Thomas W Crowther

List of Publications by Year
in descending order

113 papers	14,352 citations	36203 51 h-index	22102 113 g-index
134 all docs	134 docs citations	134 times ranked	17917 citing authors

#	Article	IF	Citations
1	The global tree restoration potential. Science, 2019, 365, 76-79.	6.0	1,181
2	Scientistsâ€™ warning to humanity: microorganisms and climate change. Nature Reviews Microbiology, 2019, 17, 569-586.	13.6	1,138
3	Quantifying global soil carbon losses in response to warming. Nature, 2016, 540, 104-108.	13.7	879
4	Positive biodiversity-productivity relationship predominant in global forests. Science, 2016, 354, .	6.0	864
5	Mapping tree density at a global scale. Nature, 2015, 525, 201-205.	13.7	642
6	Soil nematode abundance and functional group composition at a global scale. Nature, 2019, 572, 194-198.	13.7	635
7	The global soil community and its influence on biogeochemistry. Science, 2019, 365, .	6.0	586
8	Magnitude of urban heat islands largely explained by climate and population. Nature, 2019, 573, 55-60.	13.7	546
9	Managing uncertainty in soil carbon feedbacks to climate change. Nature Climate Change, 2016, 6, 751-758.	8.1	491
10	Climatic controls of decomposition drive the global biogeography of forest-tree symbioses. Nature, 2019, 569, 404-408.	13.7	371
11	Temperature response of soil respiration largely unaltered with experimental warming. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 13797-13802.	3.3	308
12	Biogeographic patterns in below-ground diversity in New York City's Central Park are similar to those observed globally. Proceedings of the Royal Society B: Biological Sciences, 2014, 281, 20141988.	1.2	295
13	Climate fails to predict wood decomposition at regional scales. Nature Climate Change, 2014, 4, 625-630.	8.1	281
14	Mapping carbon accumulation potential from global natural forest regrowth. Nature, 2020, 585, 545-550.	13.7	278
15	Global distribution of earthworm diversity. Science, 2019, 366, 480-485.	6.0	248
16	Untangling the fungal niche: the trait-based approach. Frontiers in Microbiology, 2014, 5, 579.	1.5	211
17	Increased growing-season productivity drives earlier autumn leaf senescence in temperate trees. Science, 2020, 370, 1066-1071.	6.0	202
18	Biotic interactions mediate soil microbial feedbacks to climate change. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 7033-7038.	3.3	201

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19	Functional and ecological consequences of saprotrophic fungusâ€“grazer interactions. ISME Journal, 2012, 6, 1992-2001.	4.4	189
20	A test of the hierarchical model of litter decomposition. Nature Ecology and Evolution, 2017, 1, 1836-1845.	3.4	172
21	Fungal functional ecology: bringing a traitâ€based approach to plantâ€associated fungi. Biological Reviews, 2020, 95, 409-433.	4.7	171
22	Thermal acclimation in widespread heterotrophic soil microbes. Ecology Letters, 2013, 16, 469-477.	3.0	164
23	Tracking, targeting, and conserving soil biodiversity. Science, 2021, 371, 239-241.	6.0	151
24	Predicting rates of isotopic turnover across the animal kingdom: a synthesis of existing data. Journal of Animal Ecology, 2015, 84, 861-870.	1.3	144
25	Late-spring frost risk between 1959 and 2017 decreased in North America but increased in Europe and Asia. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12192-12200.	3.3	140
26	Outcomes of fungal interactions are determined by soil invertebrate grazers. Ecology Letters, 2011, 14, 1134-1142.	3.0	136
27	Detecting macroecological patterns in bacterial communities across independent studies of global soils. Nature Microbiology, 2018, 3, 189-196.	5.9	136
28	Topâ€down control of soil fungal community composition by a globally distributed keystone consumer. Ecology, 2013, 94, 2518-2528.	1.5	119
29	Water scaling of ecosystem carbon cycle feedback to climate warming. Science Advances, 2019, 5, eaav1131.	4.7	118
30	Global maps of soil temperature. Global Change Biology, 2022, 28, 3110-3144.	4.2	113
31	The Importance of Consistent Global Forest Aboveground Biomass Product Validation. Surveys in Geophysics, 2019, 40, 979-999.	2.1	106
32	Competitive network determines the direction of the diversityâ€“function relationship. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 11464-11469.	3.3	102
33	A trait-based understanding of wood decomposition by fungi. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 11551-11558.	3.3	102
34	Predicting the responsiveness of soil biodiversity to deforestation: a crossâ€biome study. Global Change Biology, 2014, 20, 2983-2994.	4.2	101
35	Cross-biome patterns in soil microbial respiration predictable from evolutionary theory on thermal adaptation. Nature Ecology and Evolution, 2019, 3, 223-231.	3.4	100
36	Climate warming alters subsoil but not topsoil carbon dynamics in alpine grassland. Global Change Biology, 2019, 25, 4383-4393.	4.2	94

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37	Consistent trade-offs in fungal trait expression across broad spatial scales. Nature Microbiology, 2019, 4, 846-853.	5.9	94
38	The global distribution and environmental drivers of aboveground versus belowground plant biomass. Nature Ecology and Evolution, 2021, 5, 1110-1122.	3.4	88
39	Evidence for large microbial-mediated losses of soil carbon under anthropogenic warming. Nature Reviews Earth & Environment, 2021, 2, 507-517.	12.2	85
40	Direct and indirect impacts of urbanization on vegetation growth across the worldâ€™s cities. Science Advances, 2022, 8, .	4.7	80
41	Carbon use efficiency and storage in terrestrial ecosystems. New Phytologist, 2013, 199, 7-9.	3.5	79
42	Diversity begets diversity in competition for space. Nature Ecology and Evolution, 2017, 1, 156.	3.4	79
43	A global test of ecoregions. Nature Ecology and Evolution, 2018, 2, 1889-1896.	3.4	79
44	Understanding climate change from a global analysis of city analogues. PLoS ONE, 2019, 14, e0217592.	1.1	75
45	Sensitivity of global soil carbon stocks to combined nutrient enrichment. Ecology Letters, 2019, 22, 936-945.	3.0	75
46	Species-specific effects of soil fauna on fungal foraging and decomposition. Oecologia, 2011, 167, 535-545.	0.9	74
47	Distinct Assembly Processes and Microbial Communities Constrain Soil Organic Carbon Formation. One Earth, 2020, 2, 349-360.	3.6	74
48	Invertebrate grazing determines enzyme production by basidiomycete fungi. Soil Biology and Biochemistry, 2011, 43, 2060-2068.	4.2	67
49	Impacts of grazing soil fauna on decomposer fungi are species-specific and density-dependent. Fungal Ecology, 2012, 5, 277-281.	0.7	67
50	Fungal interactions reduce carbon use efficiency. Ecology Letters, 2017, 20, 1034-1042.	3.0	65
51	Forest tree growth is linked to mycorrhizal fungal composition and function across Europe. ISME Journal, 2022, 16, 1327-1336.	4.4	62
52	How plastic mulching affects net primary productivity, soil C fluxes and organic carbon balance in dry agroecosystems in China. Journal of Cleaner Production, 2020, 263, 121470.	4.6	53
53	Growing the urban forest: tree performance in response to biotic and abiotic land management. Restoration Ecology, 2015, 23, 707-718.	1.4	51
54	Environmental stress response limits microbial necromass contributions to soil organic carbon. Soil Biology and Biochemistry, 2015, 85, 153-161.	4.2	50

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55	Navigating the unfolding open data landscape in ecology and evolution. Nature Ecology and Evolution, 2018, 2, 420-426.	3.4	47
56	A global database of soil nematode abundance and functional group composition. Scientific Data, 2020, 7, 103.	2.4	46
57	Recent deforestation drove the spike in Amazonian fires. Environmental Research Letters, 2020, 15, 121003.	2.2	46
58	Internet Blogs, Polar Bears, and Climate-Change Denial by Proxy. BioScience, 2018, 68, 281-287.	2.2	45
59	Nutrient availability controls the impact of mammalian herbivores on soil carbon and nitrogen pools in grasslands. Global Change Biology, 2020, 26, 2060-2071.	4.2	43
60	Species-specific effects of grazing invertebrates on mycelial emergence and growth from woody resources into soil. Fungal Ecology, 2011, 4, 333-341.	0.7	42
61	Species associations overwhelm abiotic conditions to dictate the structure and function of woodâ€decay fungal communities. Ecology, 2018, 99, 801-811.	1.5	42
62	Patterns of natural fungal community assembly during initial decay of coniferous and broadleaf tree logs. Ecosphere, 2016, 7, e01393.	1.0	38
63	Field-warmed soil carbon changes imply high 21st-century modeling uncertainty. Biogeosciences, 2018, 15, 3659-3671.	1.3	38
64	Temperate forest termites: ecology, biogeography, and ecosystem impacts. Ecological Entomology, 2015, 40, 199-210.	1.1	36
65	Intransitive competition is common across five major taxonomic groups and is driven by productivity, competitive rank and functional traits. Journal of Ecology, 2018, 106, 852-864.	1.9	36
66	The use of artificial media in fungal ecology. Fungal Ecology, 2018, 32, 87-91.	0.7	36
67	The scaling of fine root nitrogen versus phosphorus in terrestrial plants: A global synthesis. Functional Ecology, 2019, 33, 2081-2094.	1.7	35
68	How to do meta-analysis of open datasets. Nature Ecology and Evolution, 2018, 2, 1053-1056.	3.4	34
69	Interactive climate factors restrict future increases in spring productivity of temperate and boreal trees. Global Change Biology, 2020, 26, 4042-4055.	4.2	34
70	Quantitative analysis of the links between forest structure and land surface albedo on a global scale. Remote Sensing of Environment, 2020, 246, 111854.	4.6	33
71	Interactive effects of warming and invertebrate grazing on the outcomes of competitive fungal interactions. FEMS Microbiology Ecology, 2012, 81, 419-426.	1.3	32
72	Greenhouse trace gases in deadwood. Biogeochemistry, 2016, 130, 215-226.	1.7	31

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73	High stability and metabolic capacity of bacterial community promote the rapid reduction of easily decomposing carbon in soil. Communications Biology, 2021, 4, 1376.	2.0	31
74	Global relationships in tree functional traits. Nature Communications, 2022, 13, .	5.8	29
75	Localised invertebrate grazing moderates the effect of warming on competitive fungal interactions. Fungal Ecology, 2013, 6, 137-140.	0.7	27
76	Substrate identity and amount overwhelm temperature effects on soil carbon formation. Soil Biology and Biochemistry, 2018, 124, 218-226.	4.2	26
77	Decoupling direct and indirect effects of temperature on decomposition. Soil Biology and Biochemistry, 2017, 112, 110-116.	4.2	25
78	Effects of Elevated CO2 on Litter Chemistry and Subsequent Invertebrate Detritivore Feeding Responses. PLoS ONE, 2014, 9, e86246.	1.1	24
79	Priming effects in soils across Europe. Global Change Biology, 2022, 28, 2146-2157.	4.2	22
80	Past climate conditions predict the influence of nitrogen enrichment on the temperature sensitivity of soil respiration. Communications Earth & Environment, 2021, 2, .	2.6	22
81	Alternative stable states of the forest mycobiome are maintained through positive feedbacks. Nature Ecology and Evolution, 2022, 6, 375-382.	3.4	21
82	Response to Comments on â€œThe global tree restoration potentialâ€. Science, 2019, 366, .	6.0	20
83	Gold Open Access Publishing in Mega-Journals: Developing Countries Pay the Price of Western Premium Academic Output. Journal of Scholarly Publishing, 2017, 49, 89-102.	0.3	20
84	Increased CO2 emissions surpass reductions of non-CO2 emissions more under higher experimental warming in an alpine meadow. Science of the Total Environment, 2021, 769, 144559.	3.9	18
85	A â€˜debtâ€™ based approach to land degradation as an indicator of global change. Global Change Biology, 2021, 27, 5407-5410.	4.2	15
86	Invertebrate grazing affects nitrogen partitioning in the saprotrophic fungus Phanerochaete velutina. Soil Biology and Biochemistry, 2011, 43, 2338-2346.	4.2	14
87	Crowther et al. reply. Nature, 2018, 554, E7-E8.	13.7	14
88	Mycorrhizal Distributions Impact Global Patterns of Carbon and Nutrient Cycling. Geophysical Research Letters, 2021, 48, e2021GL094514.	1.5	14
89	Strategy games to improve environmental policymaking. Nature Sustainability, 2022, 5, 464-471.	11.5	14
90	Belowground community turnover accelerates the decomposition of standing dead wood. Ecology, 2021, 102, e03484.	1.5	13

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91	The role of bottom-up and top-down interactions in determining microbial and fungal diversity and function. , 2015, , 260-287.		12
92	Climate shapes the protein abundance of dominant soil bacteria. Science of the Total Environment, 2018, 640-641, 18-21.	3.9	12
93	Applying allometric theory to fungi. ISME Journal, 2017, 11, 2175-2180.	4.4	10
94	How changes in spring and autumn phenology translate into growthâ€experimental evidence of asymmetric effects. Journal of Ecology, 2021, 109, 2717-2728.	1.9	10
95	Modelling the multidimensional niche by linking functional traits to competitive performance. Proceedings of the Royal Society B: Biological Sciences, 2015, 282, 20150516.	1.2	8
96	The relative roles of local climate adaptation and phylogeny in determining leaf-out timing of temperate tree species. Forest Ecosystems, 2017, 4, .	1.3	8
97	Higher Trophic Levels Overwhelm Climate Change Impacts on Terrestrial Ecosystem Functioning. PLoS ONE, 2015, 10, e0136344.	1.1	8
98	Uniting the scales of microbial biogeochemistry with traitâ€based modelling. Functional Ecology, 2022, 36, 1457-1472.	1.7	8
99	Spatially-explicit models of global tree density. Scientific Data, 2016, 3, 160069.	2.4	7
100	A salamander's top down effect on fungal communities in a detritivore ecosystem. FEMS Microbiology Ecology, 2018, 94, .	1.3	7
101	Temperature sensitivity of soil carbon. , 2019, , 175-208.		7
102	Restor: Transparency and connectivity for the global environmental movement. One Earth, 2022, 5, 476-481.	3.6	5
103	Forest value: More than commercialâ€"Response. Science, 2016, 354, 1541-1542.	6.0	4
104	Response to Comment on â€œThe global tree restoration potentialâ€. Science, 2019, 366, .	6.0	4
105	Land surface black-sky albedo at a fixed solar zenith angle and its relation to forest structure during peak growing season based on remote sensing data. Data in Brief, 2020, 31, 105720.	0.5	4
106	Lowland plant arrival in alpine ecosystems facilitates a decrease in soil carbon content under experimental climate warming. ELife, 2022, 11, .	2.8	4
107	Ten years to restore a planet. One Earth, 2020, 3, 647-652.	3.6	3
108	Response to Comment on â€œIncreased growing-season productivity drives earlier autumn leaf senescence in temperate treesâ€. Science, 2021, 371, .	6.0	3

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109	Reply to Veresoglou: Overdependence on â€œsignificanceâ€•testing in biology. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E5114-E5114.	3.3	2
110	Forest restoration: Transformative treesâ€"Response. Science, 2019, 366, 317-317.	6.0	2
111	Building a global database of soil microbial biomass and function: a call for collaboration. Soil Organisms, 2020, 91, 139-142.	2.2	1
112	Carbon Source Reduction Postpones Autumn Leaf Senescence in a Widespread Deciduous Tree. Frontiers in Plant Science, 2022, 13, .	1.7	1
113	Using Model Analysis to Unveil Hidden Patterns in Tropical Forest Structures. Frontiers in Ecology and Evolution, 2021, 9, .	1.1	0