Edward A G Schuur

List of Publications by Year
in descending order

138 papers	25,348 citations	12597 71 h-index	12940 136 g-index
140 all docs	140 docs citations	140 times ranked	19077 citing authors

#	Article	IF	Citations
1	The tundra phenology database: more than two decades of tundra phenology responses to climate change. Arctic Science, 2022, 8, 1026-1039.	0.9	7
2	The ABCflux database: Arcticâ€“boreal CO₂ flux observations and ancillary information aggregated to monthly time steps across terrestrial ecosystems. Earth System Science Data, 2022, 14, 179-208.	3.7	22
3	Seasonal Changes in Hydrology and Permafrost Degradation Control Mineral Elementâ€Bound DOC Transport From Permafrost Soils to Streams. Global Biogeochemical Cycles, 2022, 36, .	1.9	11
4	Representativeness assessment of the pan-Arctic eddy covariance site network and optimized future enhancements. Biogeosciences, 2022, 19, 559-583.	1.3	21
5	Permafrost thaw with warming reduces microbial metabolic capacities in subsurface soils. Molecular Ecology, 2022, 31, 1403-1415.	2.0	12
6	Changing sub-Arctic tundra vegetation upon permafrost degradation: impact on foliar mineral element cycling. Biogeosciences, 2022, 19, 2333-2351.	1.3	9
7	Current knowledge and uncertainties associated with the Arctic greenhouse gas budget. , 2022, , 159-201.		1
8	Lower soil moisture and deep soil temperatures in thermokarst features increase old soil carbon loss after 10Âyears of experimental permafrost warming. Global Change Biology, 2021, 27, 1293-1308.	4.2	22
9	Ten new insights in climate science 2020 â€“ a horizon scan. Global Sustainability, 2021, 4, .	1.6	17
10	Spatial heterogeneity and environmental predictors of permafrost region soil organic carbon stocks. Science Advances, 2021, 7, .	4.7	130
11	Investigating Thaw and Plant Productivity Constraints on Old Soil Carbon Respiration From Permafrost. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006000.	1.3	3
12	Tundra Underlain By Thawing Permafrost Persistently Emits Carbon to the Atmosphere Over 15 Years of Measurements. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006044.	1.3	19
13	Experimental warming differentially affects vegetative and reproductive phenology of tundra plants. Nature Communications, 2021, 12, 3442.	5.8	56
14	Statistical upscaling of ecosystem CO₂ fluxes across the terrestrial tundra and boreal domain: Regional patterns and uncertainties. Global Change Biology, 2021, 27, 4040-4059.	4.2	83
15	Projecting Permafrost Thaw of Subâ€Arctic Tundra With a Thermodynamic Model Calibrated to Site Measurements. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006218.	1.3	11
16	Soil respiration strongly offsets carbon uptake in Alaska and Northwest Canada. Environmental Research Letters, 2021, 16, 084051.	2.2	23
17	Experimental soil warming and permafrost thaw increase CH 4 emissions in an upland tundra ecosystem. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2021JG006376.	1.3	3
18	Impacts of pre-fire conifer density and wildfire severity on ecosystem structure and function at the forest-tundra ecotone. PLoS ONE, 2021, 16, e0258558.	1.1	6

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19	Model parameterization to represent processes at unresolved scales and changing properties of evolving systems. Global Change Biology, 2020, 26, 1109-1117.	4.2	49
20	Full Implementation of Matrix Approach to Biogeochemistry Module of CLM5. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002105.	1.3	8
21	Fuel availability not fire weather controls boreal wildfire severity and carbon emissions. Nature Climate Change, 2020, 10, 1130-1136.	8.1	82
22	Gene-informed decomposition model predicts lower soil carbon loss due to persistent microbial adaptation to warming. Nature Communications, 2020, 11, 4897.	5.8	67
23	Assessing the Potential for Mobilization of Old Soil Carbon After Permafrost Thaw: A Synthesis of ¹⁴C Measurements From the Northern Permafrost Region. Global Biogeochemical Cycles, 2020, 34, e2020GB006672.	1.9	36
24	Carbon Thaw Rate Doubles When Accounting for Subsidence in a Permafrost Warming Experiment. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2019JG005528.	1.3	28
25	Carbon release through abrupt permafrost thaw. Nature Geoscience, 2020, 13, 138-143.	5.4	434
26	Subsea permafrost carbon stocks and climate change sensitivity estimated by expert assessment. Environmental Research Letters, 2020, 15, 124075.	2.2	34
27	Tundra microbial community taxa and traits predict decomposition parameters of stable, old soil organic carbon. ISME Journal, 2019, 13, 2901-2915.	4.4	24
28	Responses of tundra soil microbial communities to half a decade of experimental warming at two critical depths. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15096-15105.	3.3	83
29	Direct observation of permafrost degradation and rapid soil carbon loss in tundra. Nature Geoscience, 2019, 12, 627-631.	5.4	137
30	Increasing wildfires threaten historic carbon sink of boreal forest soils. Nature, 2019, 572, 520-523.	13.7	293
31	Permafrost collapse is accelerating carbon release. Nature, 2019, 569, 32-34.	13.7	237
32	Drainage enhances modern soil carbon contribution but reduces old soil carbon contribution to ecosystem respiration in tundra ecosystems. Global Change Biology, 2019, 25, 1315-1325.	4.2	27
33	The Expanding Footprint of Rapid Arctic Change. Earth's Future, 2019, 7, 212-218.	2.4	38
34	Large loss of CO2 in winter observed across the northern permafrost region. Nature Climate Change, 2019, 9, 852-857.	8.1	225
35	Using Stable Carbon Isotopes of Seasonal Ecosystem Respiration to Determine Permafrost Carbon Loss. Journal of Geophysical Research G: Biogeosciences, 2019, 124, 46-60.	1.3	8
36	Glucose addition increases the magnitude and decreases the age of soil respired carbon in a long-term permafrost incubation study. Soil Biology and Biochemistry, 2019, 129, 201-211.	4.2	26

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37	Warming shortens flowering seasons of tundra plant communities. Nature Ecology and Evolution, 2019, 3, 45-52.	3.4	79
38	Is the Northern Permafrost Zone a Source or a Sink for Carbon?. Eos, 2019, 100, .	0.1	4
39	Crossâ€scale controls on carbon emissions from boreal forest megafires. Global Change Biology, 2018, 24, 4251-4265.	4.2	60
40	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.	3.3	296
41	Microbial functional diversity covaries with permafrost thawâ€induced environmental heterogeneity in tundra soil. Global Change Biology, 2018, 24, 297-307.	4.2	22
42	Ecological Response to Permafrost Thaw and Consequences for Local and Global Ecosystem Services. Annual Review of Ecology, Evolution, and Systematics, 2018, 49, 279-301.	3.8	116
43	Soil resources and element stocks in drylands to face global issues. Scientific Reports, 2018, 8, 13788.	1.6	126
44	Divergent patterns of experimental and model-derived permafrost ecosystem carbon dynamics in response to Arctic warming. Environmental Research Letters, 2018, 13, 105002.	2.2	31
45	Biotic responses buffer warmingâ€induced soil organic carbon loss in Arctic tundra. Global Change Biology, 2018, 24, 4946-4959.	4.2	21
46	Methane Efflux Measured by Eddy Covariance in Alaskan Upland Tundra Undergoing Permafrost Degradation. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 2695-2710.	1.3	27
47	Adding Depth to Our Understanding of Nitrogen Dynamics in Permafrost Soils. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 2497-2512.	1.3	73
48	More replenishment than priming loss of soil organic carbon with additional carbon input. Nature Communications, 2018, 9, 3175.	5.8	69
49	Greater temperature sensitivity of plant phenology at colder sites: implications for convergence across northern latitudes. Global Change Biology, 2017, 23, 2660-2671.	4.2	171
50	Nonlinear <scp>CO</scp>₂ flux response to 7Âyears of experimentally induced permafrost thaw. Global Change Biology, 2017, 23, 3646-3666.	4.2	64
51	Warming enhances old organic carbon decomposition through altering functional microbial communities. ISME Journal, 2017, 11, 1825-1835.	4.4	136
52	Importance of lateral flux and its percolation depth on organic carbon export in Arctic tundra soil: Implications from a soil leaching experiment. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 796-810.	1.3	25
53	Deep Yedoma permafrost: A synthesis of depositional characteristics and carbon vulnerability. Earth-Science Reviews, 2017, 172, 75-86.	4.0	236
54	Tundra is a consistent source of CO₂ at a site with progressive permafrost thaw during 6Âyears of chamber and eddy covariance measurements. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 1471-1485.	1.3	29

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55	Losing Legacies, Ecological Release, and Transient Responses: Key Challenges for the Future of Northern Ecosystem Science. Ecosystems, 2017, 20, 23-30.	1.6	25
56	Long-term drainage reduces CO₂ uptake and increases CO₂ emission on a Siberian floodplain due to shifts in vegetation community and soil thermal characteristics. Biogeosciences, 2016, 13, 4219-4235.	1.3	28
57	Metagenomics Reveals Pervasive Bacterial Populations and Reduced Community Diversity across the Alaska Tundra Ecosystem. Frontiers in Microbiology, 2016, 7, 579.	1.5	66
58	Nitrogen availability increases in a tundra ecosystem during five years of experimental permafrost thaw. Global Change Biology, 2016, 22, 1927-1941.	4.2	153
59	Radiocarbon in Terrestrial Systems. , 2016, , 167-220.		7
60	Temperature sensitivity of organic matter decomposition of permafrost-region soils during laboratory incubations. Soil Biology and Biochemistry, 2016, 97, 1-14.	4.2	73
61	Circumpolar distribution and carbon storage of thermokarst landscapes. Nature Communications, 2016, 7, 13043.	5.8	343
62	Variability in the sensitivity among model simulations of permafrost and carbon dynamics in the permafrost region between 1960 and 2009. Global Biogeochemical Cycles, 2016, 30, 1015-1037.	1.9	116
63	Increased wintertime CO₂ loss as a result of sustained tundra warming. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 249-265.	1.3	77
64	Potential carbon emissions dominated by carbon dioxide from thawed permafrost soils. Nature Climate Change, 2016, 6, 950-953.	8.1	288
65	Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment. Environmental Research Letters, 2016, 11, 034014.	2.2	199
66	Tundra soil carbon is vulnerable to rapid microbial decomposition under climate warming. Nature Climate Change, 2016, 6, 595-600.	8.1	260
67	Old soil carbon losses increase with ecosystem respiration in experimentally thawedÂtundra. Nature Climate Change, 2016, 6, 214-218.	8.1	67
68	A panâ€Arctic synthesis of CH₄ and CO₂ production from anoxic soil incubations. Global Change Biology, 2015, 21, 2787-2803.	4.2	138
69	Decadal warming causes a consistent and persistent shift from heterotrophic to autotrophic respiration in contrasting permafrost ecosystems. Global Change Biology, 2015, 21, 4508-4519.	4.2	81
70	Experimental Warming Alters Productivity and Isotopic Signatures of Tundra Mosses. Ecosystems, 2015, 18, 1070-1082.	1.6	34
71	Permafrost thaw and soil moisture driving CO₂ and CH₄ release from upland tundra. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 525-537.	1.3	163
72	Climate change and the permafrost carbon feedback. Nature, 2015, 520, 171-179.	13.7	2,369

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73	A simplified, data-constrained approach to estimate the permafrost carbonâ€“climate feedback. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140423.	1.6	149
74	Differences in Ecosystem Carbon Distribution and Nutrient Cycling Linked to Forest Tree Species Composition in a Mid-Successional Boreal Forest. Ecosystems, 2015, 18, 1472-1488.	1.6	39
75	Shifts of tundra bacterial and archaeal communities along a permafrost thaw gradient in <scp>A</scp>laska. Molecular Ecology, 2015, 24, 222-234.	2.0	127
76	Methods for estimating temperature sensitivity of soil organic matter based on incubation data: A comparative evaluation. Soil Biology and Biochemistry, 2015, 80, 127-135.	4.2	61
77	Estimated stocks of circumpolar permafrost carbon with quantified uncertainty ranges and identified data gaps. Biogeosciences, 2014, 11, 6573-6593.	1.3	1,079
78	Permafrost degradation stimulates carbon loss from experimentally warmed tundra. Ecology, 2014, 95, 602-608.	1.5	115
79	The impact of the permafrost carbon feedback on global climate. Environmental Research Letters, 2014, 9, 085003.	2.2	279
80	Modeling permafrost thaw and ecosystem carbon cycle under annual and seasonal warming at an Arctic tundra site in Alaska. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1129-1146.	1.3	19
81	Stable nitrogen isotope patterns of trees and soils altered by long-term nitrogen and phosphorus addition to a lowland tropical rainforest. Biogeochemistry, 2014, 119, 293-306.	1.7	45
82	Circumpolar assessment of permafrost C quality and its vulnerability over time using longâ€term incubation data. Global Change Biology, 2014, 20, 641-652.	4.2	231
83	Radiocarbon evidence for the mining of organic nitrogen from soil by mycorrhizal fungi. Biogeochemistry, 2013, 114, 381.	1.7	14
84	Long-term CO2 production following permafrost thaw. Nature Climate Change, 2013, 3, 890-894.	8.1	186
85	Expert assessment of vulnerability of permafrost carbon to climate change. Climatic Change, 2013, 119, 359-374.	1.7	257
86	Quantification of upland thermokarst features with high resolution remote sensing. Environmental Research Letters, 2013, 8, 035016.	2.2	35
87	Tundra ecosystems observed to be CO₂ sources due to differential amplification of the carbon cycle. Ecology Letters, 2013, 16, 1307-1315.	3.0	149
88	Thawing permafrost increases old soil and autotrophic respiration in tundra: Partitioning ecosystem respiration using Î´¹³C and âˆ†¹⁴C. Global Change Biology, 2013, 19, 649-661.	4.2	134
89	Moisture drives surface decomposition in thawing tundra. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 1133-1143.	1.3	62
90	Causes of variation in soil carbon simulations from CMIP5 Earth system models and comparison with observations. Biogeosciences, 2013, 10, 1717-1736.	1.3	593

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91	Field information links permafrost carbon to physical vulnerabilities of thawing. Geophysical Research Letters, 2012, 39, .	1.5	265
92	Nitrogen Isotope Patterns in Alaskan Black Spruce Reflect Organic Nitrogen Sources and the Activity of Ectomycorrhizal Fungi. Ecosystems, 2012, 15, 819-831.	1.6	32
93	Sevenâ€year trends of CO₂exchange in a tundra ecosystem affected by longâ€term permafrost thaw. Journal of Geophysical Research, 2012, 117, .	3.3	40
94	Incorporating spatial heterogeneity created by permafrost thaw into a landscape carbon estimate. Journal of Geophysical Research, 2012, 117, .	3.3	45
95	Increased plant productivity in Alaskan tundra as a result of experimental warming of soil and permafrost. Journal of Ecology, 2012, 100, 488-498.	1.9	272
96	The rate of permafrost carbon release under aerobic and anaerobic conditions and its potential effects on climate. Global Change Biology, 2012, 18, 515-527.	4.2	141
97	Holocene Carbon Stocks and Carbon Accumulation Rates Altered in Soils Undergoing Permafrost Thaw. Ecosystems, 2012, 15, 162-173.	1.6	72
98	Vulnerability of high-latitude soil organic carbon in North America to disturbance. Journal of Geophysical Research, 2011, 116, .	3.3	337
99	Effects of elevated nitrogen and temperature on carbon and nitrogen dynamics in Alaskan arctic and boreal soils. Journal of Geophysical Research, 2011, 116, .	3.3	86
100	Carbon loss from an unprecedented Arctic tundra wildfire. Nature, 2011, 475, 489-492.	13.7	359
101	Soil carbon distribution in Alaska in relation to soil-forming factors. Geoderma, 2011, 167-168, 71-84.	2.3	112
102	High risk of permafrost thaw. Nature, 2011, 480, 32-33.	13.7	280
103	Fossil organic matter characteristics in permafrost deposits of the northeast Siberian Arctic. Journal of Geophysical Research, 2011, 116, .	3.3	147
104	Evidence and implications of recent and projected climate change in Alaska's forest ecosystems. Ecosphere, 2011, 2, art124.	1.0	87
105	A spatially explicit analysis to extrapolate carbon fluxes in upland tundra where permafrost is thawing. Global Change Biology, 2011, 17, 1379-1393.	4.2	35
106	Effects of experimental warming of air, soil and permafrost on carbon balance in Alaskan tundra. Global Change Biology, 2011, 17, 1394-1407.	4.2	186
107	Potential remobilization of belowground permafrost carbon under future global warming. Permafrost and Periglacial Processes, 2010, 21, 208-214.	1.5	67
108	Quantifying fire severity, carbon, and nitrogen emissions in Alaska's boreal forest. Ecological Applications, 2010, 20, 1633-1647.	1.8	145

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109	Soil CO₂ production in upland tundra where permafrost is thawing. Journal of Geophysical Research, 2010, 115, .	3.3	36
110	Resilience and vulnerability of permafrost to climate changeThis article is one of a selection of papers from The Dynamics of Change in Alaskaâ€™s Boreal Forests: Resilience and Vulnerability in Response to Climate Warming.. Canadian Journal of Forest Research, 2010, 40, 1219-1236.	0.8	435
111	The effect of permafrost thaw on old carbon release and net carbon exchange from tundra. Nature, 2009, 459, 556-559.	13.7	966
112	Global patterns of foliar nitrogen isotopes and their relationships with climate, mycorrhizal fungi, foliar nutrient concentrations, and nitrogen availability. New Phytologist, 2009, 183, 980-992.	3.5	744
113	Report from the International Permafrost Association: carbon pools in permafrost regions. Permafrost and Periglacial Processes, 2009, 20, 229-234.	1.5	22
114	Physical and ecological changes associated with warming permafrost and thermokarst in Interior Alaska. Permafrost and Periglacial Processes, 2009, 20, 235-256.	1.5	206
115	Soil organic carbon pools in the northern circumpolar permafrost region. Global Biogeochemical Cycles, 2009, 23, .	1.9	1,938
116	Response of CO₂ exchange in a tussock tundra ecosystem to permafrost thaw and thermokarst development. Journal of Geophysical Research, 2009, 114, .	3.3	80
117	Nutrient Addition Prompts Rapid Destabilization of Organic Matter in an Arctic Tundra Ecosystem. Ecosystems, 2008, 11, 16-25.	1.6	66
118	Recovery of Aboveground Plant Biomass and Productivity After Fire in Mesic and Dry Black Spruce Forests of Interior Alaska. Ecosystems, 2008, 11, 209-225.	1.6	120
119	Plant Community Composition as a Predictor of Regional Soil Carbon Storage in Alaskan Boreal Black Spruce Ecosystems. Ecosystems, 2008, 11, 629.	1.6	41
120	Methane production and bubble emissions from arctic lakes: Isotopic implications for source pathways and ages. Journal of Geophysical Research, 2008, 113, .	3.3	170
121	Vulnerability of Permafrost Carbon to Climate Change: Implications for the Global Carbon Cycle. BioScience, 2008, 58, 701-714.	2.2	1,379
122	Carbon allocation in boreal black spruce forests across regions varying in soil temperature and precipitation. Global Change Biology, 2008, 14, 1503-1516.	4.2	65
123	Atmospheric 14C Variability Recorded in Tree Rings from Peninsular India: Implications for Fossil Fuel CO2 Emission and Atmospheric Transport. Radiocarbon, 2008, 50, 321-330.	0.8	8
124	Plant Species Composition and Productivity following Permafrost Thaw and Thermokarst in Alaskan Tundra. Ecosystems, 2007, 10, 280-292.	1.6	212
125	CLIMATE CHANGE: Permafrost and the Global Carbon Budget. Science, 2006, 312, 1612-1613.	6.0	861
126	Seasonal changes in the age and structure of dissolved organic carbon in Siberian rivers and streams. Geophysical Research Letters, 2006, 33, .	1.5	216

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127	Permafrost carbon: Stock and decomposability of a globally significant carbon pool. Geophysical Research Letters, 2006, 33, .	1.5	257
128	Partitioning sources of soil respiration in boreal black spruce forest using radiocarbon. Global Change Biology, 2006, 12, 165-176.	4.2	139
129	Potential carbon release from permafrost soils of Northeastern Siberia. Global Change Biology, 2006, 12, 2336-2351.	4.2	307
130	Nutrient cycling and plantâ€“soil feedbacks along a precipitation gradient in lowland Panama. Journal of Tropical Ecology, 2005, 21, 461-470.	0.5	91
131	Ecosystem carbon storage in arctic tundra reduced by long-term nutrient fertilization. Nature, 2004, 431, 440-443.	13.7	898
132	PRODUCTIVITY AND GLOBAL CLIMATE REVISITED: THE SENSITIVITY OF TROPICAL FOREST GROWTH TO PRECIPITATION. Ecology, 2003, 84, 1165-1170.	1.5	274
133	Decomposition of peat from upland boreal forest: Temperature dependence and sources of respired carbon. Journal of Geophysical Research, 2003, 108, WFX 3-1.	3.3	81
134	Global patterns of the isotopic composition of soil and plant nitrogen. Global Biogeochemical Cycles, 2003, 17, .	1.9	866
135	Isotopic composition of carbon dioxide from a boreal forest fire: Inferring carbon loss from measurements and modeling. Global Biogeochemical Cycles, 2003, 17, 1-1-1-9.	1.9	101
136	PRODUCTIVITY AND GLOBAL CLIMATE REVISITED: THE SENSITIVITY OF TROPICAL FOREST GROWTH TO PRECIPITATION. , 2003, 84, 1165.		1
137	Seasonal and latitudinal variability of troposphere Î”14CO2: Post bomb contributions from fossil fuels, oceans, the stratosphere, and the terrestrial biosphere. Global Biogeochemical Cycles, 2002, 16, 59-1-59-19.	1.9	108
138	We Must Stop Fossil Fuel Emissions to Protect Permafrost Ecosystems. Frontiers in Environmental Science, 0, 10, .	1.5	9