Patrick Crill

List of Publications by Citations

188 papers	16,168 citations	71 h-index	124 g-index
223 ext. papers	18,430 ext. citations	8 avg, IF	6.26 L-index

#	Paper	IF	Citations
188	Freshwater methane emissions offset the continental carbon sink. *Science*, **2011**, 331, 50	33.3	903
187	Sensitivity of boreal forest carbon balance to soil thaw. *Science*, **1998**, 279, 214-7	33.3	651
186	The global methane budget 2000–2012. *Earth System Science Data*, **2016**, 8, 697-751	10.5	641
185	Carbon in Amazon forests: unexpected seasonal fluxes and disturbance-induced losses. *Science*, **2003**, 302, 1554-7	33.3	556
184	The Global Methane Budget 2000–2017. *Earth System Science Data*, **2020**, 12, 1561-1623	10.5	463
183	The Boreal Ecosystem–Atmosphere Study (BOREAS): An Overview and Early Results from the 1994 Field Year. *Bulletin of the American Meteorological Society*, **1995**, 76, 1549-1577	6.1	420
182	Thawing sub-arctic permafrost: Effects on vegetation and methane emissions. *Geophysical Research Letters*, **2004**, 31,	4.9	379
181	BOREAS in 1997: Experiment overview, scientific results, and future directions. *Journal of Geophysical Research*, **1997**, 102, 28731-28769		367
180	A synthesis of methane emissions from 71 northern, temperate, and subtropical wetlands. *Global Change Biology*, **2014**, 20, 2183-97	11.4	291
179	Methane flux from Minnesota Peatlands. *Global Biogeochemical Cycles*, **1988**, 2, 371-384	5.9	288
178	Effect of a lowered water table on nitrous oxide fluxes from northern peatlands. *Nature*, **1993**, 366, 51-53	50.4	263
177	Seasonal patterns of methane uptake and carbon dioxide release by a temperate woodland soil. *Global Biogeochemical Cycles*, **1991**, 5, 319-334	5.9	256
176	Methane dynamics regulated by microbial community response to permafrost thaw. *Nature*, **2014**, 514, 478-81	50.4	240
175	Environmental and physical controls on northern terrestrial methane emissions across permafrost zones. *Global Change Biology*, **2013**, 19, 589-603	11.4	231
174	A comparison of six methods for measuring soil-surface carbon dioxide fluxes. *Journal of Geophysical Research*, **1997**, 102, 28771-28777		224
173	Changes in peat chemistry associated with permafrost thaw increase greenhouse gas production. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 5819-24	11.5	205
172	Automated measurements of CO(2) exchange at the moss surface of a black spruce forest. *Tree Physiology*, **1997**, 17, 537-542	4.2	202

171	Ecological controls on methane emissions from a Northern Peatland Complex in the zone of discontinuous permafrost, Manitoba, Canada. *Global Biogeochemical Cycles*, **1995**, 9, 455-470	5.9	201
170	Nitrous oxide emissions from municipal wastewater treatment. *Environmental Science & Technology*, **1995**, 29, 2352-6	10.3	192
169	Decadal vegetation changes in a northern peatland, greenhouse gas fluxes and net radiative forcing. *Global Change Biology*, **2006**, 12, 2352-2369	11.4	190
168	Implications of temperature and sediment characteristics on methane formation and oxidation in lake sediments. *Biogeochemistry*, **2010**, 100, 185-196	3.8	183
167	Host-linked soil viral ecology along a permafrost thaw gradient. *Nature Microbiology*, **2018**, 3, 870-880	26.6	182
166	Methane emissions from tundra environments in the Yukon-Kuskokwim delta, Alaska. *Journal of Geophysical Research*, **1992**, 97, 16645		180
165	Quantifying the effect of oxidation on landfill methane emissions. *Journal of Geophysical Research*, **1996**, 101, 16721-16729		177
164	Genome-centric view of carbon processing in thawing permafrost. *Nature*, **2018**, 560, 49-54	50.4	169
163	Temperature and N fertilization effects on methane oxidation in a drained peatland soil. *Soil Biology and Biochemistry*, **1994**, 26, 1331-1339	7.5	168
162	General CH4 oxidation model and comparisons of CH4 Oxidation in natural and managed systems. *Global Biogeochemical Cycles*, **2000**, 14, 999-1019	5.9	163
161	Seasonal patterns and controls on net ecosystem CO2 exchange in a boreal peatland complex. *Global Biogeochemical Cycles*, **1998**, 12, 703-714	5.9	160
160	Methane flux from the central Amazonian floodplain. *Journal of Geophysical Research*, **1988**, 93, 1571		157
159	Methane emissions from Pantanal, South America, during the low water season: toward more comprehensive sampling. *Environmental Science & Technology*, **2010**, 44, 5450-5	10.3	150
158	N2O emissions from humid tropical agricultural soils: effects of soil moisture, texture and nitrogen availability. *Soil Biology and Biochemistry*, **2001**, 33, 1077-1093	7.5	149
157	Fine root dynamics and trace gas fluxes in two lowland tropical forest soils. *Global Change Biology*, **2005**, 11, 290-306	11.4	143
156	Comparing a process-based agro-ecosystem model to the IPCC methodology for developing a national inventory of N2O emissions from arable lands in China. *Nutrient Cycling in Agroecosystems*, **2001**, 60, 159-175	3.3	140
155	Relationship between ecosystem productivity and photosynthetically active radiation for northern peatlands. *Global Biogeochemical Cycles*, **1998**, 12, 115-126	5.9	139
154	Rapid degradation of atmospheric methyl bromide in soils. *Nature*, **1995**, 377, 717-719	50.4	132

153	Discovery of a novel methanogen prevalent in thawing permafrost. *Nature Communications*, **2014**, 5, 3212	17.4	131
152	Peatland responses to varying interannual moisture conditions as measured by automatic CO2 chambers. *Global Biogeochemical Cycles*, **2003**, 17, n/a-n/a	5.9	130
151	Modeling seasonal to annual carbon balance of Mer Bleue Bog, Ontario, Canada. *Global Biogeochemical Cycles*, **2002**, 16, 4-1-4-21	5.9	123
150	Emission of methane from plants. *Proceedings of the Royal Society B: Biological Sciences*, **2009**, 276, 1347-54	4.4	122
149	Modelling temporal variability in the carbon balance of a spruce/moss boreal forest. *Global Change Biology*, **1996**, 2, 343-366	11.4	122
148	Fractionation of methane during oxidation in a temperate forested soil. *Geochimica Et Cosmochimica Acta*, **1994**, 58, 1625-1633	5.5	118
147	Methane flux from the Amazon River floodplain: Emissions during rising water. *Journal of Geophysical Research*, **1990**, 95, 16773		116
146	Multiyear measurements of ebullitive methane flux from three subarctic lakes. *Journal of Geophysical Research G: Biogeosciences*, **2013**, 118, 1307-1321	3.7	115
145	Tropospheric methane from an Amazonian floodplain lake. *Journal of Geophysical Research*, **1988**, 93, 1564		115
144	Climate controls on temporal variability of methane flux from a poor fen in southeastern New Hampshire: Measurement and modeling. *Global Biogeochemical Cycles*, **1994**, 8, 385-397	5.9	113
143	Large loss of CO in winter observed across the northern permafrost region.. *Nature Climate Change*, **2019**, 9, 852-857	21.4	112
142	Annual cycle of methane emission from a subarctic peatland. *Journal of Geophysical Research*, **2010**, 115, n/a-n/a		111
141	Soil–Atmosphere Exchange of Nitrous Oxide, Nitric Oxide, Methane, and Carbon Dioxide in Logged and Undisturbed Forest in the Tapajos National Forest, Brazil. *Earth Interactions*, **2005**, 9, 1-28	1.5	109
140	Influence of water table on carbon dioxide, carbon monoxide, and methane fluxes from Taiga Bog microcosms. *Global Biogeochemical Cycles*, **1994**, 8, 271-278	5.9	106
139	Seasonal variation of methane emissions from a temperate swamp. *Biogeochemistry*, **1989**, 8, 55-71	3.8	105
138	Biogeochemical cycling in an organic-rich coastal marine basin. 6. Temporal and spatial variations in sulfate reduction rates. *Geochimica Et Cosmochimica Acta*, **1987**, 51, 1175-1186	5.5	102
137	Annual carbon gas budget for a subarctic peatland, Northern Sweden. *Biogeosciences*, **2010**, 7, 95-108	4.6	101
136	Methane emissions from municipal wastewater treatment processes. *Environmental Science & Technology*, **1993**, 27, 2472-2477	10.3	100

135	Spatio-temporal variability of lake CH4 fluxes and its influence on annual whole lake emission estimates. *Limnology and Oceanography*, **2016**, 61, S13-S26	4.8	95
134	Measurements of N2O from Composted Organic Wastes. *Environmental Science & Technology*, **1996**, 30, 2519-2525	10.3	93
133	Biased sampling of methane release from northern lakes: A problem for extrapolation. *Geophysical Research Letters*, **2016**, 43, 1256-1262	4.9	93
132	Environmental factors influencing the variability of methane oxidation in temperate zone soils. *Journal of Geophysical Research*, **1995**, 100, 9359		91
131	Carbon balance of a temperate poor fen. *Global Biogeochemical Cycles*, **1997**, 11, 349-356	5.9	89
130	A comparison of methane flux in a boreal landscape between a dry and a wet year. *Global Biogeochemical Cycles*, **2005**, 19,	5.9	87
129	Spectral reflectance measurements of boreal wetland and forest mosses. *Journal of Geophysical Research*, **1997**, 102, 29483-29494		85
128	Methane production from bicarbonate and acetate in an anoxic marine sediment. *Geochimica Et Cosmochimica Acta*, **1986**, 50, 2089-2097	5.5	85
127	Spatial and temporal fluctuations of methane production in anoxic coastal marine sediments. *Limnology and Oceanography*, **1983**, 28, 1117-1130	4.8	82
126	Winter methane dynamics in a temperate peatland. *Global Biogeochemical Cycles*, **1996**, 10, 247-254	5.9	81
125	Methane transport mechanisms and isotopic fractionation in emergent macrophytes of an Alaskan tundra lake. *Journal of Geophysical Research*, **1992**, 97, 16681		80
124	CO2 and CH4 flux between a boreal beaver pond and the atmosphere. *Journal of Geophysical Research*, **1997**, 102, 29313-29319		75
123	Timescale dependence of environmental and plant-mediated controls on CH4 flux in a temperate fen. *Journal of Geophysical Research*, **2007**, 112,		75
122	Energy input is primary controller of methane bubbling in subarctic lakes. *Geophysical Research Letters*, **2014**, 41, 555-560	4.9	73
121	Impacts of paleohydrological changes on n-alkane biomarker compositions of a Holocene peat sequence in the eastern European Russian Arctic. *Organic Geochemistry*, **2011**, 42, 1065-1075	3.1	72
120	Formation of H2 and CH4 by weathering of olivine at temperatures between 30 and 70°C. *Geochemical Transactions*, **2011**, 12, 6	3	72
119	Methane flux from Peltandra virginica: stable isotope tracing and chamber effects. *Global Biogeochemical Cycles*, **1992**, 6, 15-31	5.9	72
118	Methanotrophy across a natural permafrost thaw environment. *ISME Journal*, **2018**, 12, 2544-2558	11.9	71

117	A source of methane from upland forests in the Brazilian Amazon. *Geophysical Research Letters*, **2006**, 33,	4.9	70
116	Variability and quasi-decadal changes in the methane budget over the period 20002012. *Atmospheric Chemistry and Physics*, **2017**, 17, 11135-11161	6.8	69
115	Net carbon accumulation of a high-latitude permafrost palsa mire similar to permafrost-free peatlands. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	66
114	Net ecosystem productivity and its uncertainty in a diverse boreal peatland. *Journal of Geophysical Research*, **1999**, 104, 27683-27692		66
113	Wetlands: A potentially significant source of atmospheric methyl bromide and methyl chloride. *Geophysical Research Letters*, **1999**, 26, 2433-2435	4.9	65
112	Multi-proxy study of soil organic matter dynamics in permafrost peat deposits reveal vulnerability to climate change in the European Russian Arctic. *Chemical Geology*, **2014**, 368, 104-117	4.2	64
111	Sources of atmospheric methane in the south Florida environment. *Global Biogeochemical Cycles*, **1988**, 2, 231-243	5.9	64
110	Soil respiration in a northeastern US temperate forest: a 22-year synthesis. *Ecosphere*, **2013**, 4, art140	3.1	61
109	Methane fluxes from the sea to the atmosphere across the Siberian shelf seas. *Geophysical Research Letters*, **2016**, 43, 5869-5877	4.9	60
108	Methane and carbon dioxide exchanges between the atmosphere and northern boreal forest soils. *Journal of Geophysical Research*, **1997**, 102, 29279-29288		59
107	Intensive field measurements of nitrous oxide emissions from a tropical agricultural soil. *Global Biogeochemical Cycles*, **2000**, 14, 85-95	5.9	59
106	Making methane visible. *Nature Climate Change*, **2016**, 6, 426-430	21.4	56
105	Large methane emissions from a subarctic lake during spring thaw: Mechanisms and landscape significance. *Journal of Geophysical Research G: Biogeosciences*, **2015**, 120, 2289-2305	3.7	56
104	Mapping the degree of decomposition and thaw remobilization potential of soil organic matter in discontinuous permafrost terrain. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		54
103	Microbial network, phylogenetic diversity and community membership in the active layer across a permafrost thaw gradient. *Environmental Microbiology*, **2017**, 19, 3201-3218	5.2	52
102	Net ecosystem CO2 exchange measured by autochambers during the snow-covered season at a temperate peatland. *Hydrological Processes*, **2002**, 16, 3667-3682	3.3	52
101	Carbon cycling in boreal wetlands: A comparison of three approaches. *Journal of Geophysical Research*, **1999**, 104, 27673-27682		52
100	Controls on CH4flux from an Alaskan boreal wetland. *Global Biogeochemical Cycles*, **1996**, 10, 287-296	5.9	51

99	BVOC ecosystem flux measurements at a high latitude wetland site. *Atmospheric Chemistry and Physics*, **2010**, 10, 1617-1634	6.8	49
98	Rapid Consumption of Low Concentrations of Methyl Bromide by Soil Bacteria. *Applied and Environmental Microbiology*, **1998**, 64, 1864-70	4.8	49
97	Monitoring the multi-year carbon balance of a subarctic palsa mire with micrometeorological techniques. *Ambio*, **2012**, 41 Suppl 3, 207-17	6.5	48
96	Interannual, seasonal, and diel variation in soil respiration relative to ecosystem respiration at a wetland to upland slope at Harvard Forest. *Journal of Geophysical Research*, **2010**, 115, n/a-n/a		48
95	Short-term nitrous oxide profile dynamics and emissions response to water, nitrogen and carbon additions in two tropical soils. *Biology and Fertility of Soils*, **2001**, 34, 363-373	6.1	48
94	Controls on CH4 and CO2 emissions along two moisture gradients in the Canadian boreal zone. *Journal of Geophysical Research*, **1997**, 102, 29261-29277		47
93	Bubbles trapped in arctic lake ice: Potential implications for methane emissions. *Journal of Geophysical Research*, **2011**, 116,		46
92	Consumption of tropospheric levels of methyl bromide by C(1) compound-utilizing bacteria and comparison to saturation kinetics. *Applied and Environmental Microbiology*, **2001**, 67, 5437-43	4.8	45
91	Elemental composition and optical properties reveal changes in dissolved organic matter along a permafrost thaw chronosequence in a subarctic peatland. *Geochimica Et Cosmochimica Acta*, **2016**, 187, 123-140	5.5	45
90	Reduction of greenhouse gas emissions by wood ash application to a Picea abies (L.) Karst. forest on a drained organic soil. *European Journal of Soil Science*, **2010**, 61, 734-744	3.4	44
89	Radon fluxes in tropical forest ecosystems of Brazilian Amazonia: night-time CO2 net ecosystem exchange derived from radon and eddy covariance methods. *Global Change Biology*, **2004**, 10, 618-629	11.4	44
88	High-frequency measurements of methane ebullition over a growing season at a temperate peatland site. *Geophysical Research Letters*, **2011**, 38, n/a-n/a	4.9	43
87	Quantifying the relative importance of lake emissions in the carbon budget of a subarctic catchment. *Journal of Geophysical Research*, **2010**, 115,		43
86	CH4 oxidation by tundra wetlands as measured by a selective inhibitor technique. *Journal of Geophysical Research*, **1998**, 103, 29093-29106		43
85	Double-counting challenges the accuracy of high-latitude methane inventories. *Geophysical Research Letters*, **2016**, 43, 12,569	4.9	42
84	Year-round CH₄ and CO₂ flux dynamics in two contrasting freshwater ecosystems of the subarctic. *Biogeosciences*, **2017**, 14, 5189-5216	4.6	39
83	Measurement of the 13C isotopic signature of methane emissions from northern European wetlands. *Global Biogeochemical Cycles*, **2017**, 31, 605-623	5.9	36
82	Modelling CH₄ emissions from arctic wetlands: effects of hydrological parameterization. *Biogeosciences*, **2008**, 5, 111-121	4.6	35

81	Experimentally induced root mortality increased nitrous oxide emission from tropical forest soils. *Geophysical Research Letters*, **2003**, 30,	4.9	35
80	Constraining the rate and extent of mantle serpentinization from seismic and petrological data: implications for chemosynthesis and tectonic processes. *Geofluids*, **2005**, 5, 153-164	1.5	35
79	Ecosystem modeling of methane and carbon dioxide fluxes for boreal forest sites. *Canadian Journal of Forest Research*, **2001**, 31, 208-223	1.9	35
78	Total hydrocarbon flux dynamics at a subarctic mire in northern Sweden. *Journal of Geophysical Research*, **2008**, 113,		34
77	Net Ecosystem Exchange of Carbon dioxide in a Temperate Poor Fen: a Comparison of Automated and Manual Chamber Techniques. *Biogeochemistry*, **2005**, 76, 21-45	3.8	32
76	Methane dynamics of a northern boreal beaver pond. *Ecoscience*, **1999**, 6, 577-586	1.1	32
75	The importance of episodic events in controlling the flux of methane from an anoxic basin. *Global Biogeochemical Cycles*, **1993**, 7, 491-507	5.9	32
74	Calculations of automatic chamber flux measurements of methane and carbon dioxide using short time series of concentrations. *Biogeosciences*, **2016**, 13, 903-912	4.6	30
73	Automated flux chamber for investigating gas flux at water-air interfaces. *Environmental Science & Technology*, **2013**, 47, 968-75	10.3	29
72	Hydrogenation of organic matter as a terminal electron sink sustains high CO2:CH4 production ratios during anaerobic decomposition. *Organic Geochemistry*, **2017**, 112, 22-32	3.1	29
71	Climate-Sensitive Controls on Large Spring Emissions of CH4 and CO2 From Northern Lakes. *Journal of Geophysical Research G: Biogeosciences*, **2019**, 124, 2379-2399	3.7	28
70	Atmospheric methane removal by boreal plants. *Geophysical Research Letters*, **2012**, 39, n/a-n/a	4.9	28
69	Non-methane volatile organic compound flux from a subarctic mire in Northern Sweden. *Tellus, Series B: Chemical and Physical Meteorology*, **2008**, 60, 226-237	3.3	28
68	Amazon Capims (floating grassmats): A source of 13C enriched methane to the troposphere. *Geophysical Research Letters*, **1989**, 16, 799-802	4.9	28
67	Ecosystem modeling of methane and carbon dioxide fluxes for boreal forest sites. *Canadian Journal of Forest Research*, **2001**, 31, 208-223	1.9	27
66	Direct determination of the air-sea CO2 gas transfer velocity in Arctic sea ice regions. *Geophysical Research Letters*, **2017**, 44, 3770-3778	4.9	26
65	Mass fluxes and isofluxes of methane (CH4) at a New Hampshire fen measured by a continuous wave quantum cascade laser spectrometer. *Journal of Geophysical Research*, **2012**, 117, n/a-n/a		25
64	Assessing effects of permafrost thaw on C fluxes based on multiyear modeling across a permafrost thaw gradient at Stordalen, Sweden. *Biogeosciences*, **2014**, 11, 4753-4770	4.6	24

63	Shipborne eddy covariance observations of methane fluxes constrain Arctic sea emissions. *Science Advances*, **2020**, 6, eaay7934	14.3	23
62	Winter methane dynamics beneath ice and in snow in a temperate poor fen. *Hydrological Processes*, **1995**, 9, 947-956	3.3	23
61	Partitioning of the net CO exchange using an automated chamber system reveals plant phenology as key control of production and respiration fluxes in a boreal peatland. *Global Change Biology*, **2018**, 24, 3436-3451	11.4	22
60	Short-term effects of thinning, clear-cutting and stump harvesting on methane exchange in a boreal forest. *Biogeosciences*, **2014**, 11, 6095-6105	4.6	22
59	High Resolution Mapping of Peatland Hydroperiod at a High-Latitude Swedish Mire. *Remote Sensing* , **2012**, 4, 1974-1994	5	22
58	COSORE: A community database for continuous soil respiration and other soil-atmosphere greenhouse gas flux data. *Global Change Biology*, **2020**, 26, 7268-7283	11.4	22
57	Sediment Characteristics and Methane Ebullition in Three Subarctic Lakes. *Journal of Geophysical Research G: Biogeosciences*, **2018**, 123, 2399-2411	3.7	21
56	Climate-forced changes in available energy and methane bubbling from subarctic lakes. *Geophysical Research Letters*, **2015**, 42, 1936-1942	4.9	20
55	Evidence of oxygenic phototrophy in ancient phosphatic stromatolites from the Paleoproterozoic Vindhyan and Aravalli Supergroups, India. *Geobiology*, **2018**, 16, 139-159	4.3	19
54	An estimate of the uptake of atmospheric methyl bromide by agricultural soils. *Geophysical Research Letters*, **1999**, 26, 727-730	4.9	19
53	The Global Methane Budget 20002017		19
52	The Arctic Carbon Cycle and Its Response to Changing Climate. *Current Climate Change Reports*, **2021**, 7, 14-34	9	19
51	Soil incubations reproduce field methane dynamics in a subarctic wetland. *Biogeochemistry*, **2015**, 126, 241-249	3.8	17
50	Stable bromine isotopic composition of atmospheric CH3Br. *Tellus, Series B: Chemical and Physical Meteorology*, **2013**, 65, 21040	3.3	17
49	Long-Term Measurements of Methane Ebullition From Thaw Ponds. *Journal of Geophysical Research G: Biogeosciences*, **2019**, 124, 2208-2221	3.7	16
48	Effect of the 2018 European drought on methane and carbon dioxide exchange of northern mire ecosystems. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190517	5.8	16
47	Clumped Isotopes Link Older Carbon Substrates With Slower Rates of Methanogenesis in Northern Lakes. *Geophysical Research Letters*, **2020**, 47, e2019GL086756	4.9	16
46	Methane Production Pathway Regulated Proximally by Substrate Availability and Distally by Temperature in a High-Latitude Mire Complex. *Journal of Geophysical Research G: Biogeosciences*, **2019**, 124, 3057-3074	3.7	16

45	Atmospheric methane measurements in central New England: An analysis of the long-term trend and the seasonal and diurnal cycles. *Journal of Geophysical Research*, **1998**, 103, 10621-10630		16
44	Delineating northern peatlands using Sentinel-1 time series and terrain indices from local and regional digital elevation models. *Remote Sensing of Environment*, **2019**, 231, 111252	13.2	15
43	Detectability of Arctic methane sources at six sites performing continuous atmospheric measurements. *Atmospheric Chemistry and Physics*, **2017**, 17, 8371-8394	6.8	15
42	The Global Methane Budget: 2000–2012		15
41	Adding stable carbon isotopes improves model representation of the role of microbial communities in peatland methane cycling. *Journal of Advances in Modeling Earth Systems*, **2017**, 9, 1412-1430	7.1	14
40	Controls on the seasonal exchange of CH3Br in temperate peatlands. *Global Biogeochemical Cycles*, **2005**, 19, n/a-n/a	5.9	14
39	Large carbon cycle sensitivities to climate across a permafrost thaw gradient in subarctic Sweden. *Cryosphere*, **2019**, 13, 647-663	5.5	14
38	Methane exchange in a boreal forest estimated by gradient method. *Tellus, Series B: Chemical and Physical Meteorology*, **2015**, 67, 26688	3.3	13
37	Production of methyl bromide in a temperate forest soil. *Geophysical Research Letters*, **2003**, 30, n/a-n/a	4.9	13
36	Determination of atmospheric methyl bromide by cryotrapping-gas chromatography and application to soil kinetic studies using a dynamic dilution system. *Analytical Chemistry*, **1996**, 68, 899-903	7.8	13
35	Volatile organic compound fluxes in a subarctic peatland and lake. *Atmospheric Chemistry and Physics*, **2020**, 20, 13399-13416	6.8	12
34	Drivers of diffusive CH₄ emissions from shallow subarctic lakes on daily to multi-year timescales. *Biogeosciences*, **2020**, 17, 1911-1932	4.6	12
33	A call for international soil experiment networks for studying, predicting, and managing global change impacts. *Soil*, **2015**, 1, 575-582	5.8	11
32	Investigating the influence of two different flow routing algorithms on soil–water–vegetation interactions using the dynamic ecosystem model LPJ-GUESS. *Ecohydrology*, **2015**, 8, 570-583	2.5	10
31	The Boreal–Arctic Wetland and Lake Dataset (BAWLD). *Earth System Science Data*, **2021**, 13, 5127-5149	10.5	10
30	Climate dependent diatom production is preserved in biogenic Si isotope signatures. *Biogeosciences*, **2011**, 8, 3491-3499	4.6	9
29	Bimodal diel pattern in peatland ecosystem respiration rebuts uniform temperature response. *Nature Communications*, **2020**, 11, 4255	17.4	9
28	Using ship-borne observations of methane isotopic ratio in the Arctic Ocean to understand methane sources in the Arctic. *Atmospheric Chemistry and Physics*, **2020**, 20, 3987-3998	6.8	8

27	BAWLD-CH₄: a comprehensive dataset of methane fluxes from boreal and arctic ecosystems. *Earth System Science Data*, **2021**, 13, 5151-5189	10.5	8
26	Hysteretic temperature sensitivity of wetland CH₄ fluxes explained by substrate availability and microbial activity. *Biogeosciences*, **2020**, 17, 5849-5860	4.6	8
25	Ideas and perspectives: A strategic assessment of methane and nitrous oxide measurements in the marine environment. *Biogeosciences*, **2020**, 17, 5809-5828	4.6	7
24	Temperature Proxies as a Solution to Biased Sampling of Lake Methane Emissions. *Geophysical Research Letters*, **2020**, 47, e2020GL088647	4.9	6
23	A High-Volume Cryosampler and Sample Purification System for Bromine Isotope Studies of Methyl Bromide*. *Journal of Atmospheric and Oceanic Technology*, **2013**, 30, 2095-2107	2	6
22	BVOC ecosystem flux measurements at a high latitude wetland site		6
21	Plant organic matter inputs exert a strong control on soil organic matter decomposition in a thawing permafrost peatland.. *Science of the Total Environment*, **2022**, 820, 152757	10.2	4
20	Technical note: Greenhouse gas flux studies: an automated online system for gas emission measurements in aquatic environments. *Hydrology and Earth System Sciences*, **2020**, 24, 3417-3430	5.5	4
19	The IsoGenie database: an interdisciplinary data management solution for ecosystems biology and environmental research. *PeerJ*,8, e9467	3.1	4
18	Year-round CH₄ and CO₂ flux dynamics in two contrasting freshwater ecosystems of the subarctic		3
17	Diverse sediment microbiota shape methane emission temperature sensitivity in Arctic lakes. *Nature Communications*, **2021**, 12, 5815	17.4	3
16	Stable Methane Isotopologues From Northern Lakes Suggest That Ebullition Is Dominated by Sub-Lake Scale Processes. *Journal of Geophysical Research G: Biogeosciences*, **2020**, 125, e2019JG005601	3.7	2
15	Variability and quasi-decadal changes in the methane budget over the period 2000–2012 **2017**,		2
14	Coupling plant litter quantity to a novel metric for litter quality explains C storage changes in a thawing permafrost peatland. *Global Change Biology*, **2021**,	11.4	2
13	Annual carbon gas budget for a subarctic peatland, northern Sweden		2
12	Greenhouse gas flux studies: An automated online system for gas emission measurements in aquatic environments		2
11	Drivers of diffusive lake CH₄ emissions on daily to multi-year time scales		2
10	Diverse Arctic lake sediment microbiota shape methane emission temperature sensitivity		2

9	Assessment of the theoretical limit in instrumental detectability of northern high-latitude methane sources using <i></i>¹³C_{CH4} atmospheric signals. *Atmospheric Chemistry and Physics*, **2019**, 19, 12141-12161	6.8	2
8	Technical note: A simple approach for efficient collection of field reference data for calibrating remote sensing mapping of northern wetlands. *Biogeosciences*, **2018**, 15, 1549-1557	4.6	2
7	Comment on Understanding the Permafrost Hydrate System and Associated Methane Releases in the East Siberian Arctic Shelf *Geosciences (Switzerland)*, **2019**, 9, 384	2.7	1
6	Detectability of Arctic methane sources at six sites performing continuous atmospheric measurements **2017**,		1
5	Permafrost thaw driven changes in hydrology and vegetation cover increase trace gas emissions and climate forcing in Stordalen Mire from 1970 to 2014. *Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences*, **2022**, 380, 20210022	3	1
4	Field-scale CH₄ emission at a subarctic mire with heterogeneous permafrost thaw status. *Biogeosciences*, **2021**, 18, 5811-5830	4.6	1
3	Microbial network, phylogenetic diversity and community membership in the active layer across a permafrost thaw gradient		1
2	Latitudinal differences in methane fluxes from natural wetlands. *SIL Communications 1953-1996*, **1996**, 25, 163-171		
1	Hydrology and Biogeochemistry of Boreal Forests. *Ecological Studies*, **2011**, 321-339	1.1	