Merritt R Turetsky

List of Publications by Year
in descending order

110 papers	15,025 citations	28272 55 h-index	24978 109 g-index
113 all docs	113 docs citations	113 times ranked	13111 citing authors

#	Article	IF	Citations
1	Climate change and the permafrost carbon feedback. Nature, 2015, 520, 171-179.	27.8	2,369
2	Impacts of climate change on fire activity and fire management in the circumboreal forest. Global Change Biology, 2009, 15, 549-560.	9.5	559
3	Global vulnerability of peatlands to fire and carbon loss. Nature Geoscience, 2015, 8, 11-14.	12.9	547
4	Multi-omics of permafrost, active layer and thermokarst bog soil microbiomes. Nature, 2015, 521, 208-212.	27.8	467
5	Carbon release through abrupt permafrost thaw. Nature Geoscience, 2020, 13, 138-143.	12.9	434
6	Recent changes in the fire regime across the North American boreal regionâ€"Spatial and temporal patterns of burning across Canada and Alaska. Geophysical Research Letters, 2006, 33, .	4.0	431
7	Recent acceleration of biomass burning and carbon losses in Alaskan forests and peatlands. Nature Geoscience, 2011, 4, 27-31.	12.9	428
8	A database and synthesis of northern peatland soil properties and Holocene carbon and nitrogen accumulation. Holocene, 2014, 24, 1028-1042.	1.7	404
9	A synthesis of methane emissions from 71 northern, temperate, and subtropical wetlands. Global Change Biology, 2014, 20, 2183-2197.	9.5	389
10	Circumpolar distribution and carbon storage of thermokarst landscapes. Nature Communications, 2016, 7, 13043.	12.8	343
11	Vulnerability of high-latitude soil organic carbon in North America to disturbance. Journal of Geophysical Research, 2011, 116, .	3.3	337
12	The resilience and functional role of moss in boreal and arctic ecosystems. New Phytologist, 2012, 196, 49-67.	7.3	322
13	Large stocks of peatland carbon and nitrogen are vulnerable to permafrost thaw. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20438-20446.	7.1	307
14	Fire, climate change, and forest resilience in interior AlaskaThis article is one of a selection of papers from The Dynamics of Change in Alaska's Boreal Forests: Resilience and Vulnerability in Response to Climate Warming.. Canadian Journal of Forest Research, 2010, 40, 1302-1312.	1.7	306
15	Alaskaâ€™s changing fire regimeÂâ€" implications for the vulnerability of its boreal forestsThis 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, 1313-1324.	1.7	304
16	Increasing wildfires threaten historic carbon sink of boreal forest soils. Nature, 2019, 572, 520-523.	27.8	293
17	Potential carbon emissions dominated by carbon dioxide from thawed permafrost soils. Nature Climate Change, 2016, 6, 950-953.	18.8	288
18	Environmental and physical controls on northern terrestrial methane emissions across permafrost zones. Global Change Biology, 2013, 19, 589-603.	9.5	275

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19	Expert assessment of vulnerability of permafrost carbon to climate change. Climatic Change, 2013, 119, 359-374.	3.6	257
20	Permafrost collapse is accelerating carbon release. Nature, 2019, 569, 32-34.	27.8	237
21	Current disturbance and the diminishing peatland carbon sink. Geophysical Research Letters, 2002, 29, 21-1.	4.0	231
22	Biomass offsets little or none of permafrost carbon release from soils, streams, and wildfire: an expert assessment. Environmental Research Letters, 2016, 11, 034014.	5.2	199
23	Biological and geophysical feedbacks with fire in the Earth system. Environmental Research Letters, 2018, 13, 033003.	5.2	198
24	The disappearance of relict permafrost in boreal north America: Effects on peatland carbon storage and fluxes. Global Change Biology, 2007, 13, 1922-1934.	9.5	190
25	Tradeâ€offs in resource allocation among moss species control decomposition in boreal peatlands. Journal of Ecology, 2008, 96, 1297-1305.	4.0	179
26	Shortâ€term response of methane fluxes and methanogen activity to water table and soil warming manipulations in an Alaskan peatland. Journal of Geophysical Research, 2008, 113, .	3.3	176
27	Experimental drying intensifies burning and carbon losses in a northern peatland. Nature Communications, 2011, 2, 514.	12.8	169
28	Climate change, ecosystems and abrupt change: science priorities. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190105.	4.0	169
29	Effects of Experimental Water Table and Temperature Manipulations on Ecosystem CO2 Fluxes in an Alaskan Rich Fen. Ecosystems, 2009, 12, 1329-1342.	3.4	157
30	A simplified, data-constrained approach to estimate the permafrost carbonâ€"climate feedback. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140423.	3.4	149
31	Interactive effects of vegetation, soil moisture and bulk density on depth of burning of thick organic soils. International Journal of Wildland Fire, 2011, 20, 418.	2.4	148
32	A panâ€Arctic synthesis of CH₄ and CO₂ production from anoxic soil incubations. Global Change Biology, 2015, 21, 2787-2803.	9.5	138
33	Historical burn area in western Canadian peatlands and its relationship to fire weather indices. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	135
34	Permafrost carbon emissions in a changing Arctic. Nature Reviews Earth & Environment, 2022, 3, 55-67.	29.7	124
35	Effects of wildfire and permafrost on soil organic matter and soil climate in interior Alaska. Global Change Biology, 2006, 12, 2391-2403.	9.5	123
36	The <i>Sphagnum</i> microbiome: new insights from an ancient plant lineage. New Phytologist, 2016, 211, 57-64.	7.3	123

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37	Moderate drop in water table increases peatland vulnerability to post-fire regime shift. Scientific Reports, 2015, 5, 8063.	3.3	122
38	Model comparisons for estimating carbon emissions from North American wildland fire. Journal of Geophysical Research, 2011, 116, .	3.3	112
39	Increasing fire and the decline of fire adapted black spruce in the boreal forest. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	107
40	<i>Sphagnum</i> mosses limit total carbon consumption during fire in Alaskan black spruce forests. Canadian Journal of Forest Research, 2008, 38, 2328-2336.	1.7	106
41	Focus on changing fire regimes: interactions with climate, ecosystems, and society. Environmental Research Letters, 2020, 15, 030201.	5.2	105
42	Impact of wildfire on permafrost landscapes: A review of recent advances and future prospects. Permafrost and Periglacial Processes, 2020, 31, 371-382.	3.4	98
43	Wildfires threaten mercury stocks in northern soils. Geophysical Research Letters, 2006, 33, .	4.0	95
44	Differential response of carbon fluxes to climate in three peatland ecosystems that vary in the presence and stability of permafrost. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 1576-1595.	3.0	94
45	Topographic influences on wildfire consumption of soil organic carbon in interior Alaska: Implications for black carbon accumulation. Journal of Geophysical Research, 2007, 112, .	3.3	84
46	Effects of permafrost thaw on nitrogen availability and plantâ€"soil interactions in a boreal Alaskan lowland. Journal of Ecology, 2016, 104, 1542-1554.	4.0	84
47	Fuel availability not fire weather controls boreal wildfire severity and carbon emissions. Nature Climate Change, 2020, 10, 1130-1136.	18.8	82
48	Arctic fires re-emerging. Nature Geoscience, 2020, 13, 658-660.	12.9	79
49	Chemistry of burning the forest floor during the FROSTFIRE experimental burn, interior Alaska, 1999. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	77
50	A decade of boreal rich fen greenhouse gas fluxes in response to natural and experimental water table variability. Global Change Biology, 2017, 23, 2428-2440.	9.5	74
51	The response of boreal peatland community composition and <scp>NDVI</scp> to hydrologic change, warming, and elevated carbon dioxide. Global Change Biology, 2019, 25, 93-107.	9.5	72
52	Warming Effects of Spring Rainfall Increase Methane Emissions From Thawing Permafrost. Geophysical Research Letters, 2019, 46, 1393-1401.	4.0	68
53	Conceptual frameworks in peatland ecohydrology: looking beyond the twoâ€layered (acrotelmâ€"catotelm) model. Ecohydrology, 2011, 4, 1-11.	2.4	66
54	Interactive Effects of Fire, Soil Climate, and Moss on CO2 Fluxes in Black Spruce Ecosystems of Interior Alaska. Ecosystems, 2009, 12, 57-72.	3.4	64

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55	Crossâ€scale controls on carbon emissions from boreal forest megafires. Global Change Biology, 2018, 24, 4251-4265.	9.5	60
56	Increased rainfall stimulates permafrost thaw across a variety of Interior Alaskan boreal ecosystems. Npj Climate and Atmospheric Science, 2020, 3, .	6.8	59
57	Topographic controls on black carbon accumulation in Alaskan black spruce forest soils: implications for organic matter dynamics. Biogeochemistry, 2010, 100, 39-56.	3.5	56
58	A dynamic organic soil biogeochemical model for simulating the effects of wildfire on soil environmental conditions and carbon dynamics of black spruce forests. Journal of Geophysical Research, 2010, 115, .	3.3	56
59	The Sphagnome Project: enabling ecological and evolutionary insights through a genusâ€level sequencing project. New Phytologist, 2018, 217, 16-25.	7.3	54
60	The ecohydrology of forested peatlands: Simulating the effects of tree shading on moss evaporation and species composition. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 422-435.	3.0	53
61	Wildfire combustion and carbon stocks in the southern Canadian boreal forest: Implications for a warming world. Global Change Biology, 2020, 26, 6062-6079.	9.5	49
62	Soil organic layer combustion in boreal black spruce and jack pine stands of the Northwest Territories, Canada. International Journal of Wildland Fire, 2018, 27, 125.	2.4	48
63	Altered Composition and Microbial versus UV-Mediated Degradation of Dissolved Organic Matter in Boreal Soils Following Wildfire. Ecosystems, 2013, 16, 1396-1412.	3.4	46
64	Controls on methane released through ebullition in peatlands affected by permafrost degradation. Journal of Geophysical Research G: Biogeosciences, 2014, 119, 418-431.	3.0	46
65	Evidence for elevated emissions from highâ€latitude wetlands contributing to high atmospheric CH₄ concentration in the early Holocene. Global Biogeochemical Cycles, 2013, 27, 131-140.	4.9	45
66	Mapping boreal peatland ecosystem types from multitemporal radar and optical satellite imagery. Canadian Journal of Forest Research, 2017, 47, 545-559.	1.7	45
67	Seasonal ice and hydrologic controls on dissolved organic carbon and nitrogen concentrations in a borealâ€rich fen. Journal of Geophysical Research, 2010, 115, .	3.3	43
68	Algae alleviate carbon limitation of heterotrophic bacteria in a boreal peatland. Journal of Ecology, 2015, 103, 1165-1171.	4.0	43
69	Variation in plant community composition and vegetation carbon pools a decade following a severe fire season in interior Alaska. Journal of Vegetation Science, 2016, 27, 1187-1197.	2.2	43
70	Response of plant community structure and primary productivity to experimental drought and flooding in an Alaskan fen. Canadian Journal of Forest Research, 2015, 45, 185-193.	1.7	39
71	Influence of Holocene permafrost aggradation and thaw on the paleoecology and carbon storage of a peatland complex in northwestern Canada. Holocene, 2017, 27, 1391-1405.	1.7	38
72	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.	4.9	36

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73	Recovery of carbon pools a decade after wildfire in black spruce forests of interior Alaska: effects of soil texture and landscape position. Canadian Journal of Forest Research, 2018, 48, 1-10.	1.7	35
74	Effect of permafrost thaw on plant and soil fungal community in a boreal forest: Does fungal community change mediate plant productivity response?. Journal of Ecology, 2019, 107, 1737-1752.	4.0	34
75	Methanogenesis and Methanogen Diversity in Three Peatland Types of the Discontinuous Permafrost Zone, Boreal Western Continental Canada. Geomicrobiology Journal, 2006, 23, 641-651.	2.0	33
76	More frequent burning increases vulnerability of Alaskan boreal black spruce forests. Environmental Research Letters, 2016, 11, 095001.	5.2	33
77	The importance of nutrient coâ€limitation in regulating algal community composition, productivity and algalâ€derived DOC in an oligotrophic marsh in interior Alaska. Freshwater Biology, 2010, 55, 1845-1860.	2.4	32
78	Controls on ecosystem and root respiration across a permafrost and wetland gradient in interior Alaska. Environmental Research Letters, 2013, 8, 045029.	5.2	30
79	Wildfire as a key determinant of peatland microtopography. Canadian Journal of Forest Research, 2015, 45, 1132-1136.	1.7	30
80	Controls on boreal peat combustion and resulting emissions of carbon and mercury. Environmental Research Letters, 2018, 13, 035005.	5.2	30
81	Plant functional group effects on peat carbon cycling in a boreal rich fen. Biogeochemistry, 2019, 144, 305-327.	3.5	29
82	Climate change decreases the cooling effect from postfire albedo in boreal North America. Global Change Biology, 2020, 26, 1592-1607.	9.5	29
83	Transport of oxygen in soil pore-water systems: implications for modeling emissions of carbon dioxide and methane from peatlands. Biogeochemistry, 2014, 121, 455-470.	3.5	26
84	Modeling CH4 and CO2 cycling using porewater stable isotopes in a thermokarst bog in Interior Alaska: results from three conceptual reaction networks. Biogeochemistry, 2016, 127, 57-87.	3.5	26
85	Losing Legacies, Ecological Release, and Transient Responses: Key Challenges for the Future of Northern Ecosystem Science. Ecosystems, 2017, 20, 23-30.	3.4	25
86	The effect of long-term drying associated with experimental drainage and road construction on vegetation composition and productivity in boreal fens. Wetlands Ecology and Management, 2015, 23, 845-854.	1.5	23
87	Getting to the Root of Plantâ€Mediated Methane Emissions and Oxidation in a Thermokarst Bog. Journal of Geophysical Research G: Biogeosciences, 2020, 125, e2020JG005825.	3.0	20
88	Summary and synthesis of Changing Cold Regions Network (CCRN) research in the interior of western Canada â€“ PartÂ2: Future change in cryosphere, vegetation, and hydrology. Hydrology and Earth System Sciences, 2021, 25, 1849-1882.	4.9	20
89	Soil microbial community composition is correlated to soil carbon processing along a boreal wetland formation gradient. European Journal of Soil Biology, 2017, 82, 17-26.	3.2	19
90	Carbon Fluxes and Microbial Activities From Boreal Peatlands Experiencing Permafrost Thaw. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG005869.	3.0	18

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91	Reflections and projections on a decade of climate science. Nature Climate Change, 2021, 11, 279-285.	18.8	18
92	Organic matter stocks increase with degree of invasion in temperate inland wetlands. Plant and Soil, 2014, 385, 107-123.	3.7	17
93	Ten new insights in climate science 2020 â€" a horizon scan. Global Sustainability, 2021, 4, .	3.3	17
94	Legacy effects of drought alters the aquatic food web of a northern boreal peatland. Freshwater Biology, 2017, 62, 1377-1388.	2.4	15
95	Algal community response to experimental and interannual variation in hydrology in an Alaskan boreal fen. Freshwater Science, 2013, 32, 1-11.	1.8	13
96	When the Source of Flooding Matters: Divergent Responses in Carbon Fluxes in an Alaskan Rich Fen to Two Types of Inundation. Ecosystems, 2020, 23, 1138-1153.	3.4	13
97	Mapping and understanding the vulnerability of northern peatlands to permafrost thaw at scales relevant to community adaptation planning. Environmental Research Letters, 2021, 16, 055022.	5.2	13
98	Letter: Trophic interactions regulate peatland carbon cycling. Ecology Letters, 2021, 24, 781-790.	6.4	10
99	We Must Stop Fossil Fuel Emissions to Protect Permafrost Ecosystems. Frontiers in Environmental Science, 0, 10, .	3.3	9
100	Predicting patterns of terrestrial lichen biomass recovery following boreal wildfires. Ecosphere, 2021, 12, e03481.	2.2	8
101	Evaluating Sphagnum traits in the context of resource economics and optimal partitioning theories. Oikos, 2020, 129, 1204-1215.	2.7	7
102	Identifying increasing risks of hazards for northern land-users caused by permafrost thaw: integrating scientific and community-based research approaches. Environmental Research Letters, 2021, 16, 064047.	5.2	7
103	Deep roots of Carex aquatilis have greater ammonium uptake capacity than shallow roots in peatlands following permafrost thaw. Plant and Soil, 2021, 465, 261-272.	3.7	6
104	Natural selection on a carbon cycling trait drives ecosystem engineering by <i>Sphagnum</i> (peat) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5	2.6	6
105	The Rhizosphere Responds: Rich Fen Peat and Root Microbial Ecology after Long-Term Water Table Manipulation. Applied and Environmental Microbiology, 2021, 87, e0024121.	3.1	4
106	Cascading effects of predators on algal size structure. Journal of Phycology, 2022, 58, 308-317.	2.3	4
107	Peat as an Archive of Atmospheric, Climatic and Environmental Conditions. , 0, , 96-112.		3
108	Fuel Loads and Plant Traits as Communityâ€Level Predictors of Emergent Properties of Vulnerability and Resilience to a Changing Fire Regime in Black Spruce Forests of Boreal Alaska. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	3.0	3

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109	Material Legacies and Environmental Constraints Underlie Fire Resilience of a Dominant Boreal Forest Type. Ecosystems, 2023, 26, 473-490.	3.4	2
110	A Thermodynamic Analysis of Soil Ecosystem Development in Northern Wetlands. Wetlands, 2016, 36, 1143-1153.	1.5	1