Knute J Nadelhoffer

List of Publications by Year
in descending order

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153 papers	24,187 citations	13099 68 h-index	11939 134 g-index
155 all docs	155 docs citations	155 times ranked	16091 citing authors

#	Article	IF	Citations
1	Nitrogen Saturation in Northern Forest Ecosystems. BioScience, 1989, 39, 378-386.	4.9	2,074
2	Nitrogen Saturation in Temperate Forest Ecosystems. BioScience, 1998, 48, 921-934.	4.9	1,630
3	Responses of Arctic Tundra to Experimental and Observed Changes in Climate. Ecology, 1995, 76, 694-711.	3.2	1,168
4	Detritus, trophic dynamics and biodiversity. Ecology Letters, 2004, 7, 584-600.	6.4	948
5	Roots exert a strong influence on the temperature sensitivityof soil respiration. Nature, 1998, 396, 570-572.	27.8	817
6	Resource-based niches provide a basis for plant species diversity and dominance in arctic tundra. Nature, 2002, 415, 68-71.	27.8	749
7	Nitrogen deposition makes a minor contribution to carbon sequestration in temperate forests. Nature, 1999, 398, 145-148.	27.8	676
8	Belowground Carbon Allocation in Forest Ecosystems: Global Trends. Ecology, 1989, 70, 1346-1354.	3.2	654
9	Carbon and nitrogen dynamics along the decay continuum: Plant litter to soil organic matter. Plant and Soil, 1989, 115, 189-198.	3.7	605
10	The changing landscape: ecosystem responses to urbanization and pollution across climatic and societal gradients. Frontiers in Ecology and the Environment, 2008, 6, 264-272.	4.0	597
11	Effects of Temperature and Substrate Quality on Element Mineralization in Six Arctic Soils. Ecology, 1991, 72, 242-253.	3.2	557
12	Modelling the soil-plant-atmosphere continuum in a Quercus-Acer stand at Harvard Forest: the regulation of stomatal conductance by light, nitrogen and soil/plant hydraulic properties. Plant, Cell and Environment, 1996, 19, 911-927.	5.7	510
13	Fine Roots, Net Primary Production, and Soil Nitrogen Availability: A New Hypothesis. Ecology, 1985, 66, 1377-1390.	3.2	451
14	The impacts of climate change on ecosystem structure and function. Frontiers in Ecology and the Environment, 2013, 11, 474-482.	4.0	433
15	Global Change and the Carbon Balance of Arctic Ecosystems. BioScience, 1992, 42, 433-441.	4.9	416
16	Fine Root Production Estimates and Belowground Carbon Allocation in Forest Ecosystems. Ecology, 1992, 73, 1139-1147.	3.2	407
17	Title is missing!. Biogeochemistry, 2002, 57, 171-197.	3.5	396
18	Ecosystem response to 15 years of chronic nitrogen additions at the Harvard Forest LTER, Massachusetts, USA. Forest Ecology and Management, 2004, 196, 7-28.	3.2	387

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19	Contributions of aboveground litter, belowground litter, and root respiration to total soil respiration in a temperate mixed hardwood forest. Canadian Journal of Forest Research, 1993, 23, 1402-1407.	1.7	378
20	Effects of nitrogen deposition and empirical nitrogen critical loads for ecoregions of the United States. , 2011, 21, 3049-3082.		373
21	Biogeochemical Diversity Along a Riverside Toposequence in Arctic Alaska. Ecological Monographs, 1991, 61, 415-435.	5.4	366
22	Fine root turnover in forest ecosystems in relation to quantity and form of nitrogen availability: a comparison of two methods. Oecologia, 1985, 66, 317-321.	2.0	345
23	The potential effects of nitrogen deposition on fine-root production in forest ecosystems. New Phytologist, 2000, 147, 131-139.	7.3	334
24	Chronic nitrogen additions suppress decomposition and sequester soil carbon in temperate forests. Biogeochemistry, 2014, 121, 305-316.	3.5	302
25	Long-Term Nitrogen Additions and Nitrogen Saturation in Two Temperate Forests. Ecosystems, 2000, 3, 238-253.	3.4	301
26	A general biogeochemical model describing the responses of the C and N cycles in terrestrial ecosystems to changes in CO2, climate, and N deposition. Tree Physiology, 1991, 9, 101-126.	3.1	299
27	Title is missing!. Biogeochemistry, 2002, 57, 267-293.	3.5	298
28	15N natural abundances and N use by tundra plants. Oecologia, 1996, 107, 386-394.	2.0	295
29	A synthesis: The role of nutrients as constraints on carbon balances in boreal and arctic regions. Plant and Soil, 2002, 242, 163-170.	3.7	232
30	Forest biogeochemistry and primary production altered by nitrogen saturation. Water, Air, and Soil Pollution, 1995, 85, 1665-1670.	2.4	210
31	Sinks for nitrogen inputs in terrestrial ecosystems: a metaâ€analysis of ¹⁵N tracer field studies. Ecology, 2012, 93, 1816-1829.	3.2	192
32	Leaf-litter production and soil organic matter dynamics along a nitrogen-availability gradient in Southern Wisconsin (U.S.A.). Canadian Journal of Forest Research, 1983, 13, 12-21.	1.7	191
33	Assessing the role of fine roots in carbon and nutrient cycling. Trends in Ecology and Evolution, 1993, 8, 174-178.	8.7	187
34	Seasonal patterns of ammonium and nitrate uptake in nine temperate forest ecosystems. Plant and Soil, 1984, 80, 321-335.	3.7	174
35	Regional Assessment of N Saturation using Foliar and Root $$varvec {delta}^{f 15}{f N}$$. Biogeochemistry, 2006, 80, 143-171.	3.5	172
36	Microbial Processes and Plant Nutrient Availability in Arctic Soils. , 1992, , 281-300.		168

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37	SINKS FOR15N-ENRICHED ADDITIONS TO AN OAK FOREST AND A RED PINE PLANTATION. , 1999, 9, 72-86.		167
38	Factors Controlling Nitrogen Cycling and Nitrogen Saturation in Northern Temperate Forest Ecosystems. , 1991, 1, 303-315.		157
39	Living in an increasingly connected world: a framework for continental-scale environmental science. Frontiers in Ecology and the Environment, 2008, 6, 229-237.	4.0	157
40	CLIMATIC EFFECTS ON TUNDRA CARBON STORAGE INFERRED FROM EXPERIMENTAL DATA AND A MODEL. Ecology, 1997, 78, 1170-1187.	3.2	147
41	Exploring the role of ectomycorrhizal fungi in soil carbon dynamics. New Phytologist, 2019, 223, 33-39.	7.3	147
42	Determination of nitrogen, lignin, and cellulose content of decomposing leaf material by near infrared reflectance spectroscopy. Canadian Journal of Forest Research, 1991, 21, 1684-1688.	1.7	140
43	Experimental inducement of nitrogen saturation at the watershed scale. Environmental Science & Technology, 1993, 27, 565-568.	10.0	138
44	Carbon turnover in Alaskan tundra soils: effects of organic matter quality, temperature, moisture and fertilizer. Journal of Ecology, 2006, 94, 740-753.	4.0	137
45	Sustained carbon uptake and storage following moderate disturbance in a Great Lakes forest. Ecological Applications, 2013, 23, 1202-1215.	3.8	137
46	The fate of 15N-labelled nitrate additions to a northern hardwood forest in eastern Maine, USA. Oecologia, 1995, 103, 292-301.	2.0	134
47	Decadal-scale fates of tracers added to oak and pine stands under ambient and elevated N inputs at the Harvard Forest (USA). Forest Ecology and Management, 2004, 196, 89-107.	3.2	129
48	Measuring Nutrient Availability in Arctic Soils Using Ion Exchange Resins: A Field Test. Soil Science Society of America Journal, 1994, 58, 1154-1162.	2.2	123
49	Variations in the influence of diffuse light on gross primary productivity in temperate ecosystems. Agricultural and Forest Meteorology, 2015, 201, 98-110.	4.8	114
50	Microlysimeter for Measuring Nitrogen Mineralization and Microbial Respiration in Aerobic Soil Incubations. Soil Science Society of America Journal, 1990, 54, 411-415.	2.2	111
51	Carbon cycling in soil. Frontiers in Ecology and the Environment, 2004, 2, 522-528.	4.0	111
52	Comparison of wet chemistry and near infrared reflectance measurements of carbon-fraction chemistry and nitrogen concentration of forest foliage. Canadian Journal of Forest Research, 1991, 21, 1689-1693.	1.7	109
53	Afforestation Effects on Soil Carbon Storage in the United States: A Synthesis. Soil Science Society of America Journal, 2013, 77, 1035-1047.	2.2	109
54	Disturbance and the resilience of coupled carbon and nitrogen cycling in a north temperate forest. Journal of Geophysical Research, 2011, 116, .	3.3	108

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55	PLANT CARBONâ€“NUTRIENT INTERACTIONS CONTROL CO2EXCHANGE IN ALASKAN WET SEDGE TUNDRA ECOSYSTEMS. Ecology, 2000, 81, 453-469.	3.2	105
56	Litter and Root Manipulations Provide Insights into Soil Organic Matter Dynamics and Stability. Soil Science Society of America Journal, 2014, 78, S261.	2.2	103
57	Nitrate is an important nitrogen source for Arctic tundra plants. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 3398-3403.	7.1	102
58	BIOMASS AND CO2FLUX IN WET SEDGE TUNDRAS: RESPONSES TO NUTRIENTS, TEMPERATURE, AND LIGHT. Ecological Monographs, 1998, 68, 75-97.	5.4	100
59	Effects of drainage and temperature on carbon balance of tussock tundra micrososms. Oecologia, 1996, 108, 737-748.	2.0	99
60	Changes to particulate versus mineral-associated soil carbon after 50 years of litter manipulation in forest and prairie experimental ecosystems. Biogeochemistry, 2014, 119, 341-360.	3.5	99
61	The detrital input and removal treatment (DIRT) network: Insights into soil carbon stabilization. Science of the Total Environment, 2018, 640-641, 1112-1120.	8.0	97
62	Forest ecosystem response to four years of chronic nitrate and sulfate additions at Bear Brooks Watershed, Maine, USA. Forest Ecology and Management, 1996, 84, 29-37.	3.2	92
63	Climate and species affect fine root production with long-term fertilization in acidic tussock tundra near Toolik Lake, Alaska. Oecologia, 2007, 153, 643-652.	2.0	87
64	Soil respiration in a northeastern US temperate forest: a 22â€year synthesis. Ecosphere, 2013, 4, 1-28.	2.2	83
65	Nitrogen availability in some Wisconsin forests: comparisons of resin bags and on-site incubations. Biology and Fertility of Soils, 1986, 2, 77.	4.3	80
66	Hydraulic â€œFrackingâ€• Are surface water impacts an ecological concern?. Environmental Toxicology and Chemistry, 2014, 33, 1679-1689.	4.3	80
67	Litter Input Controls on Soil Carbon in a Temperate Deciduous Forest. Soil Science Society of America Journal, 2014, 78, S66.	2.2	78
68	Nitrogen Controls on Fine Root Substrate Quality in Temperate Forest Ecosystems. Ecosystems, 2000, 3, 57-69.	3.4	77
69	Foliar and fine root nitrate reductase activity in seedlings of four forest tree species in relation to nitrogen availability. Trees - Structure and Function, 1993, 7, 233.	1.9	76
70	Natural 15 N Abundance of Plants and Soil N in a Temperate Coniferous Forest. Ecosystems, 2003, 6, 457-469.	3.4	75
71	Immobilization of a 15N-labeled nitrate addition by decomposing forest litter. Oecologia, 1996, 105, 141-150.	2.0	71
72	Long-term doubling of litter inputs accelerates soil organic matter degradation and reduces soil carbon stocks. Biogeochemistry, 2016, 127, 1-14.	3.5	71

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73	The Imprint of Land-use History: Patterns of Carbon and Nitrogen in Downed Woody Debris at the Harvard Forest. Ecosystems, 2002, 5, 446-460.	3.4	69
74	Changes in Live Plant Biomass, Primary Production, and Species Composition along a Riverside Toposequence in Arctic Alaska, U.S.A.. Arctic and Alpine Research, 1996, 28, 363.	1.3	67
75	Carbon budget of the Harvard Forest Longâ€Term Ecological Research site: pattern, process, and response to global change. Ecological Monographs, 2020, 90, e01423.	5.4	67
76	RECONSTRUCTION AND ANALYSIS OF HISTORICAL CHANGES IN CARBON STORAGE IN ARCTIC TUNDRA. Ecology, 1997, 78, 1188-1198.	3.2	66
77	Old-growth forest carbon sinks overestimated. Nature, 2021, 591, E21-E23.	27.8	65
78	Isotopic study of mercury sources and transfer between a freshwater lake and adjacent forest food web. Science of the Total Environment, 2015, 532, 220-229.	8.0	64
79	Pulse-labeling studies of carbon cycling in Arctic tundra ecosystems: The contribution of photosynthates to methane emission. Global Biogeochemical Cycles, 2002, 16, 10-1-10-8.	4.9	61
80	Using Nitrogen Isotope Ratios to Assess Terrestrial Ecosystems at Regional and Global Scales. , 2010, , 221-249.		58
81	Seasonal dynamics of leaf- and root-derived C in arctic tundra mesocosms. Soil Biology and Biochemistry, 2004, 36, 655-666.	8.8	56
82	Retention of deposited ammonium and nitrate and its impact on the global forest carbon sink. Nature Communications, 2022, 13, 880.	12.8	55
83	Controls on N Retention and Exports in a Forested Watershed. Environmental Monitoring and Assessment, 1999, 55, 187-210.	2.7	53
84	Decomposing litter as a sink for -enriched additions to an oak forest and a red pine plantation. Forest Ecology and Management, 2004, 196, 71-87.	3.2	52
85	Defining a spectrum of integrative traitâ€based vegetation canopy structural types. Ecology Letters, 2019, 22, 2049-2059.	6.4	52
86	Biogeochemical Diversity and Element Transport in a Heterogeneous Landscape, the North Slope of Alaska. Ecological Studies, 1991, , 105-125.	1.2	51
87	Title is missing!. Biogeochemistry, 2002, 57, 239-266.	3.5	50
88	Original Articles: Dynamic Redistribution of Isotopically Labeled Cohorts of Nitrogen Inputs in Two Temperate Forests. Ecosystems, 1999, 2, 4-18.	3.4	49
89	Redistributions of highlight turnover and replenishment of mineral soil organic N as a long-term control on forest C balance. Forest Ecology and Management, 2004, 196, 109-127.	3.2	46
90	Experimental Soil Acidification and Recovery at the Bear Brook Watershed in Maine. Soil Science Society of America Journal, 1996, 60, 1933-1943.	2.2	45

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91	EFFECTS OF CHRONIC NITROGEN ADDITIONS ON UNDERSTORY SPECIES IN A RED PINE PLANTATION. , 1999, 9, 949-957.		41
92	Nitrogen dynamics in a small arctic watershed: retention and downhill movement of¹⁵N. Ecological Monographs, 2010, 80, 331-351.	5.4	41
93	Historical patterns of exotic earthworm distributions inform contemporary associations with soil physical and chemical factors across a northern temperate forest. Soil Biology and Biochemistry, 2014, 68, 503-514.	8.8	40
94	Title is missing!. Plant and Soil, 2002, 242, 107-113.	3.7	37
95	Communityâ€specific impacts of exotic earthworm invasions on soil carbon dynamics in a sandy temperate forest. Ecology, 2013, 94, 2827-2837.	3.2	30
96	Potential Impacts of Climate Change on Nutrient Cycling, Decomposition, and Productivity in Arctic Ecosystems. Ecological Studies, 1997, , 349-364.	1.2	30
97	Effects of canopy structure and species diversity on primary production in upper Great Lakes forests. Oecologia, 2018, 188, 405-415.	2.0	29
98	Terrestrial Ecosystems at Toolik Lake, Alaska. , 2014, , 90-142.		29
99	Title is missing!. Environmental Monitoring and Assessment, 1999, 55, 165-185.	2.7	28
100	Routine Measurement of Dissolved Inorganic 15N in Precipitation and Streamwater. Environmental Monitoring and Assessment, 1999, 55, 211-220.	2.7	25
101	NITROGEN CYCLING IN FOREST AND GRASS ECOSYSTEMS IRRIGATED WITH15N-ENRICHED WASTEWATER. , 1997, 7, 864-881.		24
102	SOIL DETRITAL PROCESSES CONTROLLING THE MOVEMENT OF15N TRACERS TO FOREST VEGETATION. , 1999, 9, 87-102.		24
103	A Revised Assessment of Species Redundancy and Ecosystem Reliability. Conservation Biology, 1999, 13, 440-443.	4.7	24
104	Pulse-labeling studies of carbon cycling in arctic tundra ecosystems: Contribution of photosynthates to soil organic matter. Global Biogeochemical Cycles, 2002, 16, 48-1-48-8.	4.9	24
105	Stand age, disturbance history and the temporal stability of forest production. Forest Ecology and Management, 2020, 460, 117865.	3.2	24
106	Exotic earthworm community composition interacts with soil texture to affect redistribution and retention of litter-derived C and N in northern temperate forest soils. Biogeochemistry, 2015, 126, 379-395.	3.5	22
107	Tree taxa and pyrolysis temperature interact to control the efficacy of pyrogenic organic matter formation. Biogeochemistry, 2016, 130, 103-116.	3.5	22
108	A 15 N tracer technique for assessing fine root production and mortality. Oecologia, 1997, 112, 300-304.	2.0	20

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109	Physiographic factors underlie rates of biomass production during succession in Great Lakes forest landscapes. Forest Ecology and Management, 2017, 397, 157-173.	3.2	20
110	Decadal post-fire succession of soil invertebrate communities is dependent on the soil surface properties in a northern temperate forest. Science of the Total Environment, 2019, 647, 1058-1068.	8.0	20
111	Mineral stabilization of soil carbon is suppressed by live roots, outweighing influences from litter quality or quantity. Biogeochemistry, 2021, 154, 433-449.	3.5	20
112	Changes in soil nitrogen cycling in a northern temperate forest ecosystem during succession. Biogeochemistry, 2014, 121, 471-488.	3.5	19
113	Molecular-level changes in soil organic matter composition after 10Âyears of litter, root and nitrogen manipulation in a temperate forest. Biogeochemistry, 2018, 141, 183-197.	3.5	19
114	Analysis of CO2, Temperature, and Moisture Effects on Carbon Storage in Alaskan Arctic Tundra Using a General Ecosystem Model. Ecological Studies, 1997, , 437-451.	1.2	19
115	A GLOBAL TREND IN BELOWGROUND CARBON ALLOCATION: COMMENT. Ecology, 1998, 79, 1822-1825.	3.2	18
116	Climate change impacts on terrestrial ecosystems in metropolitan Chicago and its surrounding, multi-state region. Journal of Great Lakes Research, 2010, 36, 74-85.	1.9	18
117	Nitrogen Uptake by Trees and Mycorrhizal Fungi in a Successional Northern Temperate Forest: Insights from Multiple Isotopic Methods. Ecosystems, 2013, 16, 590-603.	3.4	18
118	Soil organic carbon is not just for soil scientists: measurement recommendations for diverse practitioners. Ecological Applications, 2021, 31, e02290.	3.8	18
119	Rapid fine root C and N mineralization in a northern temperate forest soil. Biogeochemistry, 2016, 128, 187-200.	3.5	17
120	Using satelliteâ€derived optical thickness to assess the influence of clouds on terrestrial carbon uptake. Journal of Geophysical Research G: Biogeosciences, 2016, 121, 1747-1761.	3.0	17
121	SoDaH: the SOils DAta Harmonization database, an open-source synthesis of soil data from research networks, version 1.0. Earth System Science Data, 2021, 13, 1843-1854.	9.9	17
122	Response of Buried Mineral Soil Bags to Experimental Acidification of Forest Ecosystem. Soil Science Society of America Journal, 1994, 58, 556-563.	2.2	15
123	Disturbanceâ€accelerated succession increases the production of a temperate forest. Ecological Applications, 2021, 31, e02417.	3.8	15
124	Root control of fungal communities and soil carbon stocks in a temperate forest. Soil Biology and Biochemistry, 2021, 161, 108390.	8.8	14
125	Competing Processes Drive the Resistance of Soil Carbon to Alterations in Organic Inputs. Frontiers in Environmental Science, 2021, 9, .	3.3	11
126	Decadal fates and impacts of nitrogen additions on temperate forest carbon storage: a dataâ€“model comparison. Biogeosciences, 2019, 16, 2771-2793.	3.3	10

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127	Long-term movement of 15N tracers into fine woody debris under chronically elevated N inputs. Plant and Soil, 2002, 238, 313-323.	3.7	9
128	Interacting Controls of Pyrolysis Temperature and Plant Taxa on the Degradability of PyOM in Fire-Prone Northern Temperate Forest Soil. Soil Systems, 2018, 2, 48.	2.6	9
129	Controls on N Retention and Exports in a Forested Watershed. , 1999, , 187-210.		8
130	Tree taxa and pyrolysis temperature interact to control pyrogenic organic matter induced native soil organic carbon priming. Soil Biology and Biochemistry, 2018, 119, 174-183.	8.8	7
131	Multidecadal trajectories of soil chemistry and nutrient availability following cutting vs. burning disturbances in Upper Great Lakes forests. Canadian Journal of Forest Research, 2019, 49, 731-742.	1.7	6
132	Plant Carbon-Nutrient Interactions Control CO 2 Exchange in Alaskan Wet Sedge Tundra Ecosystems. Ecology, 2000, 81, 453.	3.2	5
133	Deer browsing effects on temperate forest soil nitrogen cycling shift from positive to negative across fertility gradients. Canadian Journal of Forest Research, 2020, 50, 1281-1288.	1.7	5
134	Isotopic composition of mercury deposited via snow into mid-latitude ecosystems. Science of the Total Environment, 2021, 784, 147252.	8.0	5
135	The Impacts of Nitrogen Deposition on Forest Ecosystems. , 2008, , 463-482.		4
136	The Detrital Input and Removal Treatment (DIRT) Network. , 2017, , .		4
137	Impacts of experimentally accelerated forest succession on belowground plant and fungal communities. Soil Biology and Biochemistry, 2018, 125, 44-53.	8.8	4
138	Carbon Cycling in Soil. Frontiers in Ecology and the Environment, 2004, 2, 522.	4.0	4
139	Routine Measurement of Dissolved Inorganic 15N in Precipitation and Streamwater. , 1999, , 211-220.		4
140	Validation of an agroecosystem process model (AGRO-BGC) on annual and perennial bioenergy feedstocks. Ecological Modelling, 2016, 321, 23-34.	2.5	3
141	Research Article: Soil respiration in upper Great Lakes old-growth forest ecosystems. Bios, 2017, 88, 105-115.	0.0	3
142	Effects and Empirical Critical Loads of Nitrogen for Ecoregions of the United States. Environmental Pollution, 2015, , 129-169.	0.4	3
143	Climatic Effects on Tundra Carbon Storage Inferred From Experimental Data and a Model. Ecology, 1997, 78, 1170.	3.2	3
144	Nitrogen deposition and carbon sequestration. Nature, 1999, 400, 630-630.	27.8	2

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145	Whatâ€™s to do?. Biogeochemistry, 2017, 134, 1-3.	3.5	2
146	Atmospheric Nitrogen Deposition: Implications for Terrestrial Ecosystem Structure and Functioning. , 2007, , 77-95.		2
147	Effects of Chronic Nitrogen Additions on Understory Species in a Red Pine Plantation. , 1999, 9, 949.		2
148	Fire after clear-cut harvesting minimally affects the recovery of ecosystem carbon pools and fluxes in a Great Lakes forest. Forest Ecology and Management, 2022, 519, 120301.	3.2	2
149	Nitrogen Cyclic in Forest and Grass Ecosystems Irrigated with 15 N-Enriched Wastewater. , 1997, 7, 864.		1
150	Soil Detrital Processes Controlling the Movement of 15 N Tracers to Forest Vegetation. , 1999, 9, 87.		1
151	A Global Trend in Belowground Carbon Allocation: Comment. Ecology, 1998, 79, 1822.	3.2	1
152	Forest nitrogen sinks in large eastern U.S. watersheds: estimates from forest inventory and an ecosystem model. , 2002, , 239-266.		0
153	Mineral Soil and Solution Responses to Experimental N and S Enrichment at the Bear Brook Watershed in Maine (BBWM). , 1999, , 165-185.		0