Matthias Peichl

List of Publications by Year
in descending order

99 papers	4,905 citations	109137 35 h-index	110170 64 g-index
139 all docs	139 docs citations	139 times ranked	6293 citing authors

#	Article	IF	Citations
1	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. Scientific Data, 2020, 7, 225.	2.4	646
2	Above- and belowground ecosystem biomass and carbon pools in an age-sequence of temperate pine plantation forests. Agricultural and Forest Meteorology, 2006, 140, 51-63.	1.9	241
3	Allometry and partitioning of above- and belowground tree biomass in an age-sequence of white pine forests. Forest Ecology and Management, 2007, 253, 68-80.	1.4	227
4	Carbon Sequestration Potentials in Temperate Tree-Based Intercropping Systems, Southern Ontario, Canada. Agroforestry Systems, 2006, 66, 243-257.	0.9	185
5	Land surface phenology derived from normalized difference vegetation index (NDVI) at global FLUXNET sites. Agricultural and Forest Meteorology, 2017, 233, 171-182.	1.9	154
6	Impacts of droughts and extreme-temperature events on gross primary production and ecosystem respiration: a systematic assessment across ecosystems and climate zones. Biogeosciences, 2018, 15, 1293-1318.	1.3	137
7	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. Nature Climate Change, 2020, 10, 555-560.	8.1	106
8	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. Environmental Research Letters, 2014, 9, 055006.	2.2	100
9	Energy exchange and water budget partitioning in a boreal minerogenic mire. Journal of Geophysical Research G: Biogeosciences, 2013, 118, 1-13.	1.3	94
10	Linking variability in soil solution dissolved organic carbon to climate, soil type, and vegetation type. Global Biogeochemical Cycles, 2014, 28, 497-509.	1.9	91
11	Carbon dioxide, methane, and nitrous oxide exchanges in an ageâ€sequence of temperate pine forests. Global Change Biology, 2010, 16, 2198-2212.	4.2	85
12	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
13	Biometric and eddy-covariance based estimates of carbon fluxes in an age-sequence of temperate pine forests. Agricultural and Forest Meteorology, 2010, 150, 952-965.	1.9	82
14	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. Earth System Science Data, 2021, 13, 3607-3689.	3.7	79
15	Standardisation of chamber technique for CO2, N2O and CH4 fluxes measurements from terrestrial ecosystems. International Agrophysics, 2018, 32, 569-587.	0.7	76
16	Sensitivity of gross primary productivity to climatic drivers during the summer drought of 2018 in Europe. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190747.	1.8	71
17	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. Earth System Science Data, 2019, 11, 1263-1289.	3.7	69
18	Age effects on carbon fluxes in temperate pine forests. Agricultural and Forest Meteorology, 2010, 150, 1090-1101.	1.9	67

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19	Above- and belowground ecosystem biomass, carbon and nitrogen allocation in recently afforested grassland and adjacent intensively managed grassland. Plant and Soil, 2012, 350, 281-296.	1.8	67
20	Diverse Responses of Vegetation Phenology to Climate Change in Different Grasslands in Inner Mongolia during 2000â€“2016. Remote Sensing, 2018, 10, 17.	1.8	65
21	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. Global Change Biology, 2021, 27, 3582-3604.	4.2	59
22	ICOS eddy covariance flux-station site setup: a review. International Agrophysics, 2018, 32, 471-494.	0.7	59
23	Rain events decrease boreal peatland net <scp>CO</scp>₂ uptake through reduced light availability. Global Change Biology, 2015, 21, 2309-2320.	4.2	57
24	Towards long-term standardised carbon and greenhouse gas observations for monitoring Europeâ€™s terrestrial ecosystems: a review. International Agrophysics, 2018, 32, 439-455.	0.7	55
25	Impact of water table level on annual carbon and greenhouse gas balances of a restored peat extraction area. Biogeosciences, 2016, 13, 2637-2651.	1.3	54
26	COSORE: A community database for continuous soil respiration and other soilâ€atmosphere greenhouse gas flux data. Global Change Biology, 2020, 26, 7268-7283.	4.2	50
27	Bringing Color into the Picture: Using Digital Repeat Photography to Investigate Phenology Controls of the Carbon Dioxide Exchange in a Boreal Mire. Ecosystems, 2015, 18, 115-131.	1.6	49
28	The impact of induced drought on transpiration and growth in a temperate pine plantation forest. Hydrological Processes, 2012, 26, 1779-1791.	1.1	45
29	Northern landscapes in transition: Evidence, approach and ways forward using the Krycklan Catchment Study. Hydrological Processes, 2021, 35, e14170.	1.1	45
30	Six-year Stable Annual Uptake of Carbon Dioxide in Intensively Managed Humid Temperate Grassland. Ecosystems, 2011, 14, 112-126.	1.6	44
31	Age effects on the waterâ€use efficiency and waterâ€use dynamics of temperate pine plantation forests. Hydrological Processes, 2015, 29, 4100-4113.	1.1	43
32	ORCHIDEE-PEAT (revision 4596), a model for northern peatland CO₂, water, and energy fluxes on daily to annual scales. Geoscientific Model Development, 2018, 11, 497-519.	1.3	43
33	Concentrations and fluxes of dissolved organic carbon in an age-sequence of white pine forests in Southern Ontario, Canada. Biogeochemistry, 2007, 86, 1-17.	1.7	40
34	Partitioning of the net <scp>CO</scp>₂ 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.	4.2	38
35	Modeling dissolved organic carbon in temperate forest soils: TRIPLEX-DOC model development and validation. Geoscientific Model Development, 2014, 7, 867-881.	1.3	37
36	Apparent winter CO2 uptake by a boreal forest due to decoupling. Agricultural and Forest Meteorology, 2017, 232, 23-34.	1.9	36

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37	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.	1.8	35
38	Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. Philosophical Transactions of the Royal Society B: Biological Sciences, 2020, 375, 20190524.	1.8	35
39	Ancillary vegetation measurements at ICOS ecosystem stations. International Agrophysics, 2018, 32, 645-664.	0.7	35
40	Peatland vegetation composition and phenology drive the seasonal trajectory of maximum gross primary production. Scientific Reports, 2018, 8, 8012.	1.6	34
41	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.	1.8	34
42	Substantial hysteresis in emergent temperature sensitivity of global wetland CH4 emissions. Nature Communications, 2021, 12, 2266.	5.8	34
43	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.	1.9	33
44	Negative effects of stem and stump harvest and deep soil cultivation on the soil carbon and nitrogen pools are mitigated by enhanced tree growth. Forest Ecology and Management, 2015, 338, 57-67.	1.4	31
45	The biophysical climate mitigation potential of boreal peatlands during the growing season. Environmental Research Letters, 2020, 15, 104004.	2.2	31
46	How do disturbances and climate effects on carbon and water fluxes differ between multi-aged and even-aged coniferous forests?. Science of the Total Environment, 2017, 599-600, 1583-1597.	3.9	30
47	Management and climate effects on carbon dioxide and energy exchanges in a maritime grassland. Agriculture, Ecosystems and Environment, 2012, 158, 132-146.	2.5	29
48	The carbon balance of a managed boreal landscape measured from a tall tower in northern Sweden. Agricultural and Forest Meteorology, 2019, 274, 29-41.	1.9	29
49	The Net Landscape Carbon Balanceâ€"Integrating terrestrial and aquatic carbon fluxes in a managed boreal forest landscape in Sweden. Global Change Biology, 2020, 26, 2353-2367.	4.2	28
50	Diverse effects of climate at different times on grassland phenology in mid-latitude of the Northern Hemisphere. Ecological Indicators, 2020, 113, 106260.	2.6	28
51	Analysis of nitrogen controls on carbon and water exchanges in a conifer forest using the CLASS-CTEMN+ model. Ecological Modelling, 2011, 222, 3743-3760.	1.2	27
52	Tropical and Boreal Forest â€“ Atmosphere Interactions: A Review. Tellus, Series B: Chemical and Physical Meteorology, 2022, 74, 24.	0.8	27
53	Including hydrological self-regulating processes in peatland models: Effects on peatmoss drought projections. Science of the Total Environment, 2017, 580, 1389-1400.	3.9	26
54	The Cold Region Critical Zone in Transition: Responses to Climate Warming and Land Use Change. Annual Review of Environment and Resources, 2021, 46, 111-134.	5.6	26

#	Article	IF	Citations
55	Water flux components and soil waterâ€atmospheric controls in a temperate pine forest growing in a wellâ€drained sandy soil. Journal of Geophysical Research, 2008, 113, .	3.3	25
56	Refining the role of phenology in regulating gross ecosystem productivity across European peatlands. Global Change Biology, 2020, 26, 876-887.	4.2	25
57	Evaluating management effects on nitrous oxide emissions from grasslands using the process-based DeNitrificationâ€“DeComposition (DNDC) model. Atmospheric Environment, 2011, 45, 6029-6039.	1.9	24
58	Gross primary production controls the subsequent winter <scp>CO</scp>₂ exchange in a boreal peatland. Global Change Biology, 2016, 22, 4028-4037.	4.2	23
59	Enhanced spatiotemporal heterogeneity and the climatic and biotic controls of autumn phenology in northern grasslands. Science of the Total Environment, 2021, 788, 147806.	3.9	23
60	Uncovering the critical soil moisture thresholds of plant water stress for European ecosystems. Global Change Biology, 2022, 28, 2111-2123.	4.2	23
61	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
62	Relative contributions of soil, foliar, and woody tissue respiration to total ecosystem respiration in four pine forests of different ages. Journal of Geophysical Research, 2010, 115, .	3.3	21
63	Simulation of CO2 and Attribution Analysis at Six European Peatland Sites Using the ECOSSE Model. Water, Air, and Soil Pollution, 2014, 225, 1.	1.1	21
64	Representation of dissolved organic carbon in the JULES land surface model (vn4.4_JULES-DOCM). Geoscientific Model Development, 2018, 11, 593-609.	1.3	21
65	Bimodal diel pattern in peatland ecosystem respiration rebuts uniform temperature response. Nature Communications, 2020, 11, 4255.	5.8	21
66	The role of the understory in litter DOC and nutrient leaching in boreal forests. Biogeochemistry, 2020, 149, 87-103.	1.7	21
67	Partitioning growing season water balance within a forested boreal catchment using sap flux, eddy covariance, and a process-based model. Hydrology and Earth System Sciences, 2020, 24, 2999-3014.	1.9	21
68	Slash and stump harvest have no general impact on soil and tree biomass C pools after 32â€“39years. Forest Ecology and Management, 2016, 371, 33-41.	1.4	20
69	Impact of Canopy Decoupling and Subcanopy Advection on the Annual Carbon Balance of a Boreal Scots Pine Forest as Derived From Eddy Covariance. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 303-325.	1.3	20
70	Convergence of potential net ecosystem production among contrasting C₃ grasslands. Ecology Letters, 2013, 16, 502-512.	3.0	19
71	Carbon and greenhouse gas balances in an age sequence of temperate pine plantations. Biogeosciences, 2014, 11, 5399-5410.	1.3	19
72	Carbon, water and energy exchange dynamics of a young pine plantation forest during the initial fourteen years of growth. Forest Ecology and Management, 2018, 410, 12-26.	1.4	19

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73	Forest floor fluxes drive differences in the carbon balance of contrasting boreal forest stands. Agricultural and Forest Meteorology, 2021, 306, 108454.	1.9	18
74	Heat and drought impact on carbon exchange in an age-sequence of temperate pine forests. Ecological Processes, 2022, 11, 7.	1.6	18
75	Parameter interactions and sensitivity analysis for modelling carbon heat and water fluxes in a natural peatland, using CoupModel v5. Geoscientific Model Development, 2016, 9, 4313-4338.	1.3	17
76	Longâ€term enhanced winter soil frost alters growing season <scp>CO</scp>₂ fluxes through its impact on vegetation development in a boreal peatland. Global Change Biology, 2017, 23, 3139-3153.	4.2	17
77	Divergent apparent temperature sensitivity of terrestrial ecosystem respiration. Journal of Plant Ecology, 2014, 7, 419-428.	1.2	16
78	Full carbon and greenhouse gas balances of fertilized and nonfertilized reed canary grass cultivations on an abandoned peat extraction area in a dry year. GCB Bioenergy, 2016, 8, 952-968.	2.5	16
79	Limitations and Challenges of MODIS-Derived Phenological Metrics Across Different Landscapes in Pan-Arctic Regions. Remote Sensing, 2018, 10, 1784.	1.8	16
80	Enhanced winter soil frost reduces methane emission during the subsequent growing season in a boreal peatland. Global Change Biology, 2016, 22, 750-762.	4.2	14
81	Assimilating phenology datasets automatically across ICOS ecosystem stations. International Agrophysics, 2018, 32, 677-687.	0.7	14
82	Changes in ecosystem carbon stocks in a grassland ash (Fraxinus excelsior) afforestation chronosequence in Ireland. Journal of Plant Ecology, 2014, 7, 429-438.	1.2	13
83	Upscaling instantaneous to daily evapotranspiration using modelled daily shortwave radiation for remote sensing applications: an artificial neural network approach. Hydrology and Earth System Sciences, 2017, 21, 197-215.	1.9	13
84	Modelling Daily Gross Primary Productivity with Sentinel-2 Data in the Nordic Regionâ€“Comparison with Data from MODIS. Remote Sensing, 2021, 13, 469.	1.8	12
85	Method comparison of indirect assessments of understory leaf area index (LAIu): A case study across the extended network of ICOS forest ecosystem sites in Europe. Ecological Indicators, 2021, 128, 107841.	2.6	12
86	Retrieval and validation of forest background reflectivity from daily Moderate Resolution Imaging Spectroradiometer (MODIS) bidirectional reflectance distribution function (BRDF) data across European forests. Biogeosciences, 2021, 18, 621-635.	1.3	12
87	Estimating canopy gross primary production by combining phloem stable isotopes with canopy and mesophyll conductances. Plant, Cell and Environment, 2020, 43, 2124-2142.	2.8	11
88	A Novel Approach for High-Frequency in-situ Quantification of Methane Oxidation in Peatlands. Soil Systems, 2019, 3, 4.	1.0	10
89	Chronic Atmospheric Reactive Nitrogen Deposition Suppresses Biological Nitrogen Fixation in Peatlands. Environmental Science & Technology, 2021, 55, 1310-1318.	4.6	9
90	A carbon-budget approach shows that reduced decomposition causes the nitrogen-induced increase in soil carbon in a boreal forest. Forest Ecology and Management, 2021, 502, 119750.	1.4	9

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91	Impact of coordinate rotation on eddy covariance fluxes at complex sites. Agricultural and Forest Meteorology, 2020, 287, 107940.	1.9	8
92	Disaggregating the effects of nitrogen addition on gross primary production in a boreal Scots pine forest. Agricultural and Forest Meteorology, 2021, 301-302, 108337.	1.9	8
93	Drainage Ditch Cleaning Has No Impact on the Carbon and Greenhouse Gas Balances in a Recent Forest Clear-Cut in Boreal Sweden. Forests, 2022, 13, 842.	0.9	7
94	Dissolved Organic Carbon Dynamics and Controls of Planted Slash Pine Forest Soil in Subtropical Region in Southern China. Journal of Resources and Ecology, 2013, 4, 105-114.	0.2	4
95	Overstory dynamics regulate the spatial variability in forest-floor CO2 fluxes across a managed boreal forest landscape. Agricultural and Forest Meteorology, 2022, 318, 108916.	1.9	3
96	Reconciling the Carbon Balance of Northern Sweden Through Integration of Observations and Modelling. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035185.	1.2	2
97	Stand Volume Production in the Subsequent Stand during Three Decades Remains Unaffected by Slash and Stump Harvest in Nordic Forests. Forests, 2018, 9, 770.	0.9	1
98	Isotopic Branchpoints: Linkages and Efficiencies in Carbon and Water Budgets. Journal of Geophysical Research G: Biogeosciences, 2021, 126, e2020JG006043.	1.3	0
99	Editorial: Wetland Ecology and Biogeochemistry Under Natural and Human Disturbance. Frontiers in Earth Science, 2021, 9, .	0.8	0