Matthias Peichl

List of Publications by Citations

105 papers	2,882 citations	28 h-index	50 g-index
138 ext. papers	3,794 ext. citations	6.3 avg, IF	5.1 L-index

#	Paper	IF	Citations
105	The FLUXNET2015 dataset and the ONEFlux processing pipeline for eddy covariance data. *Scientific Data*, **2020**, 7, 225	8.2	256
104	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	5.8	202
103	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	3.9	189
102	Carbon Sequestration Potentials in Temperate Tree-Based Intercropping Systems, Southern Ontario, Canada. *Agroforestry Systems*, **2006**, 66, 243-257	2	142
101	Land surface phenology derived from normalized difference vegetation index (NDVI) at global FLUXNET sites. *Agricultural and Forest Meteorology*, **2017**, 233, 171-182	5.8	100
100	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	6.2	81
99	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	4.6	79
98	FLUXNET-CH4 Synthesis Activity: Objectives, Observations, and Future Directions. *Bulletin of the American Meteorological Society*, **2019**, 100, 2607-2632	6.1	77
97	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	5.8	74
96	Linking variability in soil solution dissolved organic carbon to climate, soil type, and vegetation type. *Global Biogeochemical Cycles*, **2014**, 28, 497-509	5.9	69
95	Carbon dioxide, methane, and nitrous oxide exchanges in an age-sequence of temperate pine forests. *Global Change Biology*, **2009**, 16, 2198-2212	11.4	66
94	Energy exchange and water budget partitioning in a boreal minerogenic mire. *Journal of Geophysical Research G: Biogeosciences*, **2013**, 118, 1-13	3.7	57
93	Age effects on carbon fluxes in temperate pine forests. *Agricultural and Forest Meteorology*, **2010**, 150, 1090-1101	5.8	56
92	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	4.2	47
91	Rain events decrease boreal peatland net CO2 uptake through reduced light availability. *Global Change Biology*, **2015**, 21, 2309-20	11.4	46
90	Monthly gridded data product of northern wetland methane emissions based on upscaling eddy covariance observations. *Earth System Science Data*, **2019**, 11, 1263-1289	10.5	45
89	Increasing contribution of peatlands to boreal evapotranspiration in a warming climate. *Nature Climate Change*, **2020**, 10, 555-560	21.4	44

88	ICOS eddy covariance flux-station site setup: a review. *International Agrophysics*, **2018**, 32, 471-494	2	42
87	Standardisation of chamber technique for CO2, N2O and CH4 fluxes measurements from terrestrial ecosystems. *International Agrophysics*, **2018**, 32, 569-587	2	42
86	Diverse Responses of Vegetation Phenology to Climate Change in Different Grasslands in Inner Mongolia during 2000–2016. *Remote Sensing*, **2018**, 10, 17	5	40
85	Six-year Stable Annual Uptake of Carbon Dioxide in Intensively Managed Humid Temperate Grassland. *Ecosystems*, **2011**, 14, 112-126	3.9	39
84	Towards long-term standardised carbon and greenhouse gas observations for monitoring European terrestrial ecosystems: a review. *International Agrophysics*, **2018**, 32, 439-455	2	39
83	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	3.9	38
82	Impact of water table level on annual carbon and greenhouse gas balances of a restored peat extraction area. *Biogeosciences*, **2016**, 13, 2637-2651	4.6	38
81	Concentrations and fluxes of dissolved organic carbon in an age-sequence of white pine forests in Southern Ontario, Canada. *Biogeochemistry*, **2007**, 86, 1-17	3.8	36
80	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	6.3	32
79	The impact of induced drought on transpiration and growth in a temperate pine plantation forest. *Hydrological Processes*, **2012**, 26, 1779-1791	3.3	29
78	Age effects on the water-use efficiency and water-use dynamics of temperate pine plantation forests. *Hydrological Processes*, **2015**, 29, 4100-4113	3.3	28
77	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	3.9	26
76	Management and climate effects on carbon dioxide and energy exchanges in a maritime grassland. *Agriculture, Ecosystems and Environment*, **2012**, 158, 132-146	5.7	26
75	Modeling dissolved organic carbon in temperate forest soils: TRIPLEX-DOC model development and validation. *Geoscientific Model Development*, **2014**, 7, 867-881	6.3	25
74	Statistical upscaling of ecosystem CO fluxes across the terrestrial tundra and boreal domain: Regional patterns and uncertainties. *Global Change Biology*, **2021**, 27, 4040-4059	11.4	25
73	Apparent winter CO2 uptake by a boreal forest due to decoupling. *Agricultural and Forest Meteorology*, **2017**, 232, 23-34	5.8	24
72	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	5.8	23
71	FLUXNET-CH₄: a global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands. *Earth System Science Data*, **2021**, 13, 3607-3689	10.5	23

70	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	10.2	22
69	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
68	Water flux components and soil water-atmospheric controls in a temperate pine forest growing in a well-drained sandy soil. *Journal of Geophysical Research*, **2008**, 113,		22
67	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
66	Peatland vegetation composition and phenology drive the seasonal trajectory of maximum gross primary production. *Scientific Reports*, **2018**, 8, 8012	4.9	22
65	Analysis of nitrogen controls on carbon and water exchanges in a conifer forest using the CLASS-CTEMN+ model. *Ecological Modelling*, **2011**, 222, 3743-3760	3	20
64	Evaluating management effects on nitrous oxide emissions from grasslands using the process-based DeNitrificationDeComposition (DNDC) model. *Atmospheric Environment*, **2011**, 45, 6029-6039	5.3	20
63	Including hydrological self-regulating processes in peatland models: Effects on peatmoss drought projections. *Science of the Total Environment*, **2017**, 580, 1389-1400	10.2	18
62	Convergence of potential net ecosystem production among contrasting C3 grasslands. *Ecology Letters*, **2013**, 16, 502-12	10	18
61	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,		18
60	Altered energy partitioning across terrestrial ecosystems in the European drought year 2018. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2020**, 375, 20190524	5.8	18
59	Gross primary production controls the subsequent winter CO exchange in a boreal peatland. *Global Change Biology*, **2016**, 22, 4028-4037	11.4	17
58	Representation of dissolved organic carbon in the JULES land surface model (vn4.4_JULES-DOCM). *Geoscientific Model Development*, **2018**, 11, 593-609	6.3	17
57	The carbon balance of a managed boreal landscape measured from a tall tower in northern Sweden. *Agricultural and Forest Meteorology*, **2019**, 274, 29-41	5.8	16
56	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
55	Long-term enhanced winter soil frost alters growing season CO fluxes through its impact on vegetation development in a boreal peatland. *Global Change Biology*, **2017**, 23, 3139-3153	11.4	15
54	Ancillary vegetation measurements at ICOS ecosystem stations. *International Agrophysics*, **2018**, 32, 645-664	2	15
53	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	5.8	15

52	Slash and stump harvest have no general impact on soil and tree biomass C pools after 32–39 years. *Forest Ecology and Management*, **2016**, 371, 33-41	3.9	14
51	Carbon and greenhouse gas balances in an age sequence of temperate pine plantations. *Biogeosciences*, **2014**, 11, 5399-5410	4.6	14
50	The Net Landscape Carbon Balance-Integrating terrestrial and aquatic carbon fluxes in a managed boreal forest landscape in Sweden. *Global Change Biology*, **2020**, 26, 2353	11.4	14
49	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	3.9	13
48	Enhanced winter soil frost reduces methane emission during the subsequent growing season in a boreal peatland. *Global Change Biology*, **2016**, 22, 750-62	11.4	13
47	Divergent apparent temperature sensitivity of terrestrial ecosystem respiration. *Journal of Plant Ecology*, **2014**, 7, 419-428	1.7	13
46	Simulation of CO2 and Attribution Analysis at Six European Peatland Sites Using the ECOSSE Model. *Water, Air, and Soil Pollution*, **2014**, 225, 1	2.6	12
45	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	6.3	11
44	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	3.7	11
43	Changes in ecosystem carbon stocks in a grassland ash (Fraxinus excelsior) afforestation chronosequence in Ireland. *Journal of Plant Ecology*, **2014**, 7, 429-438	1.7	11
42	Assimilating phenology datasets automatically across ICOS ecosystem stations. *International Agrophysics*, **2018**, 32, 677-687	2	11
41	The biophysical climate mitigation potential of boreal peatlands during the growing season. *Environmental Research Letters*, **2020**, 15, 104004	6.2	11
40	Identifying dominant environmental predictors of freshwater wetland methane fluxes across diurnal to seasonal time scales. *Global Change Biology*, **2021**, 27, 3582-3604	11.4	11
39	Substantial hysteresis in emergent temperature sensitivity of global wetland CH emissions. *Nature Communications*, **2021**, 12, 2266	17.4	10
38	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	5.6	10
37	The role of the understory in litter DOC and nutrient leaching in boreal forests. *Biogeochemistry*, **2020**, 149, 87-103	3.8	9
36	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	5.5	9
35	Refining the role of phenology in regulating gross ecosystem productivity across European peatlands. *Global Change Biology*, **2020**, 26, 876-887	11.4	9

34	Bimodal diel pattern in peatland ecosystem respiration rebuts uniform temperature response. *Nature Communications*, **2020**, 11, 4255	17.4	9
33	Diverse effects of climate at different times on grassland phenology in mid-latitude of the Northern Hemisphere. *Ecological Indicators*, **2020**, 113, 106260	5.8	8
32	Limitations and Challenges of MODIS-Derived Phenological Metrics Across Different Landscapes in Pan-Arctic Regions. *Remote Sensing*, **2018**, 10, 1784	5	8
31	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	4.6	8
30	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	5.5	7
29	Northern landscapes in transition: Evidence, approach and ways forward using the Krycklan Catchment Study. *Hydrological Processes*, **2021**, 35, e14170	3.3	7
28	Estimating canopy gross primary production by combining phloem stable isotopes with canopy and mesophyll conductances. *Plant, Cell and Environment*, **2020**, 43, 2124-2142	8.4	6
27	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	5.8	5
26	Uncovering the critical soil moisture thresholds of plant water stress for European ecosystems.. *Global Change Biology*, **2021**,	11.4	5
25	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	0.5	4
24	Modeling dissolved organic carbon in temperate forest soils: TRIPLEX-DOC model development and validation **2013**,		4
23	Representation of dissolved organic carbon in the JULES land surface model (vn4.4_JULES-DOCM)		4
22	The Cold Region Critical Zone in Transition: Responses to Climate Warming and Land Use Change. *Annual Review of Environment and Resources*, **2021**, 46,	17.2	4
21	Chronic Atmospheric Reactive Nitrogen Deposition Suppresses Biological Nitrogen Fixation in Peatlands. *Environmental Science & Technology*, **2021**, 55, 1310-1318	10.3	4
20	Forest floor fluxes drive differences in the carbon balance of contrasting boreal forest stands. *Agricultural and Forest Meteorology*, **2021**, 306, 108454	5.8	4
19	Enhanced spatiotemporal heterogeneity and the climatic and biotic controls of autumn phenology in northern grasslands. *Science of the Total Environment*, **2021**, 788, 147806	10.2	4
18	A Novel Approach for High-Frequency in-situ Quantification of Methane Oxidation in Peatlands. *Soil Systems*, **2019**, 3, 4	3.5	3
17	The ABCflux database: Arctic-boreal CO₂ flux observations and ancillary information aggregated to monthly time steps across terrestrial ecosystems. *Earth System Science Data*, **2022**, 14, 179-208	10.5	3

16	Heat and drought impact on carbon exchange in an age-sequence of temperate pine forests.. *Ecological Processes*, **2022**, 11, 7	3.6	3
15	Impacts of droughts and extreme temperature events on gross primary production and ecosystem respiration: a systematic assessment across ecosystems and climate zones		3
14	Modelling Daily Gross Primary Productivity with Sentinel-2 Data in the Nordic Region Comparison with Data from MODIS. *Remote Sensing*, **2021**, 13, 469	5	3
13	FLUXNET-CH4: A global, multi-ecosystem dataset and analysis of methane seasonality from freshwater wetlands		3
12	Impact of coordinate rotation on eddy covariance fluxes at complex sites. *Agricultural and Forest Meteorology*, **2020**, 287, 107940	5.8	2
11	Disaggregating the effects of nitrogen addition on gross primary production in a boreal Scots pine forest. *Agricultural and Forest Meteorology*, **2021**, 301-302, 108337	5.8	2
10	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	5.8	2
9	ORCHIDEE-PEAT (revision 4596), a model for northern peatland CO₂, water and energy fluxes on daily to annual scales **2017**,		1
8	Impact of water table level on annual carbon and greenhouse gas balances of a restored peat extraction area		1
7	Stand Volume Production in the Subsequent Stand during Three Decades Remains Unaffected by Slash and Stump Harvest in Nordic Forests. *Forests*, **2018**, 9, 770	2.8	1
6	Tropical and Boreal Forest Atmosphere Interactions: A Review. *Tellus, Series B: Chemical and Physical Meteorology*, **2022**, 74, 24-163	3.3	1
5	Reconciling the Carbon Balance of Northern Sweden Through Integration of Observations and Modelling. *Journal of Geophysical Research D: Atmospheres*, **2021**, 126, e2021JD035185	4.4	0
4	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	3.9	0
3	Overstory dynamics regulate the spatial variability in forest-floor CO2 fluxes across a managed boreal forest landscape. *Agricultural and Forest Meteorology*, **2022**, 318, 108916	5.8	0
2	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	2.8	0
1	Isotopic Branchpoints: Linkages and Efficiencies in Carbon and Water Budgets. *Journal of Geophysical Research G: Biogeosciences*, **2021**, 126, e2020JG006043	3.7	