Richard A Houghton

List of Publications by Year
in descending order

113 papers	39,602 citations	13827 67 h-index	25716 108 g-index
185 all docs	185 docs citations	185 times ranked	32475 citing authors

#	Article	IF	Citations
1	A Large and Persistent Carbon Sink in the Worldâ€™s Forests. Science, 2011, 333, 988-993.	6.0	5,393
2	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.	3.3	1,770
3	Trends in the sources and sinks of carbon dioxide. Nature Geoscience, 2009, 2, 831-836.	5.4	1,746
4	Natural climate solutions. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11645-11650.	3.3	1,709
5	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	3.7	1,477
6	Estimated carbon dioxide emissions from tropical deforestation improved by carbon-density maps. Nature Climate Change, 2012, 2, 182-185.	8.1	1,326
7	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	3.7	1,167
8	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	3.7	1,159
9	Harmonization of land-use scenarios for the period 1500â€“2100: 600Âyears of global gridded annual land-use transitions, wood harvest, and resulting secondary lands. Climatic Change, 2011, 109, 117-161.	1.7	1,080
10	The U.S. Carbon Budget: Contributions from Land-Use Change. Science, 1999, 285, 574-578.	6.0	934
11	Aboveground Forest Biomass and the Global Carbon Balance. Global Change Biology, 2005, 11, 945-958.	4.2	909
12	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	3.7	905
13	Reconciling Carbon-cycle Concepts, Terminology, and Methods. Ecosystems, 2006, 9, 1041-1050.	1.6	904
14	Carbon emissions from land use and land-cover change. Biogeosciences, 2012, 9, 5125-5142.	1.3	839
15	Changes in the Carbon Content of Terrestrial Biota and Soils between 1860 and 1980: A Net Release of CO"2 to the Atmosphere. Ecological Monographs, 1983, 53, 235-262.	2.4	807
16	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	3.7	801
17	The exceptional value of intact forest ecosystems. Nature Ecology and Evolution, 2018, 2, 599-610.	3.4	681
18	Revised estimates of the annual net flux of carbon to the atmosphere from changes in land use and land management 1850-2000. Tellus, Series B: Chemical and Physical Meteorology, 2003, 55, 378-390.	0.8	669

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19	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	3.7	663
20	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	3.7	616
21	Annual fluxes of carbon from deforestation and regrowth in the Brazilian Amazon. Nature, 2000, 403, 301-304.	13.7	613
22	Carbon emissions from tropical deforestation and regrowth based on satellite observations for the 1980s and 1990s. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 14256-14261.	3.3	562
23	Update on CO2 emissions. Nature Geoscience, 2010, 3, 811-812.	5.4	561
24	Tropical forests are a net carbon source based on aboveground measurements of gain and loss. Science, 2017, 358, 230-234.	6.0	539
25	The global carbon budget 1959â€“2011. Earth System Science Data, 2013, 5, 165-185.	3.7	527
26	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	3.7	463
27	The underpinnings of land-use history: three centuries of global gridded land-use transitions, wood-harvest activity, and resulting secondary lands. Global Change Biology, 2006, 12, 1208-1229.	4.2	449
28	Importance of biomass in the global carbon cycle. Journal of Geophysical Research, 2009, 114, .	3.3	447
29	Global maps of twenty-first century forest carbon fluxes. Nature Climate Change, 2021, 11, 234-240.	8.1	425
30	Land management and land-cover change haveÂimpacts of similar magnitude on surfaceÂtemperature. Nature Climate Change, 2014, 4, 389-393.	8.1	404
31	The annual net flux of carbon to the atmosphere from changes in land use 1850-1990*. Tellus, Series B: Chemical and Physical Meteorology, 1999, 51, 298-313.	0.8	392
32	The annual net flux of carbon to the atmosphere from changes in land use 1850â€“1990*. Tellus, Series B: Chemical and Physical Meteorology, 2022, 51, 298.	0.8	363
33	Global and regional fluxes of carbon from land use and land cover change 1850â€“2015. Global Biogeochemical Cycles, 2017, 31, 456-472.	1.9	362
34	A synthesis of current knowledge on forests and carbon storage in the United States. , 2011, 21, 1902-1924.		354
35	Why are estimates of the terrestrial carbon balance so different?. Global Change Biology, 2003, 9, 500-509.	4.2	339
36	Natural climate solutions for the United States. Science Advances, 2018, 4, eaat1869.	4.7	333

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37	Global carbon budget 2013. Earth System Science Data, 2014, 6, 235-263.	3.7	311
38	Mapping carbon accumulation potential from global natural forest regrowth. Nature, 2020, 585, 545-550.	13.7	278
39	Mapping and monitoring carbon stocks with satellite observations: a comparison of methods. Carbon Balance and Management, 2009, 4, 2.	1.4	274
40	Carbon emissions and the drivers of deforestation and forest degradation in the tropics. Current Opinion in Environmental Sustainability, 2012, 4, 597-603.	3.1	253
41	A role for tropical forests in stabilizing atmospheric CO2. Nature Climate Change, 2015, 5, 1022-1023.	8.1	243
42	Characterizing 3D vegetation structure from space: Mission requirements. Remote Sensing of Environment, 2011, 115, 2753-2775.	4.6	228
43	Revised estimates of the annual net flux of carbon to the atmosphere from changes in land use and land management 1850â€“2000. Tellus, Series B: Chemical and Physical Meteorology, 2022, 55, 378.	0.8	226
44	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.	3.7	193
45	Sources and sinks of carbon from land-use change in China. Global Biogeochemical Cycles, 2003, 17, n/a-n/a.	1.9	179
46	How well do we know the flux of CO₂ from land-use change?. Tellus, Series B: Chemical and Physical Meteorology, 2022, 62, 337.	0.8	175
47	Invasive grass reduces aboveground carbon stocks in shrublands of the Western US. Global Change Biology, 2006, 12, 1815-1822.	4.2	174
48	A full greenhouse gases budget of Africa: synthesis, uncertainties, and vulnerabilities. Biogeosciences, 2014, 11, 381-407.	1.3	162
49	Ecosystem responses to recent climate change and fire disturbance at northern high latitudes: observations and model results contrasting northern Eurasia and North America. Environmental Research Letters, 2007, 2, 045031.	2.2	160
50	Post-Soviet farmland abandonment, forest recovery, and carbon sequestration in western Ukraine. Global Change Biology, 2011, 17, 1335-1349.	4.2	159
51	Terminology as a key uncertainty in net land use and land cover change carbon flux estimates. Earth System Dynamics, 2014, 5, 177-195.	2.7	152
52	Accelerating net terrestrial carbon uptake during the warming hiatus due to reduced respiration. Nature Climate Change, 2017, 7, 148-152.	8.1	151
53	Aboveground carbon loss in natural and managed tropical forests from 2000 to 2012. Environmental Research Letters, 2015, 10, 074002.	2.2	142
54	Bias in the attribution of forest carbon sinks. Nature Climate Change, 2013, 3, 854-856.	8.1	129

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55	Negative emissions from stopping deforestation and forest degradation, globally. Global Change Biology, 2018, 24, 350-359.	4.2	119
56	Evidence for environmentally enhanced forest growth. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9527-9532.	3.3	116
57	Measurement and monitoring needs, capabilities and potential for addressing reduced emissions from deforestation and forest degradation under REDD+. Environmental Research Letters, 2015, 10, 123001.	2.2	115
58	Observations and assessment of forest carbon dynamics following disturbance in North America. Journal of Geophysical Research, 2012, 117, .	3.3	112
59	Historical CO₂ emissions from land use and land cover change and their uncertainty. Biogeosciences, 2020, 17, 4075-4101.	1.3	112
60	Lower land-use emissions responsible for increased net land carbon sink during the slow warming period. Nature Geoscience, 2018, 11, 739-743.	5.4	110
61	Understanding the importance of primary tropical forest protection as a mitigation strategy. Mitigation and Adaptation Strategies for Global Change, 2020, 25, 763-787.	1.0	109
62	Reconciling global-model estimates and country reporting of anthropogenic forest CO2 sinks. Nature Climate Change, 2018, 8, 914-920.	8.1	101
63	Audit of the global carbon budget: estimate errors and their impact on uptake uncertainty. Biogeosciences, 2015, 12, 2565-2584.	1.3	96
64	The carbon budget of South Asia. Biogeosciences, 2013, 10, 513-527.	1.3	94
65	Effects of land-use change on the carbon balance of terrestrial ecosystems. Geophysical Monograph Series, 2004, , 85-98.	0.1	92
66	Recent rates of forest harvest and conversion in North America. Journal of Geophysical Research, 2011, 116, .	3.3	92
67	Tropical nighttime warming as a dominant driver of variability in the terrestrial carbon sink. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 15591-15596.	3.3	92
68	Hidden carbon sink beneath desert. Geophysical Research Letters, 2015, 42, 5880-5887.	1.5	89
69	Evaluating nature-based solutions for climate mitigation and conservation requires comprehensive carbon accounting. Science of the Total Environment, 2021, 769, 144341.	3.9	88
70	The emissions of carbon from deforestation and degradation in the tropics: past trends and future potential. Carbon Management, 2013, 4, 539-546.	1.2	86
71	The carbon balance of South America: a review of the status, decadal trends and main determinants. Biogeosciences, 2012, 9, 5407-5430.	1.3	78
72	Emissions of carbon from land use change in sub-Saharan Africa. Journal of Geophysical Research, 2006, 111, n/a-n/a.	3.3	66

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73	Fire and deforestation dynamics in Amazonia (1973â€"2014). Global Biogeochemical Cycles, 2017, 31, 24-38.	1.9	66
74	The declining uptake rate of atmospheric CO₂ by land and ocean sinks. Biogeosciences, 2014, 11, 3453-3475.	1.3	62
75	Anthropogenic CO₂ emissions in Africa. Biogeosciences, 2009, 6, 463-468.	1.3	58
76	Contribution of land use to the interannual variability of the land carbon cycle. Nature Communications, 2020, 11, 3170.	5.8	57
77	The global potential for increased storage of carbon on land. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	54
78	Terrestrial sources and sinks of carbon inferred from terrestrial data. Tellus, Series B: Chemical and Physical Meteorology, 2022, 48, 420.	0.8	50
79	National-scale estimation of gross forest aboveground carbon loss: a case study of the Democratic Republic of the Congo. Environmental Research Letters, 2013, 8, 044039.	2.2	49
80	Carbon implications of forest restitution in post-socialist Romania. Environmental Research Letters, 2011, 6, 045202.	2.2	47
81	Climate, economic, and environmental impacts of producing wood for bioenergy. Environmental Research Letters, 2018, 13, 050201.	2.2	47
82	The terrestrial carbon budget of South and Southeast Asia. Environmental Research Letters, 2016, 11, 105006.	2.2	39
83	Large greenhouse gas savings due to changes in the post-Soviet food systems. Environmental Research Letters, 2019, 14, 065009.	2.2	38
84	Land-use change in the Soviet Union between 1850 and 1980: causes of a net release of CO₂to the atmosphere. Tellus, Series B: Chemical and Physical Meteorology, 1988, 40B, 116-128.	0.8	37
85	Keeping management effects separate from environmental effects in terrestrial carbon accounting. Global Change Biology, 2013, 19, 2609-2612.	4.2	37
86	Joint CO ₂ and CH ₄ accountability for global warming. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E2865-74.	3.3	37
87	Terrestrial fluxes of carbon in GCP carbon budgets. Global Change Biology, 2020, 26, 3006-3014.	4.2	32
88	The Role of the Worldâ€™s Forests in Global Warming. , 0, , 21-58.		31
89	The role of science in Reducing Emissions from Deforestation and Forest Degradation (REDD). Carbon Management, 2010, 1, 253-259.	1.2	26
90	Interactions Between Land-Use Change and Climate-Carbon Cycle Feedbacks. Current Climate Change Reports, 2018, 4, 115-127.	2.8	23

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91	The consolidated European synthesis of CO₂ emissions and removals for the European Union and United Kingdom: 1990â€"2018. Earth System Science Data, 2021, 13, 2363-2406.	3.7	23
92	Comparison of uncertainties in land-use change fluxes from bookkeeping model parameterisation. Earth System Dynamics, 2021, 12, 745-762.	2.7	22
93	Trade-offs in land-use decisions: Towards a framework for assessing multiple ecosystem responses to land-use change. Geophysical Monograph Series, 2004, , 1-9.	0.1	18
94	Where is the residual terrestrial carbon sink?. Global Change Biology, 2018, 24, 3277-3279.	4.2	17
95	Response to Comment on â€œTropical forests are a net carbon source based on aboveground measurements of gain and lossâ€ Science, 2019, 363, .	6.0	17
96	Terrestrial carbon sinks--uncertain explanations. Biologist, 2002, 49, 155-60.	2.0	17
97	Historic Changes in Terrestrial Carbon Storage. , 2012, , 59-82.		16
98	Comment on â€˜Carbon Intensity of corn ethanol in the United States: state of the scienceâ€™. Environmental Research Letters, 2021, 16, 118001.	2.2	11
99	Multi-gas and multi-source comparisons of six land use emission datasets and AFOLU estimates in the Fifth Assessment Report, for the tropics for 2000â€"2005. Biogeosciences, 2016, 13, 5799-5819.	1.3	8
100	Are Landâ€Use Change Emissions in Southeast Asia Decreasing or Increasing?. Global Biogeochemical Cycles, 2022, 36, .	1.9	7
101	Fixing a flawed approach to forest accounting in the next round of the Kyoto Protocol. Carbon Management, 2010, 1, 179-182.	1.2	6
102	Measurement and Monitoring for REDD+: The Needs, Current Technological Capabilities, and Future Potential. SSRN Electronic Journal, 0, , .	0.4	5
103	Sustainable landscapes in a world of change: tropical forests, land use and implementation of REDD+: Part I. Carbon Management, 2013, 4, 465-468.	1.2	4
104	Sustainable landscapes in a world of change: tropical forests, land use and implementation of REDD+: Part II. Carbon Management, 2013, 4, 567-569.	1.2	4
105	Carbon fluxes from contemporary forest disturbances in North Carolina evaluated using a grid-based carbon accounting model and fine resolution remote sensing products. Science of Remote Sensing, 2022, 5, 100042.	2.2	3
106	Typological responses of ecosystems to land use change. Geophysical Monograph Series, 2004, , 337-344.	0.1	2
107	Welcome toCarbon Management. Carbon Management, 2010, 1, 1-3.	1.2	2
108	Seeing Forests for More than Carbon in the Trees: Incentivizing Actions beyond Carbon Storage to Mitigate Climate Change. Journal of Forestry, 2017, 115, 329-331.	0.5	2

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109	The Effects of Land Use and Management on the Global Carbon Cycle. Remote Sensing and Digital Image Processing, 2012, , 237-256.	0.7	2
110	Policy Update: Towards results-based REDD+ mechanisms. Carbon Management, 2011, 2, 513-515.	1.2	1
111	Deforestation. , 2016, , 313-315.		1
112	Negative Emissions From Stopping Deforestation and Forest Degradation. , 2020, , 226-236.		0
113	Bottom-up approaches for estimating terrestrial GHG budgets: Bookkeeping, process-based modeling, and data-driven methods. , 2022, , 59-85.		0