Annette Cowie

List of Publications by Year
in descending order

135 papers	13,028 citations	41344 49 h-index	23533 111 g-index
142 all docs	142 docs citations	142 times ranked	12715 citing authors

#	Article	IF	Citations
1	Modelling and mapping soil organic carbon stocks under future climate change in south-eastern Australia. Geoderma, 2022, 405, 115442.	5.1	40
2	Extreme fire weather is the major driver of severe bushfires in southeast Australia. Science Bulletin, 2022, 67, 655-664.	9.0	16
3	Digital mapping of soil carbon sequestration potential with enhanced vegetation cover over New South Wales, Australia. Soil Use and Management, 2022, 38, 229-247.	4.9	8
4	Consequential Life Cycle Assessment: What, Why and How?. , 2022, , .		0
5	Land use for bioenergy: Synergies and trade-offs between sustainable development goals. Renewable and Sustainable Energy Reviews, 2022, 161, 112409.	16.4	38
6	What should we eat? Realistic solutions for reducing our food footprint. Sustainable Production and Consumption, 2022, 32, 541-549.	11.0	2
7	Soil carbon market-based instrument pilot â€" the sequestration of soil organic carbon for the purpose of obtaining carbon credits. Soil Research, 2021, 59, 12.	1.1	21
8	Developing a multispecies weed competition model for high-yielding cotton. Weed Technology, 2021, 35, 202-209.	0.9	1
9	Net-zero emissions targets are vague: three ways to fix. Nature, 2021, 591, 365-368.	27.8	240
10	Co-benefits and trade-offs of climate change mitigation actions and the Sustainable Development Goals. Sustainable Production and Consumption, 2021, 26, 805-813.	11.0	53
11	Pyrolysis of invasive woody vegetation for energy and biochar has climate change mitigation potential. Science of the Total Environment, 2021, 770, 145278.	8.0	10
12	Applying a scienceâ€based systems perspective to dispel misconceptions about climate effects of forest bioenergy. GCB Bioenergy, 2021, 13, 1210-1231.	5.6	49
13	The modelling approach determines the carbon footprint of biofuels: The role of LCA in informing decision makers in government and industry. Cleaner Environmental Systems, 2021, 2, 100027.	4.2	17
14	Bioenergy for climate change mitigation: Scale and sustainability. GCB Bioenergy, 2021, 13, 1346-1371.	5.6	43
15	How biochar works, and when it doesn't: A review of mechanisms controlling soil and plant responses to biochar. GCB Bioenergy, 2021, 13, 1731-1764.	5.6	286
16	Restoring Degraded Lands. Annual Review of Environment and Resources, 2021, 46, 569-599.	13.4	26
17	Carbon myopia: The urgent need for integrated social, economic and environmental action in the livestock sector. Global Change Biology, 2021, 27, 5726-5761.	9.5	73
18	How necessary and feasible are reductions of methane emissions from livestock to support stringent temperature goals?. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20200452.	3.4	49

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19	Meta-analysis quantifying the potential of dietary additives and rumen modifiers for methane mitigation in ruminant production systems. Animal Nutrition, 2021, 7, 1219-1230.	5.1	36
20	Biochar in climate change mitigation. Nature Geoscience, 2021, 14, 883-892.	12.9	263
21	Which practices coâ€deliver food security, climate change mitigation and adaptation, and combat land degradation and desertification?. Global Change Biology, 2020, 26, 1532-1575.	9.5	164
22	Determining the critical period for broadleaf weed control in high-yielding cotton using mungbean as a mimic weed. Weed Technology, 2020, 34, 689-698.	0.9	3
23	Biophysical and socioeconomic factors influencing soil carbon stocks: a global assessment. Mitigation and Adaptation Strategies for Global Change, 2020, 25, 1129-1148.	2.1	17
24	Sources of uncertainty for wheat yield projections under future climate are site-specific. Nature Food, 2020, 1, 720-728.	14.0	51
25	Determining the critical period for grass control in high-yielding cotton using Japanese millet as a mimic weed. Weed Technology, 2020, 34, 292-300.	0.9	5
26	Climate change mitigation for Australian wheat production. Science of the Total Environment, 2020, 725, 138260.	8.0	9
27	Better estimates of soil carbon from geographical data: a revised global approach. Mitigation and Adaptation Strategies for Global Change, 2019, 24, 355-372.	2.1	26
28	Determining the critical period for weed control in high-yielding cotton using common sunflower as a mimic weed. Weed Technology, 2019, 33, 800-807.	0.9	11
29	Balancing nutrient stoichiometry facilitates the fate of wheat residueâ€'carbon in physically defined soil organic matter fractions. Geoderma, 2019, 354, 113883.	5.1	35
30	The value of using mimic weeds in competition experiments in irrigated cotton. Weed Technology, 2019, 33, 601-609.	0.9	5
31	Promoting co-benefits of carbon farming in Oceania: Applying and adapting approaches and metrics from existing market-based schemes. Ecosystem Services, 2019, 39, 100982.	5.4	18
32	Assessing resilience to underpin implementation of Land Degradation Neutrality: A case study in the rangelands of western New South Wales, Australia. Environmental Science and Policy, 2019, 100, 37-46.	4.9	26
33	Tillage history and crop residue input enhanced native carbon mineralisation and nutrient supply in contrasting soils under long-term farming systems. Soil and Tillage Research, 2019, 193, 71-84.	5.6	38
34	Quantifying the climate effects of forest-based bioenergy. , 2019, , 399-418.		9
35	Quantifying the climate change effects of bioenergy systems: Comparison of 15 impact assessment methods. GCB Bioenergy, 2019, 11, 727-743.	5.6	43
36	Improving understanding of carbon storage in wood in landfills: Evidence from reactor studies. Waste Management, 2019, 85, 341-350.	7.4	7

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37	Mapping future soil carbon change and its uncertainty in croplands using simple surrogates of a complex farming system model. Geoderma, 2019, 337, 311-321.	5.1	16
38	Life cycle inventories for the Australian grains sector. Crop and Pasture Science, 2019, 70, 575.	1.5	6
39	High resolution mapping of soil organic carbon stocks using remote sensing variables in the semi-arid rangelands of eastern Australia. Science of the Total Environment, 2018, 630, 367-378.	8.0	139
40	Estimating soil organic carbon stocks using different modelling techniques in the semi-arid rangelands of eastern Australia. Ecological Indicators, 2018, 88, 425-438.	6.3	114
41	Agricultural management practices impacted carbon and nutrient concentrations in soil aggregates, with minimal influence on aggregate stability and total carbon and nutrient stocks in contrasting soils. Soil and Tillage Research, 2018, 178, 209-223.	5.6	118
42	The accumulation of rhizodeposits in organo-mineral fractions promoted biochar-induced negative priming of native soil organic carbon in Ferralsol. Soil Biology and Biochemistry, 2018, 118, 91-96.	8.8	23
43	Quantifying the climate effects of bioenergy â€" Choice of reference system. Renewable and Sustainable Energy Reviews, 2018, 81, 2271-2280.	16.4	54
44	Carbon and nutrient mineralisation dynamics in aggregate-size classes from different tillage systems after input of canola and wheat residues. Soil Biology and Biochemistry, 2018, 116, 22-38.	8.8	88
45	Impact of agricultural management practices on the nutrient supply potential of soil organic matter under long-term farming systems. Soil and Tillage Research, 2018, 175, 71-81.	5.6	80
46	The decay of engineered wood products and paper excavated from landfills in Australia. Waste Management, 2018, 74, 312-322.	7.4	26
47	Land in balance: The scientific conceptual framework for Land Degradation Neutrality. Environmental Science and Policy, 2018, 79, 25-35.	4.9	403
48	Carbon dynamics of paper, engineered wood products and bamboo in landfills: evidence from reactor studies. Carbon Balance and Management, 2018, 13, 27.	3.2	3
49	Soil health and climate change: a critical nexus. Burleigh Dodds Series in Agricultural Science, 2018, , 39-68.	0.2	2
50	Biochar lowers ammonia emission and improves nitrogen retention in poultry litter composting. Waste Management, 2017, 61, 129-137.	7.4	155
51	Climate change impacts on rainfed cropping production systems in the tropics and the case of smallholder farms in North-west Cambodia. Environment, Development and Sustainability, 2017, 19, 1631-1647.	5.0	12
52	Effects of Different Biochars on Pinus elliottii Growth, N Use Efficiency, Soil N 2 O and CH 4 Emissions and C Storage in a Subtropical Area of China. Pedosphere, 2017, 27, 248-261.	4.0	42
53	Biochar built soil carbon over a decade by stabilizing rhizodeposits. Nature Climate Change, 2017, 7, 371-376.	18.8	232
54	Status and prospects for renewable energy using wood pellets from the southeastern United States. GCB Bioenergy, 2017, 9, 1296-1305.	5.6	52

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55	Biochar research activities and their relation to development and environmental quality. A meta-analysis. Agronomy for Sustainable Development, 2017, 37, 1.	5.3	17
56	Climate-change and health effects of using rice husk for biochar-compost: Comparing three pyrolysis systems. Journal of Cleaner Production, 2017, 162, 260-272.	9.3	47
57	Carbon balances of bioenergy systems using biomass from forests managed with long rotations: bridging the gap between stand and landscape assessments. GCB Bioenergy, 2017, 9, 1238-1251.	5.6	24
58	Biochar increases nitrogen retention and lowers greenhouse gas emissions when added to composting poultry litter. Waste Management, 2017, 61, 138-149.	7.4	119
59	Biochar addition in rice farming systems: Economic and energy benefits. Energy, 2017, 140, 415-425.	8.8	43
60	Temperature sensitivity and priming of organic matter with different stabilities in a Vertisol with aged biochar. Soil Biology and Biochemistry, 2017, 115, 346-356.	8.8	44
61	Tillage and nitrogen fertilization enhanced belowground carbon allocation and plant nitrogen uptake in a semi-arid canola cropâ€“soil system. Scientific Reports, 2017, 7, 10726.	3.3	25
62	Land Degradation Neutrality: Concept development, practical applications and assessment. Journal of Environmental Management, 2017, 195, 16-24.	7.8	85
63	Consequential Life Cycle Assessment: What, How, and Why?. , 2017, , 277-284.		27
64	Soil carbon and inferred net primary production in high- and low-intensity grazing systems on the New England Tableland, eastern Australia. Soil Research, 2016, 54, 824.	1.1	5
65	Quantifying the Greenhouse Gas Reduction Benefits of Utilising Straw Biochar and Enriched Biochar. Energy Procedia, 2016, 97, 254-261.	1.8	26
66	A global survey of stakeholder views and experiences for systems needed to effectively and efficiently govern sustainability of bioenergy. Wiley Interdisciplinary Reviews: Energy and Environment, 2016, 5, 89-118.	4.1	15
67	The climate effect of increased forest bioenergy use in Sweden: evaluation at different spatial and temporal scales. Wiley Interdisciplinary Reviews: Energy and Environment, 2016, 5, 351-369.	4.1	35
68	Allocation of greenhouse gas production between wool and meat in the life cycle assessment of Australian sheep production. International Journal of Life Cycle Assessment, 2016, 21, 820-830.	4.7	23
69	Climate change adaptation options in rainfed upland cropping systems in the wet tropics: A case study of smallholder farms in North-West Cambodia. Journal of Environmental Management, 2016, 182, 238-246.	7.8	22
70	Policy institutions and forest carbon. Nature Climate Change, 2016, 6, 805-805.	18.8	1
71	Modelling soil organic carbon 2. Changes under a range of cropping and grazing farming systems in eastern Australia. Geoderma, 2016, 265, 164-175.	5.1	24
72	Biophysical and economic limits to negative CO2 emissions. Nature Climate Change, 2016, 6, 42-50.	18.8	973

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73	On the validity of natural regeneration in determination of land-use baseline. International Journal of Life Cycle Assessment, 2016, 21, 448-450.	4.7	7
74	Biochar use for climate-change mitigation in rice cropping systems. Journal of Cleaner Production, 2016, 116, 61-70.	9.3	73
75	Climate and soil properties limit the positive effects of land use reversion on carbon storage in Eastern Australia. Scientific Reports, 2015, 5, 17866.	3.3	52
76	The decay of wood in landfills in contrasting climates in Australia. Waste Management, 2015, 41, 101-110.	7.4	32
77	Enhanced biological N2 fixation and yield of faba bean (Vicia faba L.) in an acid soil following biochar addition: dissection of causal mechanisms. Plant and Soil, 2015, 395, 7-20.	3.7	97
78	Attributional life cycle assessment: is a land-use baseline necessary?. International Journal of Life Cycle Assessment, 2015, 20, 1364-1375.	4.7	53
79	Plant-biochar interactions drive the negative priming of soil organic carbon in an annual ryegrass field system. Soil Biology and Biochemistry, 2015, 90, 111-121.	8.8	75
80	Residue incorporation mitigates tillageâ€induced loss of soil carbon in laboratory microcosms. Soil Use and Management, 2014, 30, 328-336.	4.9	9
81	The Use of Life Cycle Assessment in the Support of Robust (Climate) Policy Making: Comment on â€œUsing Attributional Life Cycle Assessment to Estimate Climateâ€Change Mitigation â€¦â€• Journal of Industrial Ecology, 2014, 18, 461-463.	5.5	57
82	Oil mallee biochar improves soil structural propertiesâ€"A study with x-ray micro-CT. Agriculture, Ecosystems and Environment, 2014, 191, 142-149.	5.3	94
83	The initial lignin:nitrogen ratio of litter from above and below ground sources strongly and negatively influenced decay rates of slowly decomposing litter carbon pools. Soil Biology and Biochemistry, 2014, 77, 268-275.	8.8	52
84	The relationships between land uses, soil management practices, and soil carbon fractions in South Eastern Australia. Agriculture, Ecosystems and Environment, 2014, 197, 41-52.	5.3	52
85	Approaches to greenhouse gas accounting methods for biomass carbon. Biomass and Bioenergy, 2014, 60, 18-31.	5.7	18
86	Long-term influence of biochar on native organic carbon mineralisation in a low-carbon clayey soil. Scientific Reports, 2014, 4, 3687.	3.3	244
87	Key issues and options in accounting for carbon sequestration and temporary storage in life cycle assessment and carbon footprinting. International Journal of Life Cycle Assessment, 2013, 18, 230-240.	4.7	257
88	Pyrolysing poultry litter reduces N2O and CO2 fluxes. Science of the Total Environment, 2013, 465, 279-287.	8.0	57
89	Offsetting methane emissions â€" An alternative to emission equivalence metrics. International Journal of Greenhouse Gas Control, 2013, 12, 419-429.	4.6	34
90	Bioenergy and land use changeâ€"state of the art. Wiley Interdisciplinary Reviews: Energy and Environment, 2013, 2, 282-303.	4.1	68

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91	Soil carbon is only higher in the surface soil under minimum tillage in Vertosols and Chromosols of New South Wales North-West Slopes and Plains, Australia. Soil Research, 2013, 51, 680.	1.1	12
92	Management swing potential for bioenergy crops. GCB Bioenergy, 2013, 5, 623-638.	5.6	94
93	Impact of carbon farming practices on soil carbon in northern New South Wales. Soil Research, 2013, 51, 707.	1.1	51
94	The potential for sown tropical perennial grass pastures to improve soil organic carbon in the North-West Slopes and Plains of New South Wales. Soil Research, 2013, 51, 726.	1.1	12
95	A comment to â€œLargeâ€scale bioenergy from additional harvest of forest biomass is neither sustainable nor greenhouse gas neutralâ€ Important insights beyond greenhouse gas accounting. GCB Bioenergy, 2012, 4, 617-619.	5.6	22
96	Biochar Carbon Stability in a Clayey Soil As a Function of Feedstock and Pyrolysis Temperature. Environmental Science & Technology, 2012, 46, 11770-11778.	10.0	456
97	Biochar as a Geoengineering Climate Solution: Hazard Identification and Risk Management. Critical Reviews in Environmental Science and Technology, 2012, 42, 225-250.	12.8	47
98	Is sustainability certification for biochar the answer to environmental risks?. Pesquisa Agropecuaria Brasileira, 2012, 47, 637-648.	0.9	20
99	Greenhouse Gas Balance of Native Forests in New South Wales, Australia. Forests, 2012, 3, 653-683.	2.1	28
100	Greenhouse gas accounting for inventory, emissions trading and life cycle assessment in the land-based sector: a review. Crop and Pasture Science, 2012, 63, 284.	1.5	31
101	Towards an integrated global framework to assess the impacts of land use and management change on soil carbon: current capability and future vision. Global Change Biology, 2012, 18, 2089-2101.	9.5	150
102	Bioenergy Systems, Soil Health and Climate Change. Soil Biology, 2011, , 369-397.	0.8	4
103	Towards sustainable land management in the drylands: Scientific connections in monitoring and assessing dryland degradation, climate change and biodiversity. Land Degradation and Development, 2011, 22, 248-260.	3.9	105
104	Biochar in Soil for Climate Change Mitigation and Adaptation. Soil Biology, 2011, , 345-368.	0.8	19
105	Tillage and Crop Stubble Management and Soil Health in a Changing Climate. Soil Biology, 2011, , 181-206.	0.8	2
106	Effects of biochar from slow pyrolysis of papermill waste on agronomic performance and soil fertility. Plant and Soil, 2010, 327, 235-246.	3.7	1,376
107	Influence of Biochars on Nitrous Oxide Emission and Nitrogen Leaching from Two Contrasting Soils. Journal of Environmental Quality, 2010, 39, 1224-1235.	2.0	630
108	Bioenergy: Counting on Incentives. Science, 2010, 327, 1199-1200.	12.6	14

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109	An investigation into the reactions of biochar in soil. Soil Research, 2010, 48, 501.	1.1	840
110	Characterisation and evaluation of biochars for their application as a soil amendment. Soil Research, 2010, 48, 516.	1.1	763
111	Nitrous oxide and methane emissions from soil are reduced following afforestation of pasture lands in three contrasting climatic zones. Soil Research, 2009, 47, 443.	1.1	38
112	Energy- and greenhouse gas-based LCA of biofuel and bioenergy systems: Key issues, ranges and recommendations. Resources, Conservation and Recycling, 2009, 53, 434-447.	10.8	752
113	The decomposition of wood products in landfills in Sydney, Australia. Waste Management, 2008, 28, 2344-2354.	7.4	77
114	Carbon and nitrogen stocks in a native pasture and an adjacent 16-year-old Pinus radiata D. Don. plantation in Australia. Agriculture, Ecosystems and Environment, 2008, 124, 205-218.	5.3	46
115	Assessing nitrogen fixation in mixed- and single-species plantations of Eucalyptus globulus and Acacia mearnsii. Tree Physiology, 2007, 27, 1319-1328.	3.1	69
116	Competition for the biomass resource: Greenhouse impacts and implications for renewable energy incentive schemes. Biomass and Bioenergy, 2007, 31, 601-607.	5.7	20
117	Potential synergies between existing multilateral environmental agreements in the implementation of land use, land-use change and forestry activities. Environmental Science and Policy, 2007, 10, 335-352.	4.9	65
118	Options for including all lands in a future greenhouse gas accounting framework. Environmental Science and Policy, 2007, 10, 306-321.	4.9	33
119	Stock changes or fluxes? Resolving terminological confusion in the debate on land-use change and forestry. Climate Policy, 2006, 6, 161-179.	5.1	16
120	Mixed-species plantations of Eucalyptus with nitrogen-fixing trees: A review. Forest Ecology and Management, 2006, 233, 211-230.	3.2	417
121	Carbon allocation in a mixed-species plantation of Eucalyptus globulus and Acacia mearnsii. Forest Ecology and Management, 2006, 233, 275-284.	3.2	96
122	Effects of Changing the Supply of Nitrogen and Phosphorus on Growth and Interactions between Eucalyptus globulus and Acacia mearnsiiin a Pot trial. Plant and Soil, 2006, 280, 267-277.	3.7	35
123	Does Soil Carbon Loss in Biomass Production Systems Negate the Greenhouse Benefits of Bioenergy?. Mitigation and Adaptation Strategies for Global Change, 2006, 11, 979-1002.	2.1	65
124	Stock changes or fluxes? Resolving terminological confusion in the debate on land-use change and forestry. Climate Policy, 2006, 6, 161-179.	5.1	7
125	Developing general allometric relationships for regional estimates of carbon sequestrationâ€"an example using Eucalyptus pilularis from seven contrasting sites. Forest Ecology and Management, 2005, 204, 115-129.	3.2	98
126	On the success and failure of mixed-species tree plantations: lessons learned from a model system of Eucalyptus globulus and Acacia mearnsii. Forest Ecology and Management, 2005, 209, 147-155.	3.2	124

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127	Nutrient cycling in a mixed-species plantation of Eucalyptus globulus and Acacia mearnsii. Canadian Journal of Forest Research, 2005, 35, 2942-2950.	1.7	77
128	A regional interpretation of rules and good practice for greenhouse accounting: northern Australian savanna systems. Australian Journal of Botany, 2005, 53, 589.	0.6	11
129	Giving Credit where Credit is Due. A Practical Method to Distinguish between Human and Natural Factors in Carbon Accounting. Climatic Change, 2004, 67, 417-436.	3.6	13
130	Effects of waterlogging on chickpeas I. Influence of timing of waterlogging. Plant and Soil, 1996, 183, 97-103.	3.7	22
131	Effects of waterlogging on chickpeas II. Possible causes of decreased tolerance of waterlogging at flowering. Plant and Soil, 1996, 183, 105-115.	3.7	11
132	Selection of balancing ions for nutritional studies in nutrient culture experiments. Plant and Soil, 1990, 124, 87-90.	3.7	1
133	Effect of soil nitrate on the growth and nodulation of winter crop legumes. Australian Journal of Experimental Agriculture, 1990, 30, 651.	1.0	12
134	Effect of soil nitrate on the growth and nodulation of lupins (Lupinus angustifolius and L. albus). Australian Journal of Experimental Agriculture, 1990, 30, 655.	1.0	3
135	Land sector impacts of early climate action. Nature Sustainability, 0, , .	23.7	1