Caroline Ann Masiello

List of Publications by Year
in descending order

81	12,157	71102 41	60623 81
papers	citations	h-index	g-index

88	88	88	10836
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Biochar effects on soil biota â€“ A review. Soil Biology and Biochemistry, 2011, 43, 1812-1836.	8.8	3,514
2	New directions in black carbon organic geochemistry. Marine Chemistry, 2004, 92, 201-213.	2.3	664
3	Young organic matter as a source of carbon dioxide outgassing from Amazonian rivers. Nature, 2005, 436, 538-541.	27.8	521
4	Comparison of quantification methods to measure fireâ€derived (black/elemental) carbon in soils and sediments using reference materials from soil, water, sediment and the atmosphere. Global Biogeochemical Cycles, 2007, 21, .	4.9	483
5	Black Carbon in Deep-Sea Sediments. Science, 1998, 280, 1911-1913.	12.6	444
6	New approaches to measuring biochar density and porosity. Biomass and Bioenergy, 2014, 66, 176-185.	5.7	412
7	Hydrologic properties of biochars produced at different temperatures. Biomass and Bioenergy, 2012, 41, 34-43.	5.7	394
8	Cycling and composition of organic matter in terrestrial and marine ecosystems. Marine Chemistry, 2004, 92, 39-64.	2.3	328
9	Temperature Sensitivity of Black Carbon Decomposition and Oxidation. Environmental Science & Technology, 2010, 44, 3324-3331.	10.0	314
10	Controls on black carbon storage in soils. Global Biogeochemical Cycles, 2007, 21, .	4.9	284
11	Biochar in climate change mitigation. Nature Geoscience, 2021, 14, 883-892.	12.9	263
12	Towards a global assessment of pyrogenic carbon from vegetation fires. Global Change Biology, 2016, 22, 76-91.	9.5	256
13	Physical Disintegration of Biochar: An Overlooked Process. Environmental Science and Technology Letters, 2014, 1, 326-332.	8.7	245
14	Reburial of fossil organic carbon in marine sediments. Nature, 2004, 427, 336-339.	27.8	231
15	Aromaticity and degree of aromatic condensation of char. Organic Geochemistry, 2015, 78, 135-143.	1.8	207
16	Biochar particle size, shape, and porosity act together to influence soil water properties. PLoS ONE, 2017, 12, e0179079.	2.5	200
17	Biochar-Induced Changes in Soil Hydraulic Conductivity and Dissolved Nutrient Fluxes Constrained by Laboratory Experiments. PLoS ONE, 2014, 9, e108340.	2.5	199
18	Weathering controls on mechanisms of carbon storage in grassland soils. Global Biogeochemical Cycles, 2004, 18, n/a-n/a.	4.9	194

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19	Thermal Treatment of Hydrocarbon-Impacted Soils: A Review of Technology Innovation for Sustainable Remediation. Engineering, 2016, 2, 426-437.	6.7	188
20	Carbon isotope geochemistry of the Santa Clara River. Global Biogeochemical Cycles, 2001, 15, 407-416.	4.9	175
21	Biochar and Microbial Signaling: Production Conditions Determine Effects on Microbial Communication. Environmental Science & Technology, 2013, 47, 11496-11503.	10.0	174
22	Impacts of biochar concentration and particle size on hydraulic conductivity and DOC leaching of biocharâ€“sand mixtures. Journal of Hydrology, 2016, 533, 461-472.	5.4	149
23	Multiple Controls on the Chemical and Physical Structure of Biochars. Industrial & Engineering Chemistry Research, 2012, 51, 3587-3597.	3.7	145
24	Earthworm avoidance of biochar can be mitigated by wetting. Soil Biology and Biochemistry, 2011, 43, 1732-1737.	8.8	136
25	Biochar physico-chemical properties as affected by environmental exposure. Science of the Total Environment, 2016, 563-564, 237-246.	8.0	110
26	Aged black carbon in marine sediments and sinking particles. Geophysical Research Letters, 2014, 41, 2427-2433.	4.0	94
27	Carbon sequestration potential and physicochemical properties differ between wildfire charcoals and slow-pyrolysis biochars. Scientific Reports, 2017, 7, 11233.	3.3	93
28	Nitrogen, biochar, and mycorrhizae: Alteration of the symbiosis and oxidation of the char surface. Soil Biology and Biochemistry, 2013, 58, 248-254.	8.8	90
29	White-Rot Basidiomycete-Mediated Decomposition of C₆₀ Fullerol. Environmental Science & Technology, 2009, 43, 3162-3168.	10.0	89
30	Pyrolytic Treatment and Fertility Enhancement of Soils Contaminated with Heavy Hydrocarbons. Environmental Science & Technology, 2016, 50, 2498-2506.	10.0	89
31	Evaluating two experimental approaches for measuring ecosystem carbon oxidation state and oxidative ratio. Journal of Geophysical Research, 2008, 113, .	3.3	82
32	Soil organic matter attenuates the efficacy of flavonoid-based plant-microbe communication. Science Advances, 2020, 6, eaax8254.	10.3	60
33	An ecosystem-scale radiocarbon tracer to test use of litter carbon by ectomycorrhizal fungi. Soil Biology and Biochemistry, 2006, 38, 1077-1082.	8.8	59
34	Topographic controls on black carbon accumulation in Alaskan black spruce forest soils: implications for organic matter dynamics. Biogeochemistry, 2010, 100, 39-56.	3.5	56
35	Organic and black carbon13C and14C through the Santa Monica Basin sediment oxic-anoxic transition. Geophysical Research Letters, 2003, 30, .	4.0	55
36	Measurement of soil carbon oxidation state and oxidative ratio by ¹³C nuclear magnetic resonance. Journal of Geophysical Research, 2009, 114, .	3.3	55

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37	Charcoal Disrupts Soil Microbial Communication through a Combination of Signal Sorption and Hydrolysis. ACS Omega, 2016, 1, 226-233.	3.5	54
38	An NMR study of porous rock and biochar containing organic material. Microporous and Mesoporous Materials, 2013, 178, 94-98.	4.4	50
39	Is carbon within the global terrestrial biosphere becoming more oxidized? Implications for trends in atmospheric O2. Global Change Biology, 2006, 12, 260-271.	9.5	48
40	Dynamics of decadally cycling carbon in subsurface soils. Journal of Geophysical Research, 2012, 117, .	3.3	48
41	Controls on the origin and cycling of riverine dissolved inorganic carbon in the Brazos River, Texas. Biogeochemistry, 2011, 104, 275-291.	3.5	46
42	Policy support for biochar: Review and recommendations. GCB Bioenergy, 2019, 11, 364-380.	5.6	41
43	Hydrocarbons in Lake Washington Sediments. A 25-Year Retrospective in an Urban Lake. Environmental Science & Technology, 2004, 38, 431-439.	10.0	40
44	Estimating the oxidative ratio of the global terrestrial biosphere carbon. Biogeochemistry, 2013, 115, 23-32.	3.5	40
45	Translating New Synthetic Biology Advances for Biosensing Into the Earth and Environmental Sciences. Frontiers in Microbiology, 2020, 11, 618373.	3.5	40
46	Sources of CO2 evasion from two subtropical rivers in North America. Biogeochemistry, 2010, 100, 211-225.	3.5	39
47	Distributions of dissolved organic and inorganic carbon and radiocarbon in the eastern North Pacific continental margin. Deep-Sea Research Part II: Topical Studies in Oceanography, 1998, 45, 689-713.	1.4	36
48	Physical controls on dissolved inorganic radiocarbon variability in the California Current. Deep-Sea Research Part II: Topical Studies in Oceanography, 1998, 45, 617-642.	1.4	34
49	Toward a â€œMolecular Thermometerâ€•to Estimate the Charring Temperature of Wildland Charcoals Derived from Different Biomass Sources. Environmental Science & Technology, 2013, 47, 11490-11495.	10.0	34
50	Final recommendations for reference materials in black carbon analysis. Eos, 2003, 84, 582-582.	0.1	33
51	Species-specific measurements of ectomycorrhizal turnover under N-fertilization: combining isotopic and genetic approaches. Oecologia, 2004, 138, 419-425.	2.0	33
52	Fire in the Ocean. Science, 2013, 340, 287-288.	12.6	33
53	Charring and non-additive chemical reactions during ramped pyrolysis: Applications to the characterization of sedimentary and soil organic material. Organic Geochemistry, 2014, 77, 106-114.	1.8	30
54	Biochar interferes with kiwifruit Fe-nutrition in calcareous soil. Geoderma, 2016, 272, 10-19.	5.1	29

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55	Anhydrosugars as tracers in the Earth system. Biogeochemistry, 2019, 146, 209-256.	3.5	29
56	Chemical and Isotopic Thresholds in Charring: Implications for the Interpretation of Charcoal Mass and Isotopic Data. Environmental Science & Technology, 2015, 49, 14057-14064.	10.0	28
57	Soil Carbon and Nitrogen Responses to Nitrogen Fertilizer and Harvesting Rates in Switchgrass Cropping Systems. Bioenergy Research, 2017, 10, 456-464.	3.9	25
58	Biochemical Suitability of Crop Residues for Cellulosic Ethanol: Disincentives to Nitrogen Fertilization in Corn Agriculture. Environmental Science & Technology, 2011, 45, 2013-2020.	10.0	24
59	Volatile Gas Production by Methyl Halide Transferase: An In Situ Reporter Of Microbial Gene Expression In Soil. Environmental Science & Technology, 2016, 50, 8750-8759.	10.0	24
60	Ratiometric Gas Reporting: A Nondisruptive Approach To Monitor Gene Expression in Soils. ACS Synthetic Biology, 2018, 7, 903-911.	3.8	24
61	Valuing the Air Quality Effects of Biochar Reductions on Soil NO Emissions. Environmental Science & Technology, 2017, 51, 9856-9863.	10.0	23
62	Tree taxa and pyrolysis temperature interact to control the efficacy of pyrogenic organic matter formation. Biogeochemistry, 2016, 130, 103-116.	3.5	22
63	Forest soil carbon oxidation state and oxidative ratio responses to elevated CO 2. Journal of Geophysical Research G: Biogeosciences, 2015, 120, 1797-1811.	3.0	19
64	Effect of environmental exposure on charcoal density and porosity in a boreal forest. Science of the Total Environment, 2017, 592, 316-325.	8.0	18
65	Effect of freeze-thaw cycling on grain size of biochar. PLoS ONE, 2018, 13, e0191246.	2.5	18
66	Shortâ€Term Changes in Physical and Chemical Properties of Soil Charcoal Support Enhanced Landscape Mobility. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 3098-3107.	3.0	16
67	Quick burial at sea. Nature, 2007, 450, 360-361.	27.8	15
68	Water cost savings from soil biochar amendment: A spatial analysis. GCB Bioenergy, 2021, 13, 133-142.	5.6	13
69	Nutrient Transport in Soils Amended with Biochar: A Transient Model with Two Stationary Phases and Intraparticle Diffusion. Industrial & Engineering Chemistry Research, 2015, 54, 4123-4135.	3.7	12
70	First interactions with the hydrologic cycle determine pyrogenic carbon's fate in the Earth system. Earth Surface Processes and Landforms, 2020, 45, 2394-2398.	2.5	12
71	Controls on the oxidative ratio of net primary production in agricultural ecosystems. Biogeochemistry, 2014, 121, 581-594.	3.5	11
72	A Split Methyl Halide Transferase AND Gate That Reports by Synthesizing an Indicator Gas. ACS Synthetic Biology, 2020, 9, 3104-3113.	3.8	10

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73	Seasonal dynamics of CO2 profiles across a soil chronosequence, Santa Cruz, California. Applied Geochemistry, 2011, 26, S132-S134.	3.0	9
74	Plantâ€“fungal symbiosis affects litter decomposition during primary succession. Oikos, 2017, 126, 801-811.	2.7	9
75	Regional background O₃ and NO_{<i>x</i>} in the Houstonâ€“Galvestonâ€“Brazoria (TX) region: a decadal-scale perspective. Atmospheric Chemistry and Physics, 2017, 17, 6565-6581.	4.9	8
76	Plant species, not climate, controls aboveground biomass O₂:CO₂ exchange ratios in deciduous and coniferous ecosystems. Journal of Geophysical Research G: Biogeosciences, 2017, 122, 2314-2324.	3.0	7
77	Nondestructive Chemical Sensing within Bulk Soil Using 1000 Biosensors Per Gram of Matrix. ACS Synthetic Biology, 2022, 11, 2372-2383.	3.8	7
78	Organic geochemical approaches to identifying formation processes for middens and charcoal-rich features. Organic Geochemistry, 2016, 94, 1-11.	1.8	4
79	Interdisciplinary Intercomparison of Black Carbon Analysis in Soil and Sediment. Eos, 2007, 88, 344.	0.1	3
80	The Apparent Respiratory Quotient of Soils and Tree Stems and the Processes That Control It. Journal of Geophysical Research G: Biogeosciences, 2022, 127, .	3.0	3
81	A zero-dimensional view of atmospheric degradation of levoglucosan (LEVCHEM_v1) using numerical chamber simulations. Geoscientific Model Development, 2021, 14, 907-921.	3.6	1