Peter M Vitousek

List of Publications by Year
in descending order

75 papers	20,067 citations	71102 41 h-index	88630 70 g-index
78 all docs	78 docs citations	78 times ranked	17345 citing authors

#	Article	IF	Citations
1	Nitrogen limitation on land and in the sea: How can it occur?. Biogeochemistry, 1991, 13, 87.	3.5	2,801
2	Enhanced nitrogen deposition over China. Nature, 2013, 494, 459-462.	27.8	2,009
3	Terrestrial phosphorus limitation: mechanisms, implications, and nitrogenâ€"phosphorus interactions. Ecological Applications, 2010, 20, 5-15.	3.8	1,969
4	Mineral control of soil organic carbon storage and turnover. Nature, 1997, 389, 170-173.	27.8	1,318
5	Producing more grain with lower environmental costs. Nature, 2014, 514, 486-489.	27.8	1,292
6	Principles of Terrestrial Ecosystem Ecology. , 2011, , .		860
7	Nitrogen in Agriculture: Balancing the Cost of an Essential Resource. Annual Review of Environment and Resources, 2009, 34, 97-125.	13.4	854
8	Changes in Soil Phosphorus Fractions and Ecosystem Dynamics across a Long Chronosequence in Hawaii. Ecology, 1995, 76, 1407-1424.	3.2	824
9	Nutrient limitation and soil development: Experimental test of a biogeochemical theory. Biogeochemistry, 1997, 37, 63-75.	3.5	626
10	Biological nitrogen fixation: rates, patterns and ecological controls in terrestrial ecosystems. Philosophical Transactions of the Royal Society B: Biological Sciences, 2013, 368, 20130119.	4.0	537
11	Policy distortions, farm size, and the overuse of agricultural chemicals in China. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 7010-7015.	7.1	455
12	Integrated reactive nitrogen budgets and future trends in China. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 8792-8797.	7.1	430
13	NUTRIENT LIMITATION OF DECOMPOSITION IN HAWAIIAN FORESTS. Ecology, 2000, 81, 1867-1877.	3.2	410
14	The globalization of N deposition: ecosystem consequences in tropical environments. Biogeochemistry, 1999, 46, 67-83.	3.5	350
15	Understanding ecosystem retrogression. Ecological Monographs, 2010, 80, 509-529.	5.4	342
16	An experiment for the world. Nature, 2013, 497, 33-35.	27.8	312
17	Nutrient limitations to plant growth during primary succession in Hawaii Volcanoes National Park. Biogeochemistry, 1993, 23, 197-215.	3.5	245
18	Longâ€term carbon storage through retention of dissolved aromatic acids by reactive particles in soil. Global Change Biology, 2012, 18, 2594-2605.	9.5	236

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19	PRIMARY PRODUCTIVITY AND ECOSYSTEM DEVELOPMENT ALONG AN ELEVATIONAL GRADIENT ON MAUNA LOA, HAWAIâ€˜I. Ecology, 1997, 78, 707-721.	3.2	226
20	Technical Report: Human Alteration of the Global Nitrogen Cycle: Sources and Consequences. , 1997, 7, 737.		217
21	Nitrogen and Nature. Ambio, 2002, 31, 97-101.	5.5	208
22	Foliar 15N natural abundance in Hawaiian rainforest: patterns and possible mechanisms. Oecologia, 1989, 78, 383-388.	2.0	194
23	Ecosystem constraints to symbiotic nitrogen fixers: A simple model and its implications. Biogeochemistry, 1999, 46, 179-202.	3.5	190
24	Production and Resource Use Efficiencies in N- and P-Limited Tropical Forests: A Comparison of Responses to Long-term Fertilization. Ecosystems, 2001, 4, 646-657.	3.4	190
25	Plant acclimation to long-term high nitrogen deposition in an N-rich tropical forest. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 5187-5192.	7.1	164
26	Changes in belowground biodiversity during ecosystem development. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6891-6896.	7.1	151
27	The Mauna Loa environmental matrix: foliar and soil nutrients. Oecologia, 1992, 89, 372-382.	2.0	150
28	Combining spectroscopic and isotopic techniques gives a dynamic view of phosphorus cycling in soil. Nature Communications, 2018, 9, 3226.	12.8	141
29	Ecosystem development on Hawaiian lava flows: biomass and species composition. Journal of Vegetation Science, 1998, 9, 17-26.	2.2	127
30	Nitrogen deposition accelerates soil carbon sequestration in tropical forests. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	120
31	Title is missing!. Biogeochemistry, 2000, 51, 283-302.	3.5	106
32	Pedogenic Thresholds and Soil Process Domains in Basalt-Derived Soils. Ecosystems, 2013, 16, 1379-1395.	3.4	105
33	Evidence for a Historic Change Occurring in China. Environmental Science & Technology, 2016, 50, 505-506.	10.0	105
34	Can Planted Forests Counteract Increasing Atmospheric Carbon Dioxide?. Journal of Environmental Quality, 1991, 20, 348-354.	2.0	96
35	Climate Cycles, Geomorphological Change, and the Interpretation of Soil and Ecosystem Development. Ecosystems, 2000, 3, 522-533.	3.4	86
36	Convergence and contrast in the community structure of Bacteria, Fungi and Archaea along a tropical elevationâ€"climate gradient. FEMS Microbiology Ecology, 2017, 93, .	2.7	84

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37	Climateâ€driven thresholds for chemical weathering in postglacial soils of New Zealand. Journal of Geophysical Research F: Earth Surface, 2016, 121, 1619-1634.	2.8	79
38	Variation in Rapa Nui (Easter Island) land use indicates production and population peaks prior to European contact. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1025-1030.	7.1	74
39	Exploring global changes in agricultural ammonia emissions and their contribution to nitrogen deposition since 1980. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2121998119.	7.1	69
40	Ecosystem constraints to symbiotic nitrogen fixers: a simple model and its implications. Biogeochemistry, 1999, 46, 179-202.	3.5	65
41	Mineralogical controls on soil black carbon preservation. Global Biogeochemical Cycles, 2012, 26, .	4.9	61
42	Are patterns in nutrient limitation belowground consistent with those aboveground: results from a 4 million year chronosequence. Biogeochemistry, 2011, 106, 323-336.	3.5	59
43	Precontact vegetation and soil nutrient status in the shadow of Kohala Volcano, Hawaii. Geomorphology, 2007, 89, 70-83.	2.6	49
44	Landscape-level variation in forest structure and biogeochemistry across a substrate age gradient in Hawaii. Ecology, 2009, 90, 3074-3086.	3.2	42
45	Prevalence of Tree Regeneration by Sprouting and Seeding Along a Rainfall Gradient in Hawai'i. Biotropica, 2010, 42, 80-86.	1.6	33
46	The Ahupuaâ€˜a of Puanui: A Resource for Understanding Hawaiian Rain-Fed Agriculture. Pacific Science, 2012, 66, 161-172.	0.6	33
47	Provincial food security in China: a quantitative risk assessment based on local food supply and demand trends. Food Security, 2015, 7, 621-632.	5.3	29
48	Restoration of â€˜Ä€ina Maloâ€˜o on Hawaiâ€˜i Island: Expanding Biocultural Relationships. Sustainability, 2018, 10, 3985.	3.2	29
49	Dependence of Forest Structure and Dynamics on Substrate Age and Ecosystem Development. Ecosystems, 2011, 14, 1156-1167.	3.4	27
50	Indicators of soil fertility and opportunities for precontact agriculture in Kona, Hawai'i. Ecosphere, 2014, 5, 1-20.	2.2	27
51	Erosion, Geological History, and Indigenous Agriculture: A Tale of Two Valleys. Ecosystems, 2010, 13, 782-793.	3.4	25
52	Controls of nitrogen cycling evaluated along a wellâ€characterized climate gradient. Ecology, 2017, 98, 1117-1129.	3.2	24
53	Restoring people and productivity to Puanui: challenges and opportunities in the restoration of an intensive rain-fed Hawaiian field system. Ecology and Society, 2017, 22, .	2.3	23
54	The soil and plant biogeochemistry sampling design for The National Ecological Observatory Network. Ecosphere, 2016, 7, e01234.	2.2	21

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55	Nitrogen fixation during decomposition of sugarcane (<i>Saccharum officinarum</i>) is an important contribution to nutrient supply in traditional dryland agricultural systems of Hawai'i. International Journal of Agricultural Sustainability, 2016, 14, 214-230.	3.5	21
56	Input/Output Balances and Nitrogen Limitation in Terrestrial Ecosystems. , 2001, , 217-225.		21
57	Parent material and pedogenic thresholds: observations and a simple model. Biogeochemistry, 2016, 130, 147-157.	3.5	18
58	Nutrient Limitation of Decomposition in Hawaiian Forests. Ecology, 2000, 81, 1867.	3.2	17
59	Soil-Food-Environment-Health Nexus for Sustainable Development. Research, 2021, 2021, 9804807.	5.7	15
60	Quantitative Analysis of Pedogenic Thresholds and Domains in Volcanic Soils. Ecosystems, 2019, 22, 1633-1649.	3.4	14
61	Strengthening Agronomy Research for Food Security and Environmental Quality. Environmental Science & Technology, 2016, 50, 1639-1641.	10.0	13
62	Grassland ecology: Complexity of nutrient constraints. Nature Plants, 2015, 1, 15098.	9.3	11
63	Identification and evaluation of risk factors related to provincial food insecurity in China. Journal of Risk Research, 2015, 18, 1184-1202.	2.6	10
64	Soil fertility response to Ulex europaeus invasion and restoration efforts. Biological Invasions, 2018, 20, 2777-2791.	2.4	10
65	Diversity of putative ericoid mycorrhizal fungi increases with soil age and progressive phosphorus limitation across a 4.1-million-year chronosequence. FEMS Microbiology Ecology, 2021, 97, .	2.7	10
66	A â€œtoyâ€•model of biogeochemical dynamics on climate gradients. Biogeochemistry, 2021, 154, 183-210.	3.5	9
67	Introduced Canopy Tree Species Effect on the Soil Microbial Community in a Montane Tropical Forest. Pacific Science, 2012, 66, 141-150.	0.6	8
68	Top-Down Analysis of Forest Structure and Biogeochemistry Across Hawaiian Landscapes. Pacific Science, 2010, 64, 359-366.	0.6	7
69	Nitrogen dynamics along a climate gradient on geologically old substrate, Kauaâ€™i, Hawaiâ€™i. Oecologia, 2019, 189, 211-219.	2.0	6
70	Pacific islands in the Anthropocene. Elementa, 2013, 1, .	3.2	6
71	Environmental filtering controls soil biodiversity in wet tropical ecosystems. Soil Biology and Biochemistry, 2022, 166, 108571.	8.8	3
72	Constraints of Climate and Age on Soil Development in Hawaiâ€˜i. , 2022, , 49-88.		3

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73	Managing water, harvesting results. Frontiers in Ecology and the Environment, 2012, 10, 3-3.	4.0	2
74	Foliar áºŸ15N patterns in legumes and non-N fixers across a climate gradient, HawaiÊ»i Island, USA. Oecologia, 2022, 198, 229-242.	2.0	2
75	Insightful, Scholarly, and Synthetic: Eville Gorham and the Chemistry of Surface Waters. Bulletin of the Ecological Society of America, 2014, 95, 226-228.	0.2	0