

Mats B Nilsson

List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

113
papers

3,358
citations

35
h-index

53
g-index

125
ext. papers

4,185
ext. citations

7.4
avg, IF

5.12
L-index

#	Paper	IF	Citations
113	The ABCflux database: ArcticBoreal CO ₂ flux observations and ancillary information aggregated to monthly time steps across terrestrial ecosystems. <i>Earth System Science Data</i> , 2022 , 14, 179-208	10.5	3
112	A novel belowground in-situ gas labeling approach: CH ₄ oxidation in deep peat using passive diffusion chambers and C excess. <i>Science of the Total Environment</i> , 2022 , 806, 150457	10.2	
111	Tropical and Boreal Forest Atmosphere Interactions: A Review. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2022 , 74, 24-163	3.3	1
110	Overstory dynamics regulate the spatial variability in forest-floor CO ₂ fluxes across a managed boreal forest landscape. <i>Agricultural and Forest Meteorology</i> , 2022 , 318, 108916	5.8	0
109	Drainage Ditch Cleaning Has No Impact on the Carbon and Greenhouse Gas Balances in a Recent Forest Clear-Cut in Boreal Sweden. <i>Forests</i> , 2022 , 13, 842	2.8	0
108	Global maps of soil temperature.. <i>Global Change Biology</i> , 2021 ,	11.4	8
107	Reconciling the Carbon Balance of Northern Sweden Through Integration of Observations and Modelling. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021 , 126, e2021JD035185	4.4	0
106	Autumn destabilization of deep porewater CO ₂ store in a northern peatland driven by turbulent diffusion. <i>Nature Communications</i> , 2021 , 12, 6857	17.4	
105	Substantial hysteresis in emergent temperature sensitivity of global wetland CH ₄ emissions. <i>Nature Communications</i> , 2021 , 12, 2266	17.4	10
104	Northern landscapes in transition: Evidence, approach and ways forward using the Krycklan Catchment Study. <i>Hydrological Processes</i> , 2021 , 35, e14170	3.3	7
103	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. <i>Global Change Biology</i> , 2021 , 27, 3582-3604	11.4	11
102	Lateral expansion of northern peatlands calls into question a 1,055 GtC estimate of carbon storage. <i>Nature Geoscience</i> , 2021 , 14, 468-469	18.3	1
101	Statistical upscaling of ecosystem CO ₂ fluxes across the terrestrial tundra and boreal domain: Regional patterns and uncertainties. <i>Global Change Biology</i> , 2021 , 27, 4040-4059	11.4	25
100	FLUXNET-CH ₄ : a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. <i>Earth System Science Data</i> , 2021 , 13, 3607-3689	10.5	23
99	Chronic Atmospheric Reactive Nitrogen Deposition Suppresses Biological Nitrogen Fixation in Peatlands. <i>Environmental Science & Technology</i> , 2021 , 55, 1310-1318	10.3	4
98	Functional diversity and trait composition of vascular plant and Sphagnum moss communities during peatland succession across land uplift regions. <i>Journal of Ecology</i> , 2021 , 109, 1774-1789	6	15
97	Upscaling Northern Peatland CO ₂ Fluxes Using Satellite Remote Sensing Data. <i>Remote Sensing</i> , 2021 , 13, 818	5	6

96	CO fertilization of Sphagnum peat mosses is modulated by water table level and other environmental factors. <i>Plant, Cell and Environment</i> , 2021 , 44, 1756-1768	8.4	1
95	Critical Observations of Gaseous Elemental Mercury Air-Sea Exchange. <i>Global Biogeochemical Cycles</i> , 2021 , 35, e2020GB006742	5.9	0
94	Forest floor fluxes drive differences in the carbon balance of contrasting boreal forest stands. <i>Agricultural and Forest Meteorology</i> , 2021 , 306, 108454	5.8	4
93	Biogeochemical influences on net methylmercury formation proxies along a peatland chronosequence. <i>Geochimica Et Cosmochimica Acta</i> , 2021 , 308, 188-203	5.5	2
92	Gap-filling eddy covariance methane fluxes: Comparison of machine learning model predictions and uncertainties at FLUXNET-CH4 wetlands. <i>Agricultural and Forest Meteorology</i> , 2021 , 308-309, 108528	5.8	5
91	Global CO fertilization of Sphagnum peat mosses via suppression of photorespiration during the twentieth century.. <i>Scientific Reports</i> , 2021 , 11, 24517	4.9	2
90	Satellite Determination of Peatland Water Table Temporal Dynamics by Localizing Representative Pixels of A SWIR-Based Moisture Index. <i>Remote Sensing</i> , 2020 , 12, 2936	5	4
89	Effect of the 2018 European drought on methane and carbon dioxide exchange of northern mire ecosystems. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2020 , 375, 20190517	5.8	16
88	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. <i>Nature Climate Change</i> , 2020 , 10, 555-560	21.4	44
87	Formation and mobilization of methylmercury across natural and experimental sulfur deposition gradients. <i>Environmental Pollution</i> , 2020 , 263, 114398	9.3	6
86	Opposing spatial trends in methylmercury and total mercury along a peatland chronosequence trophic gradient. <i>Science of the Total Environment</i> , 2020 , 718, 137306	10.2	2
85	The biophysical climate mitigation potential of boreal peatlands during the growing season. <i>Environmental Research Letters</i> , 2020 , 15, 104004	6.2	11
84	Refining the role of phenology in regulating gross ecosystem productivity across European peatlands. <i>Global Change Biology</i> , 2020 , 26, 876-887	11.4	9
83	The Net Landscape Carbon Balance-Integrating terrestrial and aquatic carbon fluxes in a managed boreal forest landscape in Sweden. <i>Global Change Biology</i> , 2020 , 26, 2353	11.4	14
82	Shifts in mercury methylation across a peatland chronosequence: From sulfate reduction to methanogenesis and syntrophy. <i>Journal of Hazardous Materials</i> , 2020 , 387, 121967	12.8	19
81	Peatland Vegetation Patterns in a Long Term Global Change Experiment Find no Reflection in Belowground Extracellular Enzyme Activities. <i>Wetlands</i> , 2020 , 40, 2321-2335	1.7	1
80	COSORE: A community database for continuous soil respiration and other soil-atmosphere greenhouse gas flux data. <i>Global Change Biology</i> , 2020 , 26, 7268-7283	11.4	22
79	Effects of drought and meteorological forcing on carbon and water fluxes in Nordic forests during the dry summer of 2018. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2020 , 375, 20190516	5.8	15

78	Bimodal diel pattern in peatland ecosystem respiration rebuts uniform temperature response. <i>Nature Communications</i> , 2020 , 11, 4255	17.4	9
77	Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. <i>Philosophical Transactions of the Royal Society B: Biological Sciences</i> , 2020 , 375, 20190524	5.8	18
76	Boreal tree species affect soil organic matter composition and saprotrophic mineralization rates. <i>Plant and Soil</i> , 2019 , 441, 173-190	4.2	2
75	High-resolution peat volume change in a northern peatland: Spatial variability, main drivers, and impact on ecohydrology. <i>Ecohydrology</i> , 2019 , 12, e2114	2.5	10
74	Microbial utilization of simple carbon substrates in boreal peat soils at low temperatures. <i>Soil Biology and Biochemistry</i> , 2019 , 135, 438-448	7.5	7
73	The carbon balance of a managed boreal landscape measured from a tall tower in northern Sweden. <i>Agricultural and Forest Meteorology</i> , 2019 , 274, 29-41	5.8	16
72	A Novel Approach for High-Frequency in-situ Quantification of Methane Oxidation in Peatlands. <i>Soil Systems</i> , 2019 , 3, 4	3.5	3
71	FLUXNET-CH4 Synthesis Activity: Objectives, Observations, and Future Directions. <i>Bulletin of the American Meteorological Society</i> , 2019 , 100, 2607-2632	6.1	77
70	PEAT-CLSM: A Specific Treatment of Peatland Hydrology in the NASA Catchment Land Surface Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2019 , 11, 2130-2162	7.1	15
69	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. <i>Earth System Science Data</i> , 2019 , 11, 1263-1289	10.5	45
68	Stable Carbon Isotopes Reveal Soil-Stream DIC Linkages in Contrasting Headwater Catchments. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2018 , 123, 149-167	3.7	33
67	Impact of Canopy Decoupling and Subcanopy Advection on the Annual Carbon Balance of a Boreal Scots Pine Forest as Derived From Eddy Covariance. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2018 , 123, 303-325	3.7	11
66	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. <i>Global Change Biology</i> , 2018 , 24, 3436-3451	11.4	22
65	Headwater Mires Constitute a Major Source of Nitrogen (N) to Surface Waters in the Boreal Landscape. <i>Ecosystems</i> , 2018 , 21, 31-44	3.9	11
64	The Sphagnome Project: enabling ecological and evolutionary insights through a genus-level sequencing project. <i>New Phytologist</i> , 2018 , 217, 16-25	9.8	24
63	Towards long-term standardised carbon and greenhouse gas observations for monitoring European terrestrial ecosystems: a review. <i>International Agrophysics</i> , 2018 , 32, 439-455	2	39
62	Soil-meteorological measurements at ICOS monitoring stations in terrestrial ecosystems. <i>International Agrophysics</i> , 2018 , 32, 619-631	2	9
61	Standardisation of eddy-covariance flux measurements of methane and nitrous oxide. <i>International Agrophysics</i> , 2018 , 32, 517-549	2	51

60	Standardisation of chamber technique for CO ₂ , N ₂ O and CH ₄ fluxes measurements from terrestrial ecosystems. <i>International Agrophysics</i> , 2018 , 32, 569-587	2	42
59	Peatland vegetation composition and phenology drive the seasonal trajectory of maximum gross primary production. <i>Scientific Reports</i> , 2018 , 8, 8012	4.9	22
58	ORCHIDEE-PEAT (revision 4596), a model for northern peatland CO ₂ , water, and energy fluxes on daily to annual scales. <i>Geoscientific Model Development</i> , 2018 , 11, 497-519	6.3	32
57	A nationwide forest attribute map of Sweden predicted using airborne laser scanning data and field data from the National Forest Inventory. <i>Remote Sensing of Environment</i> , 2017 , 194, 447-454	13.2	100
56	Including hydrological self-regulating processes in peatland models: Effects on peatmoss drought projections. <i>Science of the Total Environment</i> , 2017 , 580, 1389-1400	10.2	18
55	Towards a trait-based ecology of wetland vegetation. <i>Journal of Ecology</i> , 2017 , 105, 1623-1635	6	62
54	Long-term enhanced winter soil frost alters growing season CO fluxes through its impact on vegetation development in a boreal peatland. <i>Global Change Biology</i> , 2017 , 23, 3139-3153	11.4	15
53	Terrestrial discharges mediate trophic shifts and enhance methylmercury accumulation in estuarine biota. <i>Science Advances</i> , 2017 , 3, e1601239	14.3	65
52	Phylogenetic or environmental control on the elemental and organo-chemical composition of Sphagnum mosses?. <i>Plant and Soil</i> , 2017 , 417, 69-85	4.2	20
51	Holocene carbon and nitrogen accumulation rates in a boreal oligotrophic fen. <i>Holocene</i> , 2017 , 27, 811-826	6	9
50	The effect of temperature and substrate quality on the carbon use efficiency of saprotrophic decomposition. <i>Plant and Soil</i> , 2017 , 414, 113-125	4.2	28
49	Microbial mineralization of cellulose in frozen soils. <i>Nature Communications</i> , 2017 , 8, 1154	17.4	15
48	Aquatic export of young dissolved and gaseous carbon from a pristine boreal fen: Implications for peat carbon stock stability. <i>Global Change Biology</i> , 2017 , 23, 5523-5536	11.4	25
47	Apparent winter CO ₂ uptake by a boreal forest due to decoupling. <i>Agricultural and Forest Meteorology</i> , 2017 , 232, 23-34	5.8	24
46	Mercury evasion from a boreal peatland shortens the timeline for recovery from legacy pollution. <i>Scientific Reports</i> , 2017 , 7, 16022	4.9	29
45	Parameter interactions and sensitivity analysis for modelling carbon heat and water fluxes in a natural peatland, using CoupModel v5. <i>Geoscientific Model Development</i> , 2016 , 9, 4313-4338	6.3	11
44	Effects of Nutrient Loading and Mercury Chemical Speciation on the Formation and Degradation of Methylmercury in Estuarine Sediment. <i>Environmental Science & Technology</i> , 2016 , 50, 6983-90	10.3	29
43	Enhanced winter soil frost reduces methane emission during the subsequent growing season in a boreal peatland. <i>Global Change Biology</i> , 2016 , 22, 750-62	11.4	13

42	Millennia-old organic carbon in a boreal paleosol: chemical properties and their link to mineralizable carbon fraction. <i>Journal of Soils and Sediments</i> , 2016 , 16, 85-94	3.4	5
41	A dual-inlet, single detector relaxed eddy accumulation system for long-term measurement of mercury flux. <i>Atmospheric Measurement Techniques</i> , 2016 , 9, 509-524	4	17
40	Gross primary production controls the subsequent winter CO exchange in a boreal peatland. <i>Global Change Biology</i> , 2016 , 22, 4028-4037	11.4	17
39	Twelve-year interannual and seasonal variability of stream carbon export from a boreal peatland catchment. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2016 , 121, 1851-1866	3.7	39
38	Rain events decrease boreal peatland net CO ₂ uptake through reduced light availability. <i>Global Change Biology</i> , 2015 , 21, 2309-20	11.4	46
37	Bringing Color into the Picture: Using Digital Repeat Photography to Investigate Phenology Controls of the Carbon Dioxide Exchange in a Boreal Mire. <i>Ecosystems</i> , 2015 , 18, 115-131	3.9	38
36	Detecting long-term metabolic shifts using isotopomers: CO ₂ -driven suppression of photorespiration in C ₃ plants over the 20th century. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 15585-90	11.5	64
35	Differentiated availability of geochemical mercury pools controls methylmercury levels in estuarine sediment and biota. <i>Nature Communications</i> , 2014 , 5, 4624	17.4	110
34	The Full Annual Carbon Balance of Boreal Forests Is Highly Sensitive to Precipitation. <i>Environmental Science and Technology Letters</i> , 2014 , 1, 315-319	11	53
33	Parameterization of mires in a numerical weather prediction model. <i>Water Resources Research</i> , 2014 , 50, 8982-8996	5.4	4
32	Simulation of CO ₂ and Attribution Analysis at Six European Peatland Sites Using the ECOSSE Model. <i>Water, Air, and Soil Pollution</i> , 2014 , 225, 1	2.6	12
31	Linking variability in soil solution dissolved organic carbon to climate, soil type, and vegetation type. <i>Global Biogeochemical Cycles</i> , 2014 , 28, 497-509	5.9	69
30	A 12-year record reveals pre-growing season temperature and water table level threshold effects on the net carbon dioxide exchange in a boreal fen. <i>Environmental Research Letters</i> , 2014 , 9, 055006	6.2	81
29	The effects of temperature and nitrogen and sulfur additions on carbon accumulation in a nutrient-poor boreal mire: Decadal effects assessed using 210Pb peat chronologies. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2014 , 119, 392-403	3.7	14
28	Divergent apparent temperature sensitivity of terrestrial ecosystem respiration. <i>Journal of Plant Ecology</i> , 2014 , 7, 419-428	1.7	13
27	The birth and death of lakes on young landscapes. <i>Geophysical Research Letters</i> , 2013 , 40, 1340-1344	4.9	7
26	Energy exchange and water budget partitioning in a boreal minerogenic mire. <i>Journal of Geophysical Research G: Biogeosciences</i> , 2013 , 118, 1-13	3.7	57
25	Simulation of six years of carbon fluxes for a sedge-dominated oligotrophic minerogenic peatland in Northern Sweden using the McGill Wetland Model (MWM). <i>Journal of Geophysical Research G: Biogeosciences</i> , 2013 , 118, 795-807	3.7	24

24	Abundance and composition of plant biomass as potential controls for mire net ecosystem CO ₂ exchange. <i>Botany</i> , 2012 , 90, 63-74	1.3	55
23	Glasshouse vs field experiments: do they yield ecologically similar results for assessing N impacts on peat mosses?. <i>New Phytologist</i> , 2012 , 195, 408-418	9.8	35
22	Simulating the Carbon Cycling of Northern Peatlands Using a Land Surface Scheme Coupled to a Wetland Carbon Model (CLASS3W-MWM). <i>Atmosphere - Ocean</i> , 2012 , 50, 487-506	1.5	15
21	The influence of sulphate deposition on the seasonal variation of peat pore water methyl Hg in a boreal mire. <i>PLoS ONE</i> , 2012 , 7, e45547	3.7	19
20	Soil frost enhances stream dissolved organic carbon concentrations during episodic spring snow melt from boreal mires. <i>Global Change Biology</i> , 2012 , 18, 1895-1903	11.4	25
19	Climatic modifiers of the response to nitrogen deposition in peat-forming Sphagnum mosses: a meta-analysis. <i>New Phytologist</i> , 2011 , 191, 496-507	9.8	95
18	Production and oxidation of methane in a boreal mire after a decade of increased temperature and nitrogen and sulfur deposition. <i>Global Change Biology</i> , 2010 , 16, 2130-2144	11.4	44
17	Effects of decadal deposition of nitrogen and sulfur, and increased temperature, on methane emissions from a boreal peatland. <i>Journal of Geophysical Research</i> , 2010 , 115,		19
16	Estimating northern peatland CO ₂ exchange from MODIS time series data. <i>Remote Sensing of Environment</i> , 2010 , 114, 1178-1189	13.2	60
15	Resource contrast in patterned peatlands increases along a climatic gradient 2010 , 91, 2344		1
14	Variability in exchange of CO ₂ across 12 northern peatland and tundra sites. <i>Global Change Biology</i> , 2009 , 16, no-no	11.4	85
13	Contemporary carbon accumulation in a boreal oligotrophic minerogenic mire is a significant sink after accounting for all C-fluxes. <i>Global Change Biology</i> , 2008 , 14, 2317-2332	11.4	262
12	Variations in net ecosystem exchange of carbon dioxide in a boreal mire: Modeling mechanisms linked to water table position. <i>Journal of Geophysical Research</i> , 2007 , 112,		58
11	Environmental controls on the CO ₂ exchange in north European mires. <i>Tellus, Series B: Chemical and Physical Meteorology</i> , 2007 , 59, 812-825	3.3	70
10	Growth, production and interspecific competition in Sphagnum: effects of temperature, nitrogen and sulphur treatments on a boreal mire. <i>New Phytologist</i> , 2004 , 163, 349-359	9.8	86
9	Effect of climatic variability from 1980 to 1997 on simulated methane emission from a boreal mixed mire in northern Sweden. <i>Global Biogeochemical Cycles</i> , 2001 , 15, 977-991	5.9	47
8	Methane emission from Swedish mires: National and regional budgets and dependence on mire vegetation. <i>Journal of Geophysical Research</i> , 2001 , 106, 20847-20860		60
7	Seasonal variation in rates of methane production from peat of various botanical origins: effects of temperature and substrate quality. <i>FEMS Microbiology Ecology</i> , 2000 , 33, 181-189	4.3	76

6	Detection of Archaeal Diether Lipid by Gas Chromatography from Humus and Peat. <i>Scandinavian Journal of Forest Research</i> , 1999 , 14, 545-551	1.7	6
5	Microbial carbon mineralisation in an acid surface peat: effects of environmental factors in laboratory incubations. <i>Soil Biology and Biochemistry</i> , 1999 , 31, 1867-1877	7.5	74
4	Potential aerobic methane oxidation in a Sphagnum-dominated peatland: Controlling factors and relation to methane emission. <i>Soil Biology and Biochemistry</i> , 1995 , 27, 829-837	7.5	106
3	Diurnal variation in methane emission in relation to the water table, soil temperature, climate and vegetation cover in a Swedish acid mire. <i>Biogeochemistry</i> , 1995 , 28, 93-114	3.8	92
2	Methane and Carbon Dioxide Concentrations in Bogs and Fens--with Special Reference to the Effects of the Botanical Composition of the Peat. <i>Journal of Ecology</i> , 1993 , 81, 615	6	43
1	FLUXNET-CH4: A global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands		3