Sasha C Reed

List of Publications by Year
in descending order

137 papers	10,565 citations	30070 54 h-index	36028 97 g-index
145 all docs	145 docs citations	145 times ranked	11555 citing authors

#	Article	IF	Citations
1	Multiple elements of soil biodiversity drive ecosystem functions across biomes. Nature Ecology and Evolution, 2020, 4, 210-220.	7.8	543
2	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
3	Functional Ecology of Free-Living Nitrogen Fixation: A Contemporary Perspective. Annual Review of Ecology, Evolution, and Systematics, 2011, 42, 489-512.	8.3	479
4	Microbial community assembly and metabolic function during mammalian corpse decomposition. Science, 2016, 351, 158-162.	12.6	381
5	Relationships among net primary productivity, nutrients and climate in tropical rain forest: a panâ€tropical analysis. Ecology Letters, 2011, 14, 939-947.	6.4	379
6	The origin of litter chemical complexity during decomposition. Ecology Letters, 2012, 15, 1180-1188.	6.4	316
7	Large divergence of satellite and Earth system model estimates of global terrestrial CO2Âfertilization. Nature Climate Change, 2016, 6, 306-310.	18.8	309
8	BIOGEOCHEMICAL CONSEQUENCES OF RAPID MICROBIAL TURNOVER AND SEASONAL SUCCESSION IN SOIL. Ecology, 2007, 88, 1379-1385.	3.2	297
9	Patterns of new versus recycled primary production in the terrestrial biosphere. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 12733-12737.	7.1	270
10	Changes to dryland rainfall result in rapid moss mortality and altered soil fertility. Nature Climate Change, 2012, 2, 752-755.	18.8	257
11	NUTRIENT REGULATION OF ORGANIC MATTER DECOMPOSITION IN A TROPICAL RAIN FOREST. Ecology, 2006, 87, 492-503.	3.2	225
12	Climate change and physical disturbance cause similar community shifts in biological soil crusts. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12116-12121.	7.1	225
13	The earliest stages of ecosystem succession in high-elevation (5000 metres above sea level), recently deglaciated soils. Proceedings of the Royal Society B: Biological Sciences, 2008, 275, 2793-2802.	2.6	222
14	Remote sensing of dryland ecosystem structure and function: Progress, challenges, and opportunities. Remote Sensing of Environment, 2019, 233, 111401.	11.0	193
15	Stoichiometric patterns in foliar nutrient resorption across multiple scales. New Phytologist, 2012, 196, 173-180.	7.3	190
16	Convergent responses of nitrogen and phosphorus resorption to nitrogen inputs in a semiarid grassland. Global Change Biology, 2013, 19, 2775-2784.	9.5	171
17	Temporal Variation in Community Composition, Pigmentation, and Fv/Fm of Desert Cyanobacterial Soil Crusts. Microbial Ecology, 2002, 43, 13-25.	2.8	169
18	Litter quality versus soil microbial community controls over decomposition: a quantitative analysis. Oecologia, 2014, 174, 283-294.	2.0	169

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19	Urgent need for warming experiments in tropical forests. Global Change Biology, 2015, 21, 2111-2121.	9.5	168
20	Incorporating phosphorus cycling into global modeling efforts: a worthwhile, tractable endeavor. New Phytologist, 2015, 208, 324-329.	7.3	163
21	Experimental drought in a tropical rain forest increases soil carbon dioxide losses to the atmosphere. Ecology, 2010, 91, 2313-2323.	3.2	155
22	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
23	Global ecological predictors of the soil priming effect. Nature Communications, 2019, 10, 3481.	12.8	148
24	Spatially robust estimates of biological nitrogen (N) fixation imply substantial human alteration of the tropical N cycle. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 8101-8106.	7.1	138
25	Fumarole-Supported Islands of Biodiversity within a Hyperarid, High-Elevation Landscape on Socompa Volcano, Puna de Atacama, Andes. Applied and Environmental Microbiology, 2009, 75, 735-747.	3.1	133
26	The pervasive and multifaceted influence of biocrusts on water in the world's drylands. Global Change Biology, 2020, 26, 6003-6014.	9.5	129
27	Controls Over Leaf Litter and Soil Nitrogen Fixation in Two Lowland Tropical Rain Forests. Biotropica, 2007, 39, 585-592.	1.6	124
28	Microbial community shifts influence patterns in tropical forest nitrogen fixation. Oecologia, 2010, 164, 521-531.	2.0	120
29	Phosphorus fertilization stimulates nitrogen fixation and increases inorganic nitrogen concentrations in a restored prairie. Applied Soil Ecology, 2007, 36, 238-242.	4.3	118
30	Biocrusts: the living skin of the earth. Plant and Soil, 2018, 429, 1-7.	3.7	111
31	Tropical forest carbon balance in a warmer world: a critical review spanning microbialâ€•to ecosystemâ€scale processes. Biological Reviews, 2012, 87, 912-927.	10.4	109
32	TREE SPECIES CONTROL RATES OF FREE-LIVING NITROGEN FIXATION IN A TROPICAL RAIN FOREST. Ecology, 2008, 89, 2924-2934.	3.2	107
33	Production of greenhouseâ€grown biocrust mosses and associated cyanobacteria to rehabilitate dryland soil function. Restoration Ecology, 2016, 24, 324-335.	2.9	95
34	Biological soil crusts: diminutive communities of potential global importance. Frontiers in Ecology and the Environment, 2017, 15, 160-167.	4.0	88
35	Assessing nutrient limitation in complex forested ecosystems: alternatives to largeâ€scale fertilization experiments. Ecology, 2014, 95, 668-681.	3.2	87
36	What is a biocrust? A refined, contemporary definition for a broadening research community. Biological Reviews, 2022, 97, 1768-1785.	10.4	87

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37	Albedo feedbacks to future climate via climate change impacts on dryland biocrusts. Scientific Reports, 2017, 7, 44188.	3.3	84
38	Soil CO₂ flux and photoautotrophic community composition in highâ€elevation, â€˜barrenâ€™ soil. Environmental Microbiology, 2009, 11, 674-686.	3.8	83
39	Water from air: an overlooked source of moisture in arid and semiarid regions. Scientific Reports, 2015, 5, 13767.	3.3	81
40	Relationships among phosphorus, molybdenum and free-living nitrogen fixation in tropical rain forests: results from observational and experimental analyses. Biogeochemistry, 2013, 114, 135-147.	3.5	80
41	Observations of net soil exchange of CO2 in a dryland show experimental warming increases carbon losses in biocrust soils. Biogeochemistry, 2015, 126, 363-378.	3.5	74
42	Traversing the Wasteland: A Framework for Assessing Ecological Threats to Drylands. BioScience, 2020, 70, 35-47.	4.9	74
43	Biocrusts enhance soil fertility and Bromus tectorum growth, and interact with warming to influence germination. Plant and Soil, 2018, 429, 77-90.	3.7	71
44	Temperate and Tropical Forest Canopies are Already Functioning beyond Their Thermal Thresholds for Photosynthesis. Forests, 2018, 9, 47.	2.1	71
45	Functional shifts in unvegetated, perhumid, recently-deglaciated soils do not correlate with shifts in soil bacterial community composition. Journal of Microbiology, 2009, 47, 673-681.	2.8	70
46	Five Decades of Observed Daily Precipitation Reveal Longer and More Variable Drought Events Across Much of the Western United States. Geophysical Research Letters, 2021, 48, e2020GL092293.	4.0	70
47	Climate Change and Physical Disturbance Manipulations Result in Distinct Biological Soil Crust Communities. Applied and Environmental Microbiology, 2015, 81, 7448-7459.	3.1	66
48	C3 and C4 plant responses to increased temperatures and altered monsoonal precipitation in a cool desert on the Colorado Plateau, USA. Oecologia, 2015, 177, 997-1013.	2.0	64
49	Bacterial, fungal, and plant communities exhibit no biomass or compositional response to two years of simulated nitrogen deposition in a semiarid grassland. Environmental Microbiology, 2017, 19, 1600-1611.	3.8	62
50	Shrub persistence and increased grass mortality in response to drought in dryland systems. Global Change Biology, 2019, 25, 3121-3135.	9.5	60
51	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
52	Management intensity alters decomposition via biological pathways. Biogeochemistry, 2011, 104, 365-379.	3.5	58
53	The concurrent use of novel soil surface microclimate measurements to evaluate CO2 pulses in biocrusted interspaces in a cool desert ecosystem. Biogeochemistry, 2017, 135, 239-249.	3.5	58
54	From pools to flow: The PROMISE framework for new insights on soil carbon cycling in a changing world. Global Change Biology, 2020, 26, 6631-6643.	9.5	57

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55	Ecological consequences of the expansion of N2-fixing plants in cold biomes. Oecologia, 2014, 176, 11-24.	2.0	55
56	Maximizing establishment and survivorship of field-collected and greenhouse-cultivated biocrusts in a semi-cold desert. Plant and Soil, 2018, 429, 213-225.	3.7	53
57	Infrared heater system for warming tropical forest understory plants and soils. Ecology and Evolution, 2018, 8, 1932-1944.	1.9	51
58	Nutrient resorption helps drive intra-specific coupling of foliar nitrogen and phosphorus under nutrient-enriched conditions. Plant and Soil, 2016, 398, 111-120.	3.7	50
59	Climatic Sensitivity of Dryland Soil CO2 Fluxes Differs Dramatically with Biological Soil Crust Successional State. Ecosystems, 2019, 22, 15-32.	3.4	49
60	Improving predictions of tropical forest response to climate change through integration of field studies and ecosystem modeling. Global Change Biology, 2018, 24, e213-e232.	9.5	48
61	Phosphorus Cycling in Tropical Forests Growing on Highly Weathered Soils. Soil Biology, 2011, , 339-369.	0.8	47
62	The influence of soil age on ecosystem structure and function across biomes. Nature Communications, 2020, 11, 4721.	12.8	47
63	Biocrusts in the Context of Global Change. Ecological Studies, 2016, , 451-476.	1.2	45
64	Using indirect methods to constrain symbiotic nitrogen fixation rates: a case study from an Amazonian rain forest. Biogeochemistry, 2010, 99, 1-13.	3.5	44
65	Ecoâ€evolutionary responses of <i><scp>B</scp>romus tectorum</i> to climate change: implications for biological invasions. Ecology and Evolution, 2013, 3, 1374-1387.	1.9	41
66	Effects of canopy tree species on belowground biogeochemistry in a lowland wet tropical forest. Soil Biology and Biochemistry, 2013, 58, 61-69.	8.8	38
67	Species-specific nitrogenase activity in lichen-dominated biological soil crusts from the Colorado Plateau, USA. Plant and Soil, 2018, 429, 113-125.	3.7	37
68	Using research networks to create the comprehensive datasets needed to assess nutrient availability as a key determinant of terrestrial carbon cycling. Environmental Research Letters, 2018, 13, 125006.	5.2	36
69	Terrestrial nitrogen cycling in Earth system models revisited. New Phytologist, 2016, 210, 1165-1168.	7.3	35
70	Experimental warming in a dryland community reduced plant photosynthesis and soil <scp>CO</scp>₂ efflux although the relationship between the fluxes remained unchanged. Functional Ecology, 2017, 31, 297-305.	3.6	34
71	Ecohydrological role of biological soil crusts across a gradient in levels of development. Ecohydrology, 2017, 10, e1875.	2.4	31
72	Only sun-lit leaves of the uppermost canopy exceed both air temperature and photosynthetic thermal optima in a wet tropical forest. Agricultural and Forest Meteorology, 2021, 301-302, 108347.	4.8	31

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73	Low soil moisture during hot periods drives apparent negative temperature sensitivity of soil respiration in a dryland ecosystem: a multi-model comparison. Biogeochemistry, 2016, 128, 155-169.	3.5	30
74	Agricultural conversion without external water and nutrient inputs reduces terrestrial vegetation productivity. Geophysical Research Letters, 2014, 41, 449-455.	4.0	29
75	Reviews and syntheses: Field data to benchmark the carbon cycle models for tropical forests. Biogeosciences, 2017, 14, 4663-4690.	3.3	27
76	Estimating phosphorus availability for microbial growth in an emerging landscape. Geoderma, 2011, 163, 135-140.	5.1	26
77	Patterns of longer-term climate change effects on CO₂ efflux from biocrusted soils differ from those observed in the short term. Biogeosciences, 2018, 15, 4561-4573.	3.3	26
78	Inoculation and habitat amelioration efforts in biological soil crust recovery vary by desert and soil texture. Restoration Ecology, 2020, 28, S96.	2.9	26
79	Satellite solar-induced chlorophyll fluorescence and near-infrared reflectance capture complementary aspects of dryland vegetation productivity dynamics. Remote Sensing of Environment, 2022, 270, 112858.	11.0	26
80	Beyond traditional ecological restoration on the Colorado Plateau. Restoration Ecology, 2018, 26, 1055-1060.	2.9	25
81	Earlier plant growth helps compensate for reduced carbon fixation after 13Âyears of warming. Functional Ecology, 2019, 33, 2071-2080.	3.6	25
82	Addressing barriers to improve biocrust colonization and establishment in dryland restoration. Restoration Ecology, 2020, 28, S150.	2.9	25
83	Coexistence of multiple leaf nutrient resorption strategies in a single ecosystem. Science of the Total Environment, 2021, 772, 144951.	8.0	25
84	Bioenergy Potential of the United States Constrained by Satellite Observations of Existing Productivity. Environmental Science & Technology, 2012, 46, 3536-3544.	10.0	24
85	Elevated CO2 did not mitigate the effect of a short-term drought on biological soil crusts. Biology and Fertility of Soils, 2012, 48, 797-805.	4.3	22
86	Nitrogenase activity by biological soil crusts in cold sagebrush steppe ecosystems. Biogeochemistry, 2017, 134, 57-76.	3.5	22
87	Biological nitrogen fixation across major biomes in Latin America: Patterns and global change effects. Science of the Total Environment, 2020, 746, 140998.	8.0	22
88	Photosynthetic and Respiratory Acclimation of Understory Shrubs in Response to in situ Experimental Warming of a Wet Tropical Forest. Frontiers in Forests and Global Change, 2020, 3, .	2.3	21
89	Soil biogeochemical responses of a tropical forest to warming and hurricane disturbance. Advances in Ecological Research, 2020, , 225-252.	2.7	21
90	Altered climate leads to positive densityâ€dependent feedbacks in a tropical wet forest. Global Change Biology, 2020, 26, 3417-3428.	9.5	20

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91	Multiple mechanisms determine the effect of warming on plant litter decomposition in a dryland. Soil Biology and Biochemistry, 2020, 145, 107799.	8.8	20
92	A roadmap for sampling and scaling biological nitrogen fixation in terrestrial ecosystems. Methods in Ecology and Evolution, 2021, 12, 1122-1137.	5.2	20
93	Experimental warming across a tropical forest canopy height gradient reveals minimal photosynthetic and respiratory acclimation. Plant, Cell and Environment, 2021, 44, 2879-2897.	5.7	20
94	Biocrust science and global change. New Phytologist, 2019, 223, 1047-1051.	7.3	19
95	Nitrogen Enrichment Reduces Nitrogen and Phosphorus Resorption Through Changes to Species Resorption and Plant Community Composition. Ecosystems, 2021, 24, 602-612.	3.4	19
96	Global resorption efficiencies of trace elements in leaves of terrestrial plants. Functional Ecology, 2021, 35, 1596-1602.	3.6	19
97	Temporal and abiotic fluctuations may be preventing successful rehabilitation of soilâ€stabilizing biocrust communities. Ecological Applications, 2019, 29, e01908.	3.8	18
98	Vertical movement of soluble carbon and nutrients from biocrusts to subsurface mineral soils. Geoderma, 2022, 405, 115495.	5.1	18
99	Tropical understory herbaceous community responds more strongly to hurricane disturbance than to experimental warming. Ecology and Evolution, 2020, 10, 8906-8915.	1.9	16
100	Reductions in tree performance during hotter droughts are mitigated by shifts in nitrogen cycling. Plant, Cell and Environment, 2018, 41, 2627-2637.	5.7	15
101	Biological soil crust salvage for dryland restoration: an opportunity for natural resource restoration. Restoration Ecology, 2020, 28, S9.	2.9	14
102	Soil warming effects on tropical forests with highly weathered soils. , 2019, , 385-439.		13
103	Isotopic Evidence that Nitrogen Enrichment Intensifies Nitrogen Losses to the Atmosphere from Subtropical Mangroves. Ecosystems, 2019, 22, 1126-1144.	3.4	13
104	Resistance, Resilience, and Recovery of Dryland Soil Bacterial Communities Across Multiple Disturbances. Frontiers in Microbiology, 2021, 12, 648455.	3.5	13
105	Biogeochemical and ecosystem properties in three adjacent semiâ€arid grasslands are resistant to nitrogen deposition but sensitive to edaphic variability. Journal of Ecology, 2022, 110, 1615-1631.	4.0	13
106	Nitrogen Cycling Responses to Mountain Pine Beetle Disturbance in a High Elevation Whitebark Pine Ecosystem. PLoS ONE, 2013, 8, e65004.	2.5	12
107	Seed bank community and soil texture relationships in a cold desert. Journal of Arid Environments, 2019, 164, 46-52.	2.4	12
108	On the Shoulders of Giants: Continuing the Legacy of Large-Scale Ecosystem Manipulation Experiments in Puerto Rico. Forests, 2019, 10, 210.	2.1	12

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109	Interactions of Microhabitat and Time Control Grassland Bacterial and Fungal Composition. Frontiers in Ecology and Evolution, 2019, 7, .	2.2	12
110	Experimental Warming Changes Phenology and Shortens Growing Season of the Dominant Invasive Plant Bromus tectorum (Cheatgrass). Frontiers in Plant Science, 2020, 11, 570001.	3.6	12
111	Experimental warming and its legacy effects on root dynamics following two hurricane disturbances in a wet tropical forest. Global Change Biology, 2021, 27, 6423-6435.	9.5	12
112	The consequences of climate change for dryland biogeochemistry. New Phytologist, 2022, 236, 15-20.	7.3	12
113	Multiple resource limitation of dryland soil microbial carbon cycling on the Colorado Plateau. Ecology, 2022, 103, e3671.	3.2	10
114	Photochemical Generation and Matrix-Isolation Detection of Dimethylvinylidene. Journal of Organic Chemistry, 2001, 66, 287-299.	3.2	9
115	Spectrally monitoring the response of the biocrust moss Syntrichia caninervis to altered precipitation regimes. Scientific Reports, 2017, 7, 41793.	3.3	9
116	Biocrust ecology: unifying microâ€•and macroâ€•scales to confront global change. New Phytologist, 2017, 216, 643-646.	7.3	9
117	Temporal variability of foliar nutrients: responses to nitrogen deposition and prescribed fire in a temperate steppe. Biogeochemistry, 2017, 133, 295-305.	3.5	8
118	Warming and microbial uptake influence the fate of added soil carbon across a Hawai'ian weathering gradient. Soil Biology and Biochemistry, 2021, 153, 108080.	8.8	8
119	Incorporating Biogeochemistry into Dryland Restoration. BioScience, 2021, 71, 907-917.	4.9	8
120	Muted responses to chronic experimental nitrogen deposition on the Colorado Plateau. Oecologia, 2021, 195, 513-524.	2.0	7
121	Spatial variation in edaphic characteristics is a stronger control than nitrogen inputs in regulating soil microbial effects on a desert grass. Journal of Arid Environments, 2017, 142, 59-65.	2.4	6
122	Riparian Plant Communities Remain Stable in Response to a Second Cycle of Tamarix Biocontrol Defoliation. Wetlands, 2020, 40, 1863-1875.	1.5	6
123	Quantifying the influence of different biocrust community states and their responses to warming temperatures on soil biogeochemistry in field and mesocosm studies. Geoderma, 2022, 409, 115633.	5.1	6
124	Conformational effects on the excited state 1,2-hydrogen migration in alkyldiazomethanes. Tetrahedron Letters, 1996, 37, 7209-7212.	1.4	5
125	Disentangling the complexities of how legumes and their symbionts regulate plant nitrogen access and storage. New Phytologist, 2017, 213, 478-480.	7.3	5
126	Spatially explicit patterns in a dryland's soil respiration and relationships with climate, whole plant photosynthesis and soil fertility. Oikos, 2018, 127, 1280-1290.	2.7	5

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127	Modest Residual Effects of Short-Term Warming, Altered Hydration, and Biocrust Successional State on Dryland Soil Heterotrophic Carbon and Nitrogen Cycling. Frontiers in Ecology and Evolution, 2020, 8, .	2.2	5
128	Seasonal and individual event-responsiveness are key determinants of carbon exchange across plant functional types. Oecologia, 2020, 193, 811-825.	2.0	5
129	Plant growth and biocrust-fire interactions across five North American deserts. Geoderma, 2021, 401, 115325.	5.1	5
130	Broader Impacts for Ecologists: Biological Soil Crust as a Model System for Education. Frontiers in Microbiology, 2020, 11, 577922.	3.5	4
131	Climatic Controls on Soil Carbon Accumulation and Loss in a Dryland Ecosystems. Journal of Geophysical Research G: Biogeosciences, 2021, 126, .	3.0	3
132	Environmental filtering controls soil biodiversity in wet tropical ecosystems. Soil Biology and Biochemistry, 2022, 166, 108571.	8.8	3
133	Mapping biological soil crusts in a Hawaiian dryland. International Journal of Remote Sensing, 2022, 43, 484-509.	2.9	3
134	Manufacturing Simple and Inexpensive Soil Surface Temperature and Gravimetric Water Content Sensors. Journal of Visualized Experiments, 2019, , .	0.3	2
135	8 The Response of Arid Soil Communities to Climate Change. , 2017, , 139-158.		1
136	Response to â€˜Stochastic and deterministic interpretation of pool modelsâ€™. Global Change Biology, 2021, 27, e11-e12.	9.5	1
137	Response to â€œConnectivity and pore accessibility in models of soil carbon cyclingâ€ Global Change Biology, 2021, 27, e15-e16.	9.5	0