Jens Leifeld

List of Publications by Year
in descending order

140 papers	11,175 citations	31976 53 h-index	31849 101 g-index
173 all docs	173 docs citations	173 times ranked	12389 citing authors

#	Article	IF	Citations
1	Temperature and soil organic matter decomposition rates - synthesis of current knowledge and a way forward. Global Change Biology, 2011, 17, 3392-3404.	9.5	1,143
2	Anthropogenic perturbation of the carbon fluxes from land to ocean. Nature Geoscience, 2013, 6, 597-607.	12.9	937
3	Temporal dynamics of soil organic carbon after land-use change in the temperate zone - carbon response functions as a model approach. Global Change Biology, 2011, 17, 2415-2427.	9.5	645
4	The underappreciated potential of peatlands in global climate change mitigation strategies. Nature Communications, 2018, 9, 1071.	12.8	418
5	Measured soil organic matter fractions can be related to pools in the RothC model. European Journal of Soil Science, 2007, 58, 658-667.	3.9	343
6	Soil organic matter fractions as early indicators for carbon stock changes under different land-use?. Geoderma, 2005, 124, 143-155.	5.1	304
7	Towards a global-scale soil climate mitigation strategy. Nature Communications, 2020, 11, 5427.	12.8	302
8	Application of thermal analysis techniques in soil science. Geoderma, 2009, 153, 1-10.	5.1	277
9	The carbon budget of newly established temperate grassland depends on management intensity. Agriculture, Ecosystems and Environment, 2007, 121, 5-20.	5.3	262
10	Effects of climate and management intensity on nitrous oxide emissions in grassland systems across Europe. Agriculture, Ecosystems and Environment, 2007, 121, 135-152.	5.3	262
11	Carbon stocks in Swiss agricultural soils predicted by land-use, soil characteristics, and altitude. Agriculture, Ecosystems and Environment, 2005, 105, 255-266.	5.3	247
12	Quantitative Determination of PAHs in Biochar: A Prerequisite To Ensure Its Quality and Safe Application. Journal of Agricultural and Food Chemistry, 2012, 60, 3042-3050.	5.2	199
13	Biological residues define the ice nucleation properties of soil dust. Atmospheric Chemistry and Physics, 2011, 11, 9643-9648.	4.9	173
14	The Temperature Response of CO2 Production from Bulk Soils and Soil Fractions is Related to Soil Organic Matter Quality. Biogeochemistry, 2005, 75, 433-453.	3.5	171
15	Expert assessment of future vulnerability of the global peatland carbon sink. Nature Climate Change, 2021, 11, 70-77.	18.8	167
16	Quantifying soil organic carbon fractions by infrared-spectroscopy. Soil Biology and Biochemistry, 2007, 39, 224-231.	8.8	150
17	Assessment of the nitrogen and carbon budget of two managed temperate grassland fields. Agriculture, Ecosystems and Environment, 2009, 133, 150-162.	5.3	148
18	Intact and managed peatland soils as a source and sink of GHGs from 1850 to 2100. Nature Climate Change, 2019, 9, 945-947.	18.8	137

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19	Biochar in agriculture â€“ A systematic review of 26 global metaâ€analyses. GCB Bioenergy, 2021, 13, 1708-1730.	5.6	136
20	Organic Farming and Soil Carbon Sequestration: What Do We Really Know About the Benefits?. Ambio, 2010, 39, 585-599.	5.5	124
21	The effect of the tillage system on soil organic carbon content under moist, cold-temperate conditions. Soil and Tillage Research, 2008, 98, 94-105.	5.6	117
22	Decomposition and stabilization of root litter in top- and subsoil horizons: what is the difference?. Plant and Soil, 2011, 338, 127-141.	3.7	114
23	Warming mineralises young and old soil carbon equally. Biogeosciences, 2006, 3, 515-519.	3.3	110
24	Sensitivity of peatland carbon loss to organic matter quality. Geophysical Research Letters, 2012, 39, .	4.0	106
25	Thermal stability of black carbon characterised by oxidative differential scanning calorimetry. Organic Geochemistry, 2007, 38, 112-127.	1.8	104
26	Temporal changes in soil pore space CO2 concentration and storage under permanent grassland. Agricultural and Forest Meteorology, 2007, 142, 66-84.	4.8	102
27	Storage and turnover of carbon in grassland soils along an elevation gradient in the Swiss Alps. Global Change Biology, 2009, 15, 668-679.	9.5	98
28	Indications for soil organic matter quality in soils under different management. Geoderma, 2002, 105, 243-258.	5.1	97
29	Biogeochemical indicators of peatland degradation â€“ a case study of a temperate bog in northern Germany. Biogeosciences, 2015, 12, 2861-2871.	3.3	97
30	Peatland subsidence and carbon loss from drained temperate fens. Soil Use and Management, 2011, 27, 170-176.	4.9	86
31	Toward the Standardization of Biochar Analysis: The COST Action TD1107 Interlaboratory Comparison. Journal of Agricultural and Food Chemistry, 2016, 64, 513-527.	5.2	86
32	Treeline shifts in the Ural mountains affect soil organic matter dynamics. Global Change Biology, 2009, 15, 1570-1583.	9.5	83
33	Organic carbon and nitrogen in fine soil fractions after treatment with hydrogen peroxide. Soil Biology and Biochemistry, 2001, 33, 2155-2158.	8.8	79
34	Consequences of Conventional versus Organic farming on Soil Carbon: Results from a 27â€Year Field Experiment. Agronomy Journal, 2009, 101, 1204-1218.	1.8	79
35	Changes in the chemical composition of soil organic matter after application of compost. European Journal of Soil Science, 2002, 53, 299-309.	3.9	77
36	Alpine grassland soils contain large proportion of labile carbon but indicate long turnover times. Biogeosciences, 2011, 8, 1911-1923.	3.3	77

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37	Below ground carbon inputs to soil via root biomass and rhizodeposition of field-grown maize and wheat at harvest are independent of net primary productivity. Agriculture, Ecosystems and Environment, 2018, 265, 556-566.	5.3	77
38	Sodium hypochlorite separates an older soil organic matter fraction than acid hydrolysis. Geoderma, 2007, 139, 171-179.	5.1	76
39	Can composition and physical protection of soil organic matter explain soil respiration temperature sensitivity?. Biogeochemistry, 2012, 107, 423-436.	3.5	75
40	Peatland protection and restoration are key for climate change mitigation. Environmental Research Letters, 2020, 15, 104093.	5.2	74
41	Chemical and microbial activation energies of soil organic matter decomposition. Biology and Fertility of Soils, 2014, 50, 147-153.	4.3	73
42	Application of diffuse reflectance FT-IR spectroscopy and partial least-squares regression to predict NMR properties of soil organic matter. European Journal of Soil Science, 2006, 57, 846-857.	3.9	70
43	Thermal alteration of organic matter during a shrubland fire: A field study. Organic Geochemistry, 2010, 41, 690-697.	1.8	69
44	Stable carbon isotopes as indicators for environmental change in palsa peats. Biogeosciences, 2011, 8, 1769-1778.	3.3	69
45	Biological activity and organic matter mineralization of soils amended with biowaste composts. Journal of Plant Nutrition and Soil Science, 2002, 165, 151.	1.9	63
46	Relative stability of soil carbon revealed by shifts in Î´¹⁵N and C:N ratio. Biogeosciences, 2008, 5, 123-128.	3.3	62
47	Nitrous oxide emission reduction with greenwaste biochar: comparison of laboratory and field experiments. European Journal of Soil Science, 2014, 65, 128-138.	3.9	62
48	Methodological considerations for using thermal analysis in the characterization of soil organic matter. Journal of Thermal Analysis and Calorimetry, 2011, 104, 389-398.	3.6	60
49	Maize and wheat root biomass, vertical distribution, and size class as affected by fertilization intensity in two long-term field trials. Field Crops Research, 2018, 216, 197-208.	5.1	60
50	Mobility of black carbon in drained peatland soils. Biogeosciences, 2007, 4, 425-432.	3.3	59
51	How sustainable is organic farming?. Agriculture, Ecosystems and Environment, 2012, 150, 121-122.	5.3	59
52	Control of soil pH on turnover of belowground organic matter in subalpine grassland. Biogeochemistry, 2013, 112, 59-69.	3.5	57
53	Tradeoff of CO2 and CH4 emissions from global peatlands under water-table drawdown. Nature Climate Change, 2021, 11, 618-622.	18.8	57
54	Organic farming gives no climate change benefit through soil carbon sequestration. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E984.	7.1	56

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55	Changes in soil carbon and crop yield over 60 years in the Zurich Organic Fertilization Experiment, following landâ€use change from grassland to cropland. Journal of Plant Nutrition and Soil Science, 2014, 177, 696-704.	1.9	56
56	Evaluation of the longâ€term effect of biochar on properties of temperate agricultural soil at preâ€industrial charcoal kiln sites in Wallonia, Belgium. European Journal of Soil Science, 2017, 68, 80-89.	3.9	55
57	Longâ€term management effects on soil organic matter in two cold, highâ€elevation grasslands: clues from fractionation and radiocarbon dating. European Journal of Soil Science, 2009, 60, 230-239.	3.9	54
58	Predicting soil organic matter stability in agricultural fields through carbon and nitrogen stable isotopes. Soil Biology and Biochemistry, 2015, 88, 29-38.	8.8	54
59	Reproducibility of a soil organic carbon fractionation method to derive <scp>RothC</scp> carbon pools. European Journal of Soil Science, 2013, 64, 735-746.	3.9	51
60	Degradation changes stable carbon isotope depth profiles in palsa peatlands. Biogeosciences, 2014, 11, 3369-3380.	3.3	51
61	Soil organic matter stoichiometry as indicator for peatland degradation. Scientific Reports, 2020, 10, 7634.	3.3	50
62	Simulating decomposition of labile soil organic carbon: Effects of pH. Soil Biology and Biochemistry, 2008, 40, 2948-2951.	8.8	48
63	Effects of Land-Use Change on Carbon Stocks in Switzerland. Ecosystems, 2008, 11, 895-907.	3.4	47
64	Long term change in chemical properties of preindustrial charcoal particles aged in forest and agricultural temperate soil. Organic Geochemistry, 2017, 107, 33-45.	1.8	47
65	Loss of soil organic carbon in Swiss long-term agricultural experiments over a wide range of management practices. Agriculture, Ecosystems and Environment, 2019, 286, 106654.	5.3	47
66	Biochar affects community composition of nitrous oxide reducers in a field experiment. Soil Biology and Biochemistry, 2018, 119, 143-151.	8.8	46
67	Peat decomposability in managed organic soils in relation to land use, organic matter composition and temperature. Biogeosciences, 2018, 15, 703-719.	3.3	45
68	Designing biochar properties through the blending of biomass feedstock with metals: Impact on oxyanions adsorption behavior. Chemosphere, 2019, 214, 743-753.	8.2	44
69	Bioavailability and isotopic composition of CO2 released from incubated soil organic matter fractions. Soil Biology and Biochemistry, 2014, 69, 168-178.	8.8	41
70	Large uncertainty in soil carbon modelling related to method of calculation of plant carbon input in agricultural systems. European Journal of Soil Science, 2017, 68, 953-963.	3.9	41
71	Free and protected soil organic carbon dynamics respond differently to abandonment of mountain grassland. Biogeosciences, 2012, 9, 853-865.	3.3	40
72	Effect of biochar and liming on soil nitrous oxide emissions from a temperate maize cropping system. Soil, 2015, 1, 707-717.	4.9	36

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73	Pyrogenic Carbon Contributes Substantially to Carbon Storage in Intact and Degraded Northern Peatlands. Land Degradation and Development, 2018, 29, 2082-2091.	3.9	35
74	A comparison of repeated soil inventory and carbon flux budget to detect soil carbon stock changes after conversion from cropland to grasslands. Global Change Biology, 2011, 17, 3366-3375.	9.5	33
75	Soil microbial communities in (sub)alpine grasslands indicate a moderate shift towards new environmental conditions 11 years after soil translocation. Soil Biology and Biochemistry, 2011, 43, 1148-1154.	8.8	33
76	Organic carbon and microbial biomass in two soil development chronosequences following glacial retreat. European Journal of Soil Science, 2007, 58, 758-762.	3.9	32
77	Historical soil amendment with charcoal increases sequestration of nonâ€charcoal carbon: a comparison among methods of black carbon quantification. European Journal of Soil Science, 2016, 67, 324-331.	3.9	32
78	Soil Organic Carbon (SOC) Equilibrium and Model Initialisation Methods: an Application to the Rothamsted Carbon (RothC) Model. Environmental Modeling and Assessment, 2017, 22, 215-229.	2.2	31
79	Turnover of Grassland Roots in Mountain Ecosystems Revealed by Their Radiocarbon Signature: Role of Temperature and Management. PLoS ONE, 2015, 10, e0119184.	2.5	30
80	Effect of management and weather variations on the greenhouse gas budget of two grasslands during a 10-year experiment. Agriculture, Ecosystems and Environment, 2020, 292, 106814.	5.3	28
81	Environmental benefits and risks of biochar application to soil. Agriculture, Ecosystems and Environment, 2014, 191, 1-4.	5.3	27
82	Restricting the nonlinearity parameter in soil greenhouse gas flux calculation for more reliable flux estimates. PLoS ONE, 2018, 13, e0200876.	2.5	27
83	Achievable agricultural soil carbon sequestration across Europe from countryâ€specific estimates. Global Change Biology, 2021, 27, 6363-6380.	9.5	27
84	Thermal stability responses of soil organic matter to long-term fertilization practices. Biogeosciences, 2006, 3, 371-374.	3.3	26
85	Organic matter losses from temperate ombrotrophic peatlands: an evaluation of the ash residue method. Plant and Soil, 2011, 341, 349-361.	3.7	26
86	A comparison of two methods for the isolation of free and occluded particulate organic matter. Journal of Plant Nutrition and Soil Science, 2005, 168, 660-667.	1.9	25
87	Landâ€use change in subalpine grassland soils: Effect on particulate organic carbon fractions and aggregation. Journal of Plant Nutrition and Soil Science, 2012, 175, 401-409.	1.9	24
88	Overestimation of Crop Root Biomass in Field Experiments Due to Extraneous Organic Matter. Frontiers in Plant Science, 2017, 8, 284.	3.6	24
89	Organo-mineral associations largely contribute to the stabilization of century-old pyrogenic organic matter in cropland soils. Geoderma, 2021, 388, 114841.	5.1	24
90	Temperature sensitivity of young and old soil carbon â€" Same soil, slight differences in 13C natural abundance method, inconsistent results. Soil Biology and Biochemistry, 2008, 40, 2703-2705.	8.8	23

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91	On the heterogeneity of biochar and consequences for its representative sampling. Journal of Analytical and Applied Pyrolysis, 2014, 107, 25-30.	5.5	23
92	Distribution of nitrous oxide emissions from managed organic soils under different land uses estimated by the peat C/N ratio to improve national GHG inventories. Science of the Total Environment, 2018, 631-632, 23-26.	8.0	23
93	Sustainable management of cultivated peatlands in Switzerland: Insights, challenges, and opportunities. Land Use Policy, 2019, 87, 104019.	5.6	22
94	Microaggregates in agricultural soils and their size distribution determined by X-ray attenuation. European Journal of Soil Science, 2003, 54, 167-174.	3.9	19
95	Calculating carbon changes in peat soils drained for forestry with four different profile-based methods. Forest Ecology and Management, 2016, 381, 29-36.	3.2	19
96	Prologue paper: Soil carbon losses from land-use change and the global agricultural greenhouse gas budget. Science of the Total Environment, 2013, 465, 3-6.	8.0	18
97	Amount and stability of recent and aged plant residues in degrading peatland soils. Soil Biology and Biochemistry, 2017, 109, 167-175.	8.8	18
98	Stabilization of Composted Organic Matter after Application to a Humusâ€Free Sandy Mining Soil. Journal of Environmental Quality, 2001, 30, 602-607.	2.0	17
99	Palsa Uplift Identified by Stable Isotope Depth Profiles and Relation of Î´¹⁵ N to C/N Ratio. Permafrost and Periglacial Processes, 2017, 28, 485-492.	3.4	17
100	Calorimetric characterization of grass during its decomposition. Journal of Thermal Analysis and Calorimetry, 2008, 93, 651-655.	3.6	16
101	N use efficiencies and N ₂ O emissions in two contrasting, biochar amended soils under winter wheatâ€"cover cropâ€"sorghum rotation. Environmental Research Letters, 2016, 11, 084013.	5.2	16
102	Response of peat decomposition to corn straw addition in managed organic soils. Geoderma, 2018, 309, 75-83.	5.1	15
103	Switch of fungal to bacterial degradation in natural, drained and rewetted oligotrophic peatlands reflected in <i>Î´</i>¹⁵N and fatty acid composition. Soil, 2020, 6, 299-313.	4.9	15
104	Wood Ash as an Additive in Biomass Pyrolysis: Effects on Biochar Yield, Properties, and Agricultural Performance. ACS Sustainable Chemistry and Engineering, 2022, 10, 2720-2729.	6.7	15
105	Current approaches neglect possible agricultural cutback under large-scale organic farming. A comment to Ponisio <i>et al</i> .. Proceedings of the Royal Society B: Biological Sciences, 2016, 283, 20151623.	2.6	14
106	Quantifying negative radiative forcing of non-permanent and permanent soil carbon sinks. Geoderma, 2022, 423, 115971.	5.1	13
107	Biased 14C-derived organic carbon turnover estimates following black carbon input to soil: an exploration with RothC. Biogeochemistry, 2008, 88, 205-211.	3.5	12
108	Parametrization consequences of constraining soil organic matter models by total carbon and radiocarbon using long-term field data. Biogeosciences, 2016, 13, 3003-3019.	3.3	12

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109	Carbon storage in agricultural topsoils and subsoils is promoted by including temporary grasslands into the crop rotation. Geoderma, 2022, 422, 115937.	5.1	12
110	A new facet of soil organic matter. Agriculture, Ecosystems and Environment, 2014, 185, 186-187.	5.3	11
111	Greenhouse gas emissions from Swiss agriculture since 1990: implications for environmental policies to mitigate global warming. Environmental Science and Policy, 2005, 8, 410-417.	4.9	10
112	Soil carbon loss from drained agricultural peatland after coverage with mineral soil. Science of the Total Environment, 2021, 800, 149498.	8.0	10
113	Carbon storage and soil property changes following afforestation in mountain ecosystems of the Western Rhodopes, Bulgaria. IForest, 2016, 9, 626-634.	1.4	10
114	Comments onâ€œRecalcitrant soil organic materials mineralize more efficiently at higher temperaturesâ€• by R. Bol, T. Bolger, R. Cully, and D. Little; J. Plant Nutr. Soil Sci 166, 300â€“307 (2003). Journal of Plant Nutrition and Soil Science, 2003, 166, 777-778.	1.9	9
115	Age and Thermal Stability of Particulate Organic Matter Fractions Indicate the Presence of Black Carbon in Soil. Radiocarbon, 2015, 57, 99-107.	1.8	9
116	Soils as sources and sinks of greenhouse gases. Geological Society Special Publication, 2006, 266, 23-44.	1.3	8
117	Carbohydrates and thermal properties indicate a decrease in stable aggregate carbon following forest colonization of mountain grassland. Soil Biology and Biochemistry, 2015, 86, 135-145.	8.8	8
118	Land use-driven historical soil carbon losses in Swiss peatlands. Landscape Ecology, 2020, 35, 173-187.	4.2	8
119	Biochar and short-term N2O and CO2 emission from plant residue-amended soil with different fertilisation history. Zemdirbyste, 2019, 106, 99-106.	0.8	8
120	¹⁴C in cropland soil of a long-term field trial â€“ experimental variability and implications for estimating carbon turnover. Soil, 2015, 1, 537-542.	4.9	7
121	MAGGnet: An international network to foster mitigation of agricultural greenhouse gases. Carbon Management, 2016, 7, 243-248.	2.4	7
122	Consequences of planned afforestation versus natural forest regrowth after disturbance for soil C stocks in Eastern European mountains. Geoderma, 2017, 297, 19-27.	5.1	7
123	Relationship between greenhouse gas emissions and changes in soil gas diffusivity in a field experiment with biochar and lime. Journal of Plant Nutrition and Soil Science, 2019, 182, 667-675.	1.9	7
124	Characterizing ecosystem-driven chemical composition differences in natural and drained Finnish bogs using pyrolysis-GC/MS. Organic Geochemistry, 2022, 165, 104351.	1.8	7
125	Proper estimate of residue input as condition for understanding drivers of soil carbon dynamics. Global Change Biology, 2017, 23, 4455-4456.	9.5	6
126	Rewetting and Drainage of Nutrient-Poor Peatlands Indicated by Specific Bacterial Membrane Fatty Acids and a Repeated Sampling of Stable Isotopes (Î´15N, Î´13C). Frontiers in Environmental Science, 2021, 9, .	3.3	6

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127	Low-input farming: a way towards climate-friendly agriculture?. Carbon Management, 2013, 4, 31-41.	2.4	5
128	Reduced Nitrous Oxide Emissions From Drained Temperate Agricultural Peatland After Coverage With Mineral Soil. Frontiers in Environmental Science, 2022, 10, .	3.3	5
129	Identification of thermal signature and quantification of charcoal in soil using differential scanning calorimetry and benzene polycarboxylic acid (BPCA) markers. Soil, 2022, 8, 451-466.	4.9	4
130	Î´¹⁵N natural abundance in permafrost soil indicates impact of fire on nitrogen cycle. Rapid Communications in Mass Spectrometry, 2011, 25, 661-664.	1.5	3
131	Concurrent increase in ¹⁵N and radiocarbon age in soil density fractions. Journal of Plant Nutrition and Soil Science, 2013, 176, 505-508.	1.9	3
132	Investigating the influence of instrumental parameters and chemical composition on pyrolysis efficiency of peat. Communications in Soil Science and Plant Analysis, 2020, 51, 1572-1581.	1.4	3
133	Accumulation of C4â€carbon from Miscanthus in organicâ€matterâ€rich soils. GCB Bioenergy, 2021, 13, 1319-1328.	5.6	3
134	Thermal analysis of mineral soils before and after oxidationwith sodium hypochlorite. Journal of Thermal Analysis and Calorimetry, 2006, 86, 845-848.	3.6	2
135	Carbon budget response of an agriculturally used fen to different soil moisture conditions. Agricultural and Forest Meteorology, 2021, 300, 108319.	4.8	2
136	Formation and decay of peat bogs in the vegetable belt of Switzerland. Swiss Journal of Geosciences, 2021, 114, .	1.2	2
137	Heating up a cold case: Applications of analytical pyrolysis GC/MS to assess molecular biomarkers in peat. Advances in Agronomy, 2021, , 115-159.	5.2	2
138	A Microcosm System to Determine the Gas Production of Arable Soils Amended with Different Composts. , 1996, , 1335-1338.		2
139	Stable isotopes (Î´13C, Î´15N) and biomarkers as indicators of the hydrological regime of fens in a European eastâ€"west transect. Science of the Total Environment, 2022, 838, 156603.	8.0	2
140	Response to Interpreting the ash trend within ombrotrophic bog profiles: atmospheric dust depositions vs. mineralization processes. The Etang de la GruÃ¨re case study. Plant and Soil, 2012, 353, 11-14.	3.7	1