attribution. <i>Global Biogeochemical Cycles</i> , 2019 , 33, 200-222	5.9	26
76	Spatial Patterns and Predictors of Forest Carbon Stocks in Western Mediterranean. <i>Ecosystems</i> , 2012 , 15, 1258-1270	3.9	26
75	Quantifying, Understanding and Managing the Carbon Cycle in the Next Decades. <i>Climatic Change</i> , 2004 , 67, 147-160	4.5	26
74	Global Carbon Budget 2021		26
73	Multi-decadal increase of forest burned area in Australia is linked to climate change. <i>Nature Communications</i> , 2021 , 12, 6921	17.4	26
72	The terrestrial carbon budget of South and Southeast Asia. <i>Environmental Research Letters</i> , 2016 , 11, 105006	6.2	26
71	Moving toward Net-Zero Emissions Requires New Alliances for Carbon Dioxide Removal. <i>One Earth</i> , 2020 , 3, 145-149	8.1	24
70	Largely underestimated carbon emission from land use and land cover change in the conterminous United States. <i>Global Change Biology</i> , 2019 , 25, 3741-3752	11.4	24
69	Environmental reporting and accounting in Australia: progress, prospects and research priorities. <i>Science of the Total Environment</i> , 2014 , 473-474, 338-49	10.2	24
68	Quantifying the impacts of vegetation changes on catchment storage-discharge dynamics using paired-catchment data. <i>Water Resources Research</i> , 2017 , 53, 5963-5979	5.4	24
67	Sources of Uncertainty in Regional and Global Terrestrial CO ₂ Exchange Estimates. <i>Global Biogeochemical Cycles</i> , 2020 , 34, e2019GB006393	5.9	23

66	A stand-alone tree demography and landscape structure module for Earth system models. <i>Geophysical Research Letters</i> , 2013 , 40, 5234-5239	4.9	22
65	Regional carbon fluxes from land use and land cover change in Asia, 1980–2009. <i>Environmental Research Letters</i> , 2016 , 11, 074011	6.2	21
64	The Global Methane Budget 2000–2017		19
63	State of the science in reconciling top-down and bottom-up approaches for terrestrial CO budget. <i>Global Change Biology</i> , 2020 , 26, 1068-1084	11.4	19
62	Quantification of global and national nitrogen budgets for crop production. <i>Nature Food</i> ,	14.4	19
61	Opportunities and challenges in using remaining carbon budgets to guide climate policy. <i>Nature Geoscience</i> , 2020 , 13, 769-779	18.3	18
60	Emissions from the Oil and Gas Sectors, Coal Mining and Ruminant Farming Drive Methane Growth over the Past Three Decades. <i>Journal of the Meteorological Society of Japan</i> , 2021 , 99, 309-337	2.8	18
59	Current and future CO ₂ emissions from drained peatlands in Southeast Asia		17
58	Anthropogenic CO ₂ emissions. <i>Nature Climate Change</i> , 2013 , 3, 603-604	21.4	16
57	Interannual variability in Australia's terrestrial carbon cycle constrained by multiple observation types. <i>Biogeosciences</i> , 2016 , 13, 6363-6383	4.6	16
56	Corrigendum to "Peatlands and the carbon cycle: from local processes to global implications a synthesis" published in <i>Biogeosciences</i> , 5, 1475–1491, 2008. <i>Biogeosciences</i> , 2008 , 5, 1739-1739	4.6	15
55	The Global Methane Budget: 2000–2012		15
54	Biomass Partitioning and Resource Allocation of Plants from Mediterranean-Type Ecosystems: Possible Responses to Elevated Atmospheric CO ₂ . <i>Ecological Studies</i> , 1995 , 76-101	1.1	15
53	Regional trends and drivers of the global methane budget. <i>Global Change Biology</i> , 2022 , 28, 182-200	11.4	14
52	Iconic CO ₂ time series at risk. <i>Science</i> , 2012 , 337, 1038-40	33.3	13
51	Recent Changes in Global Photosynthesis and Terrestrial Ecosystem Respiration Constrained From Multiple Observations. <i>Geophysical Research Letters</i> , 2018 , 45, 1058-1068	4.9	12
50	Land use change and El Niño-Southern Oscillation drive decadal carbon balance shifts in Southeast Asia. <i>Nature Communications</i> , 2018 , 9, 1154	17.4	12
49	Influences of hydroxyl radicals (OH) on top-down estimates of the global and regional methane budgets. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 9525-9546	6.8	12

48	Observing a Vulnerable Carbon Cycle. <i>Ecological Studies</i> , 2008 , 5-32	1.1	12
47	Focus on negative emissions. <i>Environmental Research Letters</i> , 2017 , 12, 110201	6.2	10
46	A comprehensive and synthetic dataset for global, regional, and national greenhouse gas emissions by sector 1970-2018 with an extension to 2019. <i>Earth System Science Data</i> , 2021 , 13, 5213-5252	10.5	10
45	Current systematic carbon cycle observations and needs for implementing a policy-relevant carbon observing system		10
44	Atmospheric methane removal: a research agenda. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2021 , 379, 20200454	3	10
43	An International Carbon Office to assist policy-based science. <i>Current Opinion in Environmental Sustainability</i> , 2010 , 2, 297-300	7.2	8
42	Challenges of a changing Earth. <i>Trends in Ecology and Evolution</i> , 2001 , 16, 664-666	10.9	8
41	Residential energy consumption and associated carbon emission in forest rural area in China: A case study in Weichang County. <i>Journal of Mountain Science</i> , 2014 , 11, 792-804	2.1	7
40	The rapidly changing greenhouse gas budget of Asia. <i>Eos</i> , 2012 , 93, 237-237	1.5	7
39	Anthropogenic and biophysical contributions to increasing atmospheric CO ₂ growth rate and airborne fraction		7
38	The SSP greenhouse gas concentrations and their extensions to 2500 2019 ,		6
37	Forest ecosystems and environments: scaling up from shoot module to watershed. <i>Ecological Research</i> , 2005 , 20, 241-241	1.9	6
36	Multiple observation types reduce uncertainty in Australia's terrestrial carbon and water cycles		6
35	Definitions and methods to estimate regional land carbon fluxes for the second phase of the REgional Carbon Cycle Assessment and Processes Project (RECCAP-2). <i>Geoscientific Model Development</i> , 2022 , 15, 1289-1316	6.3	6
34	The Northern Circumpolar Soil Carbon Database: spatially distributed datasets of soil coverage and soil carbon storage in the northern permafrost regions 2012 ,		5
33	Peatlands and the carbon cycle: From local processes to global implications. <i>Eos</i> , 2007 , 88, 295-295	1.5	5
32	On the role of trend and variability in the hydroxyl radical (OH) in the global methane budget. <i>Atmospheric Chemistry and Physics</i> , 2020 , 20, 13011-13022	6.8	5
31	The size of the land carbon sink in China.. <i>Nature</i> , 2022 , 603, E7-E9	50.4	5

30	Ecosystem metabolism and the global carbon cycle. <i>Trends in Ecology and Evolution</i> , 1999 , 14, 249	10.9	4
29	Anthropogenic emission is the main contributor to the rise of atmospheric methane during 1993-2017.. <i>National Science Review</i> , 2022 , 9, nwab200	10.8	4
28	Anthropogenic CO ₂ emissions in Africa		4
27	Global Carbon Budget 2018		4
26	Reply to: Practical constraints on atmospheric methane removal. <i>Nature Sustainability</i> , 2020 , 3, 358-359	22.1	3
25	Global Carbon Budget 2016		3
24	Global mapping of crop-specific emission factors highlights hotspots of nitrous oxide mitigation. <i>Nature Food</i> ,	14.4	3
23	A new version of the CABLE land surface model (Subversion revision r4546), incorporating land use and land cover change, woody vegetation demography and a novel optimisation-based approach to plant coordination of electron transport and carboxylation capacity-limited photosynthesis		3
22	Ecosystem Collapse and Climate Change: An Introduction. <i>Ecological Studies</i> , 2021 , 1-9	1.1	3
21	Global fossil carbon emissions rebound near pre-COVID-19 levels. <i>Environmental Research Letters</i> , 2022 , 17, 031001	6.2	3
20	Inter-model comparison of global hydroxyl radical (OH) distributions and their impact on atmospheric methane over the 2000–2016 period 2019 ,		2
19	Variability and quasi-decadal changes in the methane budget over the period 2000–2012 2017 ,		2
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