Pascal Alex Niklaus

List of Publications by Year
in descending order

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136	11,881	36203	30010
papers	citations	51 h-index	103 g-index

146	146	146	13688
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Competition for Light Causes Plant Biodiversity Loss After Eutrophication. Science, 2009, 324, 636-638.	6.0	1,050
2	Biodiversity increases the resistance of ecosystem productivity to climate extremes. Nature, 2015, 526, 574-577.	13.7	1,032
3	Positive biodiversity-productivity relationship predominant in global forests. Science, 2016, 354, .	6.0	864
4	Impacts of species richness on productivity in a large-scale subtropical forest experiment. Science, 2018, 362, 80-83.	6.0	433
5	Water relations in grassland and desert ecosystems exposed to elevated atmospheric CO2. Oecologia, 2004, 140, 11-25.	0.9	406
6	A meta-analysis of responses of soil biota to global change. Oecologia, 2011, 165, 553-565.	0.9	378
7	Climatic controls of decomposition drive the global biogeography of forest-tree symbioses. Nature, 2019, 569, 404-408.	13.7	371
8	Trait-based approaches for understanding microbial biodiversity and ecosystem functioning. Frontiers in Microbiology, 2014, 5, 251.	1.5	323
9	Biodiversity effects on ecosystem functioning in a 15-year grassland experiment: Patterns, mechanisms, and open questions. Basic and Applied Ecology, 2017, 23, 1-73.	1.2	307
10	Resistance and resilience of the forest soil microbiome to logging-associated compaction. ISME Journal, 2014, 8, 226-244.	4.4	293
11	Designing forest biodiversity experiments: general considerations illustrated by a new large experiment in subtropical <scp>C</scp>hina. Methods in Ecology and Evolution, 2014, 5, 74-89.	2.2	232
12	Kinetics and thermodynamics of formation of copper-dioxygen adducts: oxygenation of mononuclear copper(I) complexes containing tripodal tetradentate ligands. Journal of the American Chemical Society, 1993, 115, 9506-9514.	6.6	212
13	Biodiversity across trophic levels drives multifunctionality in highly diverse forests. Nature Communications, 2018, 9, 2989.	5.8	169
14	Tree species richness increases ecosystem carbon storage in subtropical forests. Proceedings of the Royal Society B: Biological Sciences, 2018, 285, 20181240.	1.2	169
15	Six years of in situ CO2 enrichment evoke changes in soil structure and soil biota of nutrient-poor grassland. Global Change Biology, 2003, 9, 585-600.	4.2	145
16	A field study of the effects of elevated CO 2 on plant biomass and community structure in a calcareous grassland. Oecologia, 1999, 118, 39-49.	0.9	144
17	Late-spring frost risk between 1959 and 2017 decreased in North America but increased in Europe and Asia. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12192-12200.	3.3	140
18	Soil moisture effects determine CO2 responses of grassland species. Oecologia, 2000, 125, 380-388.	0.9	139

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19	Soil moisture dynamics of calcareous grassland under elevated CO 2. Oecologia, 1998, 117, 201-208.	0.9	135
20	Plant diversity drives soil microbial biomass carbon in grasslands irrespective of global environmental change factors. Global Change Biology, 2015, 21, 4076-4085.	4.2	134
21	Belowground nitrogen partitioning in experimental grassland plant communities of varying species richness. Ecology, 2009, 90, 1389-1399.	1.5	126
22	Dynamics of root systems in native grasslands: effects of elevated atmospheric CO2. New Phytologist, 2000, 147, 73-85.	3.5	121
23	A LONG-TERM FIELD STUDY ON BIODIVERSITY Ã— ELEVATED CO2INTERACTIONS IN GRASSLAND. Ecological Monographs, 2001, 71, 341-356.	2.4	120
24	Effects of Plant Species Diversity and Composition on Nitrogen Cycling and the Trace Gas Balance of Soils. Plant and Soil, 2006, 282, 83-98.	1.8	115
25	Plant traits alone are poor predictors of ecosystem properties and long-term ecosystem functioning. Nature Ecology and Evolution, 2020, 4, 1602-1611.	3.4	114
26	Biodiversity Promotes Tree Growth during Succession in Subtropical Forest. PLoS ONE, 2013, 8, e81246.	1.1	110
27	SYNTHESIS OF A SIX-YEAR STUDY OF CALCAREOUS GRASSLAND RESPONSES TO IN SITU CO2ENRICHMENT. Ecological Monographs, 2004, 74, 491-511.	2.4	108
28	A link between plant diversity, elevated CO2 and soil nitrate. Oecologia, 2001, 127, 540-548.	0.9	105
29	The responses of alpine grassland to four seasons of CO2 enrichment: a synthesis. Acta Oecologica, 1997, 18, 165-175.	0.5	104
30	On the combined effect of soil fertility and topography on tree growth in subtropical forest ecosystemsâ€”a study from SE China. Journal of Plant Ecology, 2017, 10, 111-127.	1.2	102
31	Biodiversity promotes primary productivity and growing season lengthening at the landscape scale. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 10160-10165.	3.3	102
32	Long term CO2 enrichment stimulates N-mineralisation and enzyme activities in calcareous grassland. Soil Biology and Biochemistry, 2003, 35, 965-972.	4.2	97
33	Diversity Promotes Temporal Stability across Levels of Ecosystem Organization in Experimental Grasslands. PLoS ONE, 2010, 5, e13382.	1.1	95
34	Heavy-Machinery Traffic Impacts Methane Emissions as Well as Methanogen Abundance and Community Structure in Oxic Forest Soils. Applied and Environmental Microbiology, 2011, 77, 6060-6068.	1.4	91
35	A comparison of the strength of biodiversity effects across multiple functions. Oecologia, 2013, 173, 223-237.	0.9	91
36	Effects of drought and N-fertilization on N cycling in two grassland soils. Oecologia, 2013, 171, 705-717.	0.9	91

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37	Nutrient relations in calcareous grassland under elevated CO 2. Oecologia, 1998, 116, 67-75.	0.9	89
38	Increasing soil methane sink along a 120â€year afforestation chronosequence is driven by soil moisture. Global Change Biology, 2012, 18, 3664-3671.	4.2	88
39	A guide to analyzing biodiversity experiments. Journal of Plant Ecology, 2017, 10, 91-110.	1.2	84
40	Field-scale manipulation of soil temperature and precipitation change soil CO2 flux in a temperate agricultural ecosystem. Agriculture, Ecosystems and Environment, 2013, 165, 88-97.	2.5	83
41	Soil Environmental Conditions and Microbial Build-Up Mediate the Effect of Plant Diversity on Soil Nitrifying and Denitrifying Enzyme Activities in Temperate Grasslands. PLoS ONE, 2013, 8, e61069.	1.1	78
42	Can current moisture responses predict soil CO₂ efflux under altered precipitation regimes? A synthesis of manipulation experiments. Biogeosciences, 2014, 11, 2991-3013.	1.3	74
43	Can niche plasticity promote biodiversityâ€“productivity relationships through increased complementarity?. Ecology, 2017, 98, 1104-1116.	1.5	73
44	Positive effects of tree species diversity on litterfall quantity and quality along a secondary successional chronosequence in a subtropical forest. Journal of Plant Ecology, 2017, 10, 28-35.	1.2	70
45	Above- and below-ground methane fluxes and methanotrophic activity in a landfill-cover soil. Waste Management, 2012, 32, 879-889.	3.7	68
46	Responses of soil microbiota of a late successional alpine grassland to long term CO2 enrichment. Plant and Soil, 1996, 184, 219-229.	1.8	66
47	Interactive effects of drought and N fertilization on the spatial distribution of methane assimilation in grassland soils. Global Change Biology, 2011, 17, 2629-2639.	4.2	62
48	Options of partners improve carbon for phosphorus trade in the arbuscular mycorrhizal mutualism. Ecology Letters, 2016, 19, 648-656.	3.0	62
49	A field study of the effects of elevated CO 2 and plant species diversity on ecosystemâ€level gas exchange in a planted calcareous grassland. Global Change Biology, 1999, 5, 95-105.	4.2	61
50	Effects of long term CO2enrichment on microbial community structure in calcareous grassland. Plant and Soil, 2004, 264, 313-323.	1.8	57
51	Plant species diversity affects soilâ€“atmosphere fluxes of methane and nitrous oxide. Oecologia, 2016, 181, 919-930.	0.9	56
52	Effects of elevated atmospheric CO 2 on soil microbiota in calcareous grassland. Global Change Biology, 1998, 4, 451-458.	4.2	55
53	Effects of simulated drought and nitrogen fertilizer on plant productivity and nitrous oxide (N2O) emissions of two pastures. Plant and Soil, 2012, 361, 411-426.	1.8	53
54	Ecological and evolutionary approaches to improving crop variety mixtures. Nature Ecology and Evolution, 2021, 5, 1068-1077.	3.4	53

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55	Title is missing!. Plant and Soil, 2001, 233, 189-202.	1.8	52
56	A study of soil methane sink regulation in two grasslands exposed to drought and N fertilization. Plant and Soil, 2011, 342, 265-275.	1.8	52
57	Soil-atmosphere fluxes of the greenhouse gases CO2, CH4 and N2O in a mountain spruce forest subjected to long-term N addition and to tree girdling. Agricultural and Forest Meteorology, 2013, 181, 61-68.	1.9	52
58	Temperatures beyond the community optimum promote the dominance of heat-adapted, fast growing and stress resistant bacteria in alpine soils. Soil Biology and Biochemistry, 2020, 148, 107873.	4.2	52
59	Carbon allocation in calcareous grassland under elevated CO2 : a combined 13 C pulse-labelling/soil physical fractionation study. Functional Ecology, 2001, 15, 43-50.	1.7	51
60	Globally consistent influences of seasonal precipitation limit grassland biomass response to elevated CO2. Nature Plants, 2019, 5, 167-173.	4.7	51
61	Screen-aided CO2 control (SACC): a middle ground between FACE and open-top chambers. Acta Oecologica, 1997, 18, 207-219.	0.5	50
62	Heterogeneity of soil carbon pools and fluxes in a channelized and a restored floodplain section (Thur River, Switzerland). Hydrology and Earth System Sciences, 2011, 15, 1757-1769.	1.9	46
63	Do grassland plant communities profit from N partitioning by soil depth?. Ecology, 2012, 93, 2386-2396.	1.5	45
64	Flood pulses control soil nitrogen cycling in a dynamic river floodplain. Geoderma, 2014, 228-229, 14-24.	2.3	45
65	The influence of leaf litter diversity and soil fauna on initial soil erosion in subtropical forests. Earth Surface Processes and Landforms, 2015, 40, 1439-1447.	1.2	45
66	Throughfall kinetic energy in young subtropical forests: Investigation on tree species richness effects and spatial variability. Agricultural and Forest Meteorology, 2015, 213, 148-159.	1.9	44
67	Tracking litter-derived dissolved organic matter along a soil chronosequence using 14C imaging: Biodegradation, physico-chemical retention or preferential flow?. Soil Biology and Biochemistry, 2015, 88, 333-343.	4.2	43
68	Estimating soil carbon sequestration under elevated CO2 by combining carbon isotope labelling with soil carbon cycle modelling. Global Change Biology, 2006, 12, 1909-1921.	4.2	42
69	Effects of warming and drought on potential N₂O emissions and denitrifying bacteria abundance in grasslands with different land-use. FEMS Microbiology Ecology, 2015, 91, fiv066.	1.3	41
70	Toward a methodical framework for comprehensively assessing forest multifunctionality. Ecology and Evolution, 2017, 7, 10652-10674.	0.8	41
71	Anthropogenic and natural methane fluxes in Switzerland synthesized within a spatially explicit inventory. Biogeosciences, 2014, 11, 1941-1959.	1.3	39
72	Effects of plant community history, soil legacy and plant diversity on soil microbial communities. Journal of Ecology, 2021, 109, 3007-3023.	1.9	39

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73	Terrestrial land-cover type richness is positively linked to landscape-level functioning. Nature Communications, 2020, 11, 154.	5.8	37
74	Effects of Plant Diversity, Functional Group Composition, and Fertilization on Soil Microbial Properties in Experimental Grassland. PLoS ONE, 2015, 10, e0125678.	1.1	37
75	Opposing intraspecific vs. interspecific diversity effects on herbivory and growth in subtropical experimental tree assemblages. Journal of Plant Ecology, 2017, 10, 242-251.	1.2	36
76	Leaf litter diversity alters microbial activity, microbial abundances, and nutrient cycling in a subtropical forest ecosystem. Biogeochemistry, 2017, 134, 163-181.	1.7	36
77	Indirect effects of soil moisture reverse soil C sequestration responses of a spring wheat agroecosystem to elevated CO₂. Global Change Biology, 2010, 16, 469-483.	4.2	35
78	Tree diversity increases levels of herbivore damage in a subtropical forest canopy: evidence for dietary mixing by arthropods?. Journal of Plant Ecology, 2017, 10, 13-27.	1.2	35
79	INTERACTIVE EFFECTS OF PLANT SPECIES DIVERSITY AND ELEVATED CO2ON SOIL BIOTA AND NUTRIENT CYCLING. Ecology, 2007, 88, 3153-3163.	1.5	34
80	A plant biodiversity effect resolved to a single chromosomal region. Nature Ecology and Evolution, 2018, 2, 1933-1939.	3.4	34
81	Leaf area increases with species richness in young experimental stands of subtropical trees. Journal of Plant Ecology, 2017, 10, 128-135.	1.2	33
82	Positive diversityâ€ffunctioning relationships in model communities of methanotrophic bacteria. Ecology, 2018, 99, 714-723.	1.5	30
83	Effects of N fertilizers and liming on the micro-scale distribution of soil methane assimilation in the long-term Park Grass experiment at Rothamsted. Soil Biology and Biochemistry, 2011, 43, 1034-1041.	4.2	28
84	IN SITU DEVELOPMENT OF A SATYRID BUTTERFLY ON CALCAREOUS GRASSLAND EXPOSED TO ELEVATED CARBON DIOXIDE. Ecology, 2002, 83, 1399-1411.	1.5	26
85	Forest soil respiration reflects plant productivity across a temperature gradient in the Alps. Oecologia, 2012, 170, 1143-1154.	0.9	26
86	Tree diversity drives diversity of arthropod herbivores, but successional stage mediates detritivores. Ecology and Evolution, 2017, 7, 8753-8760.	0.8	25
87	Soil macrofauna and leaf functional traits drive the decomposition of secondary metabolites in leaf litter. Soil Biology and Biochemistry, 2019, 135, 429-437.	4.2	25
88	Tree Diversity Enhances Stand Carbon Storage but Not Leaf Area in a Subtropical Forest. PLoS ONE, 2016, 11, e0167771.	1.1	25
89	Soil Nitrogen Dynamics in a River Floodplain Mosaic. Journal of Environmental Quality, 2012, 41, 2033-2045.	1.0	22
90	Treeline soil warming does not affect soil methane fluxes and the spatial micro-distribution of methanotrophic bacteria. Soil Biology and Biochemistry, 2015, 86, 164-171.	4.2	22

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91	Leaf-litter overyielding in a forest biodiversity experiment in subtropical China. Forest Ecosystems, 2018, 5, .	1.3	22
92	Tree-species interactions increase light absorption and growth in Chinese subtropical mixed-species plantations. Oecologia, 2019, 191, 421-432.	0.9	22
93	Direct vs. Microclimate-Driven Effects of Tree Species Diversity on Litter Decomposition in Young Subtropical Forest Stands. PLoS ONE, 2016, 11, e0160569.	1.1	22
94	CO2 flux estimates tend to overestimate ecosystem C sequestration at elevated CO2. Functional Ecology, 2000, 14, 546-559.	1.7	21
95	Reconstruction of Historic Forest Cover Changes Indicates Minor Effects on Carbon Stocks in Swiss Forest Soils. Ecosystems, 2017, 20, 1512-1528.	1.6	21
96	Biodiversity: Complementary canopies. Nature Ecology and Evolution, 2017, 1, 104.	3.4	19
97	Directed species loss reduces community productivity in a subtropical forest biodiversity experiment. Nature Ecology and Evolution, 2020, 4, 550-559.	3.4	19
98	Analysis of carbon and nitrogen dynamics in riparian soils: Model validation and sensitivity to environmental controls. Science of the Total Environment, 2012, 429, 246-256.	3.9	17
99	The â€˜island effectâ€™ in terrestrial global change experiments: a problem with no solution?. AoB PLANTS, 2015, 7, plv092.	1.2	17
100	Interactive effects between plant functional types and soil factors on tundra species diversity and community composition. Ecology and Evolution, 2016, 6, 8126-8137.	0.8	17
101	Decomposing functional trait associations in a Chinese subtropical forest. PLoS ONE, 2017, 12, e0175727.	1.1	17
102	Does species richness of subtropical tree leaf litter affect decomposition, nutrient release, transfer and subsequent uptake by plants?. Soil Biology and Biochemistry, 2017, 115, 44-53.	4.2	16
103	Leaf litter diversity positively affects the decomposition of plant polyphenols. Plant and Soil, 2017, 419, 305-317.	1.8	16
104	Temperature and moisture are minor drivers of regional-scale soil organic carbon dynamics. Scientific Reports, 2019, 9, 6422.	1.6	15
105	Experimental soil warming and cooling alters the partitioning of recent assimilates: evidence from a 14C-labelling study at the alpine treeline. Oecologia, 2016, 181, 25-37.	0.9	14
106	Spatio-temporal dynamics of soil CH4 uptake after application of N fertilizer with and without the nitrification inhibitor 3,4- dimethylpyrazole phosphate (DMPP). Soil Biology and Biochemistry, 2017, 104, 218-225.	4.2	14
107	Effects of plant productivity and species richness on the drought response of soil respiration in temperate grasslands. PLoS ONE, 2018, 13, e0209031.	1.1	14
108	Effect of clear-cutting silviculture on soil respiration in a subtropical forest of China. Journal of Plant Ecology, 2013, 6, 335-348.	1.2	13

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109	Remotely sensed betweenâ€individual functional trait variation in a temperate forest. Ecology and Evolution, 2021, 11, 10834-10867.	0.8	13
110	Alteration of nitrous oxide emissions from floodplain soils by aggregate size, litter accumulation and plantâ€“soil interactions. Biogeosciences, 2018, 15, 7043-7057.	1.3	12
111	Respiratory carbon loss of calcareous grasslands in winter shows no effects of 4Âyearsâ€™ CO2 enrichment. Functional Ecology, 2002, 16, 162-166.	1.7	11
112	Precipitation patterns and N availability alter plant-soil microbial C and N dynamics. Plant and Soil, 2021, 466, 151-163.	1.8	11
113	Leaching of soils during laboratory incubations does not affect soil organic carbon mineralisation but solubilisation. PLoS ONE, 2017, 12, e0174725.	1.1	11
114	Corrigendum to "Can current moisture responses predict soil CO₂ efflux under altered precipitation regimes? A synthesis of manipulation experiments". Biogeosciences, 2014, 11, 3307-3308.	1.3	10
115	Spatial micro-distribution of methanotrophic activity along a 120-year afforestation chronosequence. Plant and Soil, 2017, 415, 13-23.	1.8	8
116	Tree Species Traits but Not Diversity Mitigate Stem Breakage in a Subtropical Forest following a Rare and Extreme Ice Storm. PLoS ONE, 2014, 9, e96022.	1.1	8
117	Impact of reactive surfaces on the abiotic reaction between nitrite and ferrous iron and associated nitrogen and oxygen isotope dynamics. Biogeosciences, 2020, 17, 4355-4374.	1.3	8
118	Nitrogen fixation by Alnus species boosts soil nitrous oxide emissions. European Journal of Soil Science, 2017, 68, 740-748.	1.8	7
119	Effects of Long-Term CO2 Enrichment on Soil-Atmosphere CH4 Fluxes and the Spatial Micro-Distribution of Methanotrophic Bacteria. PLoS ONE, 2015, 10, e0131665.	1.1	7
120	Effects of enemy exclusion on biodiversityâ€“productivity relationships in a subtropical forest experiment. Journal of Ecology, 2022, 110, 2167-2178.	1.9	7
121	Compositional and functional stability of aerobic methane consuming communities in drained and rewetted peat meadows. FEMS Microbiology Ecology, 2015, 91, fiv119.	1.3	6
122	Integrative research efforts at the boundary of biodiversity and global change research. Current Opinion in Environmental Sustainability, 2017, 29, 215-222.	3.1	6
123	Experimental disconnection from common mycorrhizal networks has little effect on competitive interactions among common temperate grassland species. Journal of Ecology, 2018, 106, 2332-2343.	1.9	6
124	Disentangling effects of air and soil temperature on C allocation in cold environments: A ¹⁴C pulseâ€labelling study with two plant species. Ecology and Evolution, 2018, 8, 7778-7789.	0.8	6
125	Soil Fungi Promote Biodiversityâ€“Productivity Relationships in Experimental Communities of Young Trees. Ecosystems, 2022, 25, 858-871.	1.6	6
126	Plant trait response of tundra shrubs to permafrost thaw and nutrient addition. Biogeosciences, 2020, 17, 4981-4998.	1.3	6

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127	Shrub growth rate and bark responses to soil warming and nutrient addition â€“ A dendroecological approach in a field experiment. Dendrochronologia, 2017, 45, 12-22.	1.0	4
128	How does leaf functional diversity affect the light environment in forest canopies? An in-silico biodiversity experiment. Ecological Modelling, 2021, 440, 109394.	1.2	4
129	Climate Change Effects on Biogeochemical Cycles, Nutrients, and Water Supply. Advances in Agroecology, 2006, , 11-55.	0.3	4
130	Response to Comment on â€œImpacts of species richness on productivity in a large-scale subtropical forest experimentâ€. Science, 2019, 363, .	6.0	3
131	Episodic High CH4 Emission Events can Damage the Potential of Soils to Act as CH4 Sink: Evidence from 17 Years of CO2 Enrichment in a Temperate Grassland Ecosystem. Procedia Environmental Sciences, 2015, 29, 208-209.	1.3	2
132	Local and landscape-level diversity effects on forest functioning. PLoS ONE, 2020, 15, e0233104.	1.1	1
133	Local and landscape-level diversity effects on forest functioning. , 2020, 15, e0233104.		0
134	Local and landscape-level diversity effects on forest functioning. , 2020, 15, e0233104.		0
135	Local and landscape-level diversity effects on forest functioning. , 2020, 15, e0233104.		0
136	Local and landscape-level diversity effects on forest functioning. , 2020, 15, e0233104.		0