Annalea Lohila

List of Publications by Year
in descending order

106 papers	9,234 citations	76326 40 h-index	43889 91 g-index
174 all docs	174 docs citations	174 times ranked	9679 citing authors

#	Article	IF	Citations
1	On the separation of net ecosystem exchange into assimilation and ecosystem respiration: review and improved algorithm. Global Change Biology, 2005, 11, 1424-1439.	9.5	2,778
2	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. Scientific Data, 2020, 7, 225.	5.3	646
3	Comparison of different chamber techniques for measuring soil CO2 efflux. Agricultural and Forest Meteorology, 2004, 123, 159-176.	4.8	420
4	Land management and land-cover change haveÂimpacts of similar magnitude on surfaceÂtemperature. Nature Climate Change, 2014, 4, 389-393.	18.8	404
5	Partitioning European grassland net ecosystem CO2 exchange into gross primary productivity and ecosystem respiration using light response function analysis. Agriculture, Ecosystems and Environment, 2007, 121, 93-120.	5.3	305
6	The uncertain climate footprint of wetlands under human pressure. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4594-4599.	7.1	171
7	Expert assessment of future vulnerability of the global peatland carbon sink. Nature Climate Change, 2021, 11, 70-77.	18.8	167
8	Seasonal variation in CH 4 emissions and production and oxidation potentials at microsites on an oligotrophic pine fen. Oecologia, 1997, 110, 414-422.	2.0	158
9	Methane production and oxidation potentials in relation to water table fluctuations in two boreal mires. Soil Biology and Biochemistry, 1999, 31, 1741-1749.	8.8	158
10	The European carbon balance. Part 4: integration of carbon and other traceâ€gas fluxes. Global Change Biology, 2010, 16, 1451-1469.	9.5	157
11	Soil and total ecosystem respiration in agricultural fields: effect of soil and crop type. Plant and Soil, 2003, 251, 303-317.	3.7	130
12	Global maps of soil temperature. Global Change Biology, 2022, 28, 3110-3144.	9.5	113
13	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. Nature Climate Change, 2020, 10, 555-560.	18.8	106
14	Biosphereâ€"atmosphere exchange of reactive nitrogen and greenhouse gases at the NitroEurope core flux measurement sites: Measurement strategy and first data sets. Agriculture, Ecosystems and Environment, 2009, 133, 139-149.	5.3	104
15	Greenhouse gas flux measurements in a forestry-drained peatland indicate a large carbon sink. Biogeosciences, 2011, 8, 3203-3218.	3.3	101
16	Annual CO2exchange of a peat field growing spring barley or perennial forage grass. Journal of Geophysical Research, 2004, 109, .	3.3	100
17	Nitrogen-rich organic soils under warm well-drained conditions are global nitrous oxide emission hotspots. Nature Communications, 2018, 9, 1135.	12.8	98
18	Nitrous Oxide Emissions from a Municipal Landfill. Environmental Science & Technology, 2005, 39, 7790-7793.	10.0	89

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19	Micrometeorological Measurements of Methane and Carbon Dioxide Fluxes at a Municipal Landfill. Environmental Science & Technology, 2007, 41, 2717-2722.	10.0	82
20	Comparison of greenhouse gas fluxes and nitrogen budgets from an ombotrophic bog in Scotland and a minerotrophic sedge fen in Finland. European Journal of Soil Science, 2010, 61, 640-650.	3.9	82
21	Linking flux network measurements to continental scale simulations: ecosystem carbon dioxide exchange capacity under nonâ€waterâ€stressed conditions. Global Change Biology, 2007, 13, 734-760.	9.5	81
22	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. Earth System Science Data, 2021, 13, 3607-3689.	9.9	79
23	Standardisation of chamber technique for CO2, N2O and CH4 fluxes measurements from terrestrial ecosystems. International Agrophysics, 2018, 32, 569-587.	1.7	76
24	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. Earth System Science Data, 2019, 11, 1263-1289.	9.9	69
25	Nitrous oxide emission budgets and land-use-driven hotspots for organic soils in Europe. Biogeosciences, 2014, 11, 6595-6612.	3.3	68
26	Standardisation of eddy-covariance flux measurements of methane and nitrous oxide. International Agrophysics, 2018, 32, 517-549.	1.7	66
27	Responses of N₂O fluxes to temperature, water table and N deposition in a northern boreal fen. European Journal of Soil Science, 2010, 61, 651-661.	3.9	65
28	Forestation of boreal peatlands: Impacts of changing albedo and greenhouse gas fluxes on radiative forcing. Journal of Geophysical Research, 2010, 115, .	3.3	64
29	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. Global Change Biology, 2021, 27, 3582-3604.	9.5	59
30	Memory effects of climate and vegetation affecting net ecosystem CO2 fluxes in global forests. PLoS ONE, 2019, 14, e0211510.	2.5	58
31	Could continuous cover forestry be an economically and environmentally feasible management option on drained boreal peatlands?. Forest Ecology and Management, 2018, 424, 78-84.	3.2	57
32	Towards long-term standardised carbon and greenhouse gas observations for monitoring Europeâ€™s terrestrial ecosystems: a review. International Agrophysics, 2018, 32, 439-455.	1.7	55
33	Measurements of CO₂ exchange with an automated chamber system throughout the year: challenges in measuring night-time respiration on porous peat soil. Biogeosciences, 2014, 11, 347-363.	3.3	54
34	The European land and inland water CO₂, CO, CH₄ and N₂O balance between 2001 and 2005. Biogeosciences, 2012, 9, 3357-3380.	3.3	53
35	Latent heat exchange in the boreal and arctic biomes. Global Change Biology, 2014, 20, 3439-3456.	9.5	52
36	Measurement of the ¹³C isotopic signature of methane emissions from northern European wetlands. Global Biogeochemical Cycles, 2017, 31, 605-623.	4.9	52

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37	Ecosystem carbon response of an Arctic peatland to simulated permafrost thaw. Global Change Biology, 2019, 25, 1746-1764.	9.5	52
38	Elemental Composition of Natural Nanoparticles and Fine Colloids in European Forest Stream Waters and Their Role as Phosphorus Carriers. Global Biogeochemical Cycles, 2017, 31, 1592-1607.	4.9	48
39	Persistent carbon sink at a boreal drained bog forest. Biogeosciences, 2018, 15, 3603-3624.	3.3	47
40	Large contribution of boreal upland forest soils to a catchmentâ€scale CH₄ balance in a wet year. Geophysical Research Letters, 2016, 43, 2946-2953.	4.0	41
41	Modelling sun-induced fluorescence and photosynthesis with a land surface model at local and regional scales in northern Europe. Biogeosciences, 2017, 14, 1969-1987.	3.3	40
42	PEATâ€CLSM: A Specific Treatment of Peatland Hydrology in the NASA Catchment Land Surface Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 2130-2162.	3.8	40
43	Decreased carbon accumulation feedback driven by climateâ€induced drying of two southern boreal bogs over recent centuries. Global Change Biology, 2020, 26, 2435-2448.	9.5	40
44	Greenhouse gas fluxes in a drained peatland forest during spring frost-thaw event. Biogeosciences, 2010, 7, 1715-1727.	3.3	39
45	Methane and carbon dioxide fluxes and their regional scalability for the European Arctic wetlands during the MAMM project in summer 2012. Atmospheric Chemistry and Physics, 2014, 14, 13159-13174.	4.9	39
46	Calibration and validation of a semi-empirical flux ecosystem model for coniferous forests in the Boreal region. Ecological Modelling, 2016, 341, 37-52.	2.5	39
47	Do the energy fluxes and surface conductance of boreal coniferous forests in Europe scale with leaf area?. Global Change Biology, 2016, 22, 4096-4113.	9.5	39
48	Greenhouse gas and energy fluxes in a boreal peatland forest after clear-cutting. Biogeosciences, 2019, 16, 3703-3723.	3.3	39
49	Measuring methane emissions from a landfill using a cost-effective micrometeorological method. Geophysical Research Letters, 2005, 32, n/a-n/a.	4.0	36
50	Assessing various drought indicators in representing summer drought in boreal forests in Finland. Hydrology and Earth System Sciences, 2016, 20, 175-191.	4.9	36
51	Effects of drought and meteorological forcing on carbon and water fluxes in Nordic forests during the dry summer of 2018. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190516.	4.0	35
52	Ancillary vegetation measurements at ICOS ecosystem stations. International Agrophysics, 2018, 32, 645-664.	1.7	35
53	Modeled Microbial Dynamics Explain the Apparent Temperature Sensitivity of Wetland Methane Emissions. Global Biogeochemical Cycles, 2020, 34, e2020GB006678.	4.9	34
54	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.	4.0	34

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55	Substantial hysteresis in emergent temperature sensitivity of global wetland CH4 emissions. Nature Communications, 2021, 12, 2266.	12.8	34
56	PIXGRO: A model for simulating the ecosystem CO2 exchange and growth of spring barley. Ecological Modelling, 2006, 190, 260-276.	2.5	33
57	Gap-filling eddy covariance methane fluxes: Comparison of machine learning model predictions and uncertainties at FLUXNET-CH4 wetlands. Agricultural and Forest Meteorology, 2021, 308-309, 108528.	4.8	33
58	Chamber measured soil respiration: A useful tool for estimating the carbon balance of peatland forest soils?. Forest Ecology and Management, 2012, 277, 132-140.	3.2	32
59	Stable carbon isotope signatures of methane from a Finnish subarctic wetland. Tellus, Series B: Chemical and Physical Meteorology, 2022, 64, 18818.	1.6	31
60	Lateral expansion and carbon exchange of a boreal peatland in Finland resulting in 7000 years of positive radiative forcing. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 562-577.	3.0	31
61	Vegetation controls of water and energy balance of a drained peatland forest: Responses to alternative harvesting practices. Agricultural and Forest Meteorology, 2020, 295, 108198.	4.8	31
62	The biophysical climate mitigation potential of boreal peatlands during the growing season. Environmental Research Letters, 2020, 15, 104004.	5.2	31
63	Influences of changing land use and CO2 concentration on ecosystem and landscape level carbon and water balances in mountainous terrain of the Stubai Valley, Austria. Global and Planetary Change, 2009, 67, 29-43.	3.5	27
64	CO₂ fluxes and ecosystem dynamics at five European treeless peatlands â€“ merging data and process oriented modeling. Biogeosciences, 2015, 12, 125-146.	3.3	27
65	Detecting northern peatland vegetation patterns at ultraâ€high spatial resolution. Remote Sensing in Ecology and Conservation, 2020, 6, 457-471.	4.3	27
66	Development, carbon accumulation, and radiative forcing of a subarctic fen over the Holocene. Holocene, 2014, 24, 1156-1166.	1.7	26
67	Refining the role of phenology in regulating gross ecosystem productivity across European peatlands. Global Change Biology, 2020, 26, 876-887.	9.5	25
68	Methane exchange at the peatland forest floor â€“ automatic chamber system exposes the dynamics of small fluxes. Biogeosciences, 2017, 14, 1947-1967.	3.3	24
69	HIMMELI v1.0: HelsinkI Model of MEthane buiLd-up and emIssion for peatlands. Geoscientific Model Development, 2017, 10, 4665-4691.	3.6	24
70	Importance of vegetation classes in modeling CH4 emissions from boreal and subarctic wetlands in Finland. Science of the Total Environment, 2016, 572, 1111-1122.	8.0	23
71	Growing season CH₄ and N₂O fluxes from a subarctic landscape in northern Finland; from chamber to landscape scale. Biogeosciences, 2017, 14, 799-815.	3.3	22
72	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.	9.9	22

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73	Simulation of CO2 and Attribution Analysis at Six European Peatland Sites Using the ECOSSE Model. Water, Air, and Soil Pollution, 2014, 225, 1.	2.4	21
74	Response of boreal lakes to episodic weather-induced events. Inland Waters, 2016, 6, 523-534.	2.2	21
75	Carbonâ€“nitrogen interactions in European forests and semi-natural vegetation â€“ Part 1: Fluxes and budgets of carbon, nitrogen and greenhouse gases from ecosystem monitoring and modelling. Biogeosciences, 2020, 17, 1583-1620.	3.3	21
76	Upscaling Northern Peatland CO2 Fluxes Using Satellite Remote Sensing Data. Remote Sensing, 2021, 13, 818.	4.0	19
77	Predicting catchment-scale methane fluxes with multi-source remote sensing. Landscape Ecology, 2021, 36, 1177-1195.	4.2	19
78	Impact of partial harvest on CH4 and N2O balances of a drained boreal peatland forest. Agricultural and Forest Meteorology, 2020, 295, 108168.	4.8	18
79	Stomatal response to decreased relative humidity constrains the acceleration of terrestrial evapotranspiration. Environmental Research Letters, 2020, 15, 094066.	5.2	18
80	Sesquiterpenes dominate monoterpenes in northern wetland emissions. Atmospheric Chemistry and Physics, 2020, 20, 7021-7034.	4.9	18
81	Carbonâ€“nitrogen interactions in European forests and semi-natural vegetation â€“ Part 2: Untangling climatic, edaphic, management and nitrogen deposition effects on carbon sequestration potentials. Biogeosciences, 2020, 17, 1621-1654.	3.3	18
82	Studying the impact of living roots on the decomposition of soil organic matter in two different forestry-drained peatlands. Plant and Soil, 2015, 396, 59-72.	3.7	17
83	Methane production and oxidation potentials along a fenâ€bog gradient from southern boreal to subarctic peatlands in Finland. Global Change Biology, 2021, 27, 4449-4464.	9.5	17
84	Satellite Determination of Peatland Water Table Temporal Dynamics by Localizing Representative Pixels of A SWIR-Based Moisture Index. Remote Sensing, 2020, 12, 2936.	4.0	16
85	Wintertime CO2exchange in a boreal agricultural peat soil. Tellus, Series B: Chemical and Physical Meteorology, 2007, 59, 860-873.	1.6	15
86	Carbon dioxide and methane exchange of a patterned subarctic fen during two contrasting growing seasons. Biogeosciences, 2021, 18, 873-896.	3.3	15
87	Carbon dioxide fluxes and carbon balance of an agricultural grassland in southern Finland. Biogeosciences, 2021, 18, 3467-3483.	3.3	14
88	Reviews and syntheses: Greenhouse gas exchange data from drained organic forest soils â€“ a review of current approaches and recommendations for future research. Biogeosciences, 2019, 16, 4687-4703.	3.3	13
89	Modeling atmospheric CO₂ concentration profiles and fluxes above sloping terrain at a boreal site. Atmospheric Chemistry and Physics, 2006, 6, 303-314.	4.9	11
90	Methane budget estimates in Finland from the CarbonTracker Europe-CH₄ data assimilation system. Tellus, Series B: Chemical and Physical Meteorology, 2022, 71, 1565030.	1.6	11

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91	A simple CO2 exchange model simulates the seasonal leaf area development of peatland sedges. Ecological Modelling, 2015, 314, 32-43.	2.5	10
92	Parameter calibration and stomatal conductance formulation comparison for boreal forests with adaptive population importance sampler in the land surface model JSBACH. Geoscientific Model Development, 2019, 12, 4075-4098.	3.6	10
93	Subarctic catchment water storage and carbon cycling â€“ Leading the way for future studies using integrated datasets at Pallas, Finland. Hydrological Processes, 2021, 35, e14350.	2.6	10
94	Water flow controls the spatial variability of methane emissions in a northern valley fen ecosystem. Biogeosciences, 2020, 17, 6247-6270.	3.3	10
95	Mosses are Important for Soil Carbon Sequestration in Forested Peatlands. Frontiers in Environmental Science, 2021, 9, .	3.3	9
96	Retrieval of daily gross primary production over Europe and Africa from an ensemble of SEVIRI/MSG products. International Journal of Applied Earth Observation and Geoinformation, 2018, 65, 124-136.	2.8	8
97	Towards agricultural soil carbon monitoring, reporting, and verification through the Field Observatory Network (FiON). Geoscientific Instrumentation, Methods and Data Systems, 2022, 11, 93-109.	1.6	8
98	Assessing methane emissions for northern peatlands in ORCHIDEE-PEAT revision 7020. Geoscientific Model Development, 2022, 15, 2813-2838.	3.6	8
99	Measurement report: Atmospheric new particle formation in a coastal agricultural site explained with binPMF analysis of nitrate CI-APi-TOF spectra. Atmospheric Chemistry and Physics, 2022, 22, 8097-8115.	4.9	8
100	A Microbial Functional Groupâ€Based CH₄ Model Integrated Into a Terrestrial Ecosystem Model: Model Structure, Siteâ€Level Evaluation, and Sensitivity Analysis. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001867.	3.8	7
101	The European carbon balance. Part 4: integration of carbon and other trace-gas fluxes. Global Change Biology, 2009, 16, 2399-2399.	9.5	5
102	Identifying main uncertainties in estimating past and present radiative forcing of peatlands. Global Change Biology, 2022, 28, 4069-4084.	9.5	5
103	Warming climate forcing impact from a sub-arctic peatland as a result of late Holocene permafrost aggradation and initiation of bare peat surfaces. Quaternary Science Reviews, 2021, 264, 107022.	3.0	3
104	Quantifying groundwater fluxes from an aapa mire to a riverside esker formation. Hydrology Research, 2021, 52, 585-596.	2.7	2
105	Excess soil moisture and fresh carbon input are prerequisites for methane production in podzolic soil. Biogeosciences, 2022, 19, 2025-2041.	3.3	1
106	Linking flux network measurements to continental scale simulations: ecosystem carbon dioxide exchange capacity under non-water-stressed conditions. Global Change Biology, 2007, .	9.5	0