Andrew J Wiltshire

List of Publications by Year
in descending order

85 papers	18,463 citations	53751 45 h-index	53190 85 g-index
88 all docs	88 docs citations	88 times ranked	23115 citing authors

#	ARTICLE	IF	CITATIONS
1	Global Carbon Budget 2020. Earth System Science Data, 2020, 12, 3269-3340.	3.7	1,477
2	Global Carbon Budget 2018. Earth System Science Data, 2018, 10, 2141-2194.	3.7	1,167
3	Global Carbon Budget 2019. Earth System Science Data, 2019, 11, 1783-1838.	3.7	1,159
4	Development and evaluation of an Earth-System model â€“ HadGEM2. Geoscientific Model Development, 2011, 4, 1051-1075.	1.3	1,141
5	The dominant role of semi-arid ecosystems in the trend and variability of the land CO ₂ sink. Science, 2015, 348, 895-899.	6.0	1,002
6	Global Carbon Budget 2016. Earth System Science Data, 2016, 8, 605-649.	3.7	905
7	The global methane budget 2000â€“2012. Earth System Science Data, 2016, 8, 697-751.	3.7	824
8	Global Carbon Budget 2017. Earth System Science Data, 2018, 10, 405-448.	3.7	801
9	The HadGEM2 family of Met Office Unified Model climate configurations. Geoscientific Model Development, 2011, 4, 723-757.	1.3	765
10	Implications of climate change for agricultural productivity in the early twenty-first century. Philosophical Transactions of the Royal Society B: Biological Sciences, 2010, 365, 2973-2989.	1.8	733
11	Global Carbon Budget 2021. Earth System Science Data, 2022, 14, 1917-2005.	3.7	663
12	Global Carbon Budget 2015. Earth System Science Data, 2015, 7, 349-396.	3.7	616
13	Global carbon budget 2014. Earth System Science Data, 2015, 7, 47-85.	3.7	463
14	Carbon residence time dominates uncertainty in terrestrial vegetation responses to future climate and atmospheric CO ₂. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3280-3285.	3.3	458
15	UKESM1: Description and Evaluation of the U.K. Earth System Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 4513-4558.	1.3	448
16	Spatiotemporal patterns of terrestrial gross primary production: A review. Reviews of Geophysics, 2015, 53, 785-818.	9.0	432
17	Slope, aspect and climate: Spatially explicit and implicit models of topographic microclimate in chalk grassland. Ecological Modelling, 2008, 216, 47-59.	1.2	406
18	Recent global decline of CO ₂ fertilization effects on vegetation photosynthesis. Science, 2020, 370, 1295-1300.	6.0	317

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19	Global carbon budget 2013. Earth System Science Data, 2014, 6, 235-263.	3.7	311
20	Deep instability of deforested tropical peatlands revealed by fluvial organic carbon fluxes. Nature, 2013, 493, 660-663.	13.7	270
21	Carbonâ€“concentration and carbonâ€“climate feedbacks in CMIP6 models and their comparison to CMIP5 models. Biogeosciences, 2020, 17, 4173-4222.	1.3	255
22	Widespread seasonal compensation effects of spring warming on northern plant productivity. Nature, 2018, 562, 110-114.	13.7	240
23	Climate change and the global pattern of moraine-dammed glacial lake outburst floods. Cryosphere, 2018, 12, 1195-1209.	1.5	219
24	Climate change impacts on global agriculture. Climatic Change, 2013, 120, 357-374.	1.7	214
25	Increased control of vegetation on global terrestrial energy fluxes. Nature Climate Change, 2020, 10, 356-362.	8.1	152
26	Effective radiative forcing and adjustments in CMIP6 models. Atmospheric Chemistry and Physics, 2020, 20, 9591-9618.	1.9	149
27	Land management: data availability and process understanding for global change studies. Global Change Biology, 2017, 23, 512-533.	4.2	142
28	Can Regional Climate Models Represent the Indian Monsoon?. Journal of Hydrometeorology, 2011, 12, 849-868.	0.7	138
29	Downscaled climate change projections with uncertainty assessment over India using a high resolution multi-model approach. Science of the Total Environment, 2013, 468-469, S18-S30.	3.9	138
30	Predicting spatial and temporal patterns of budâ€burst and spring frost risk in northâ€west Europe: the implications of local adaptation to climate. Global Change Biology, 2010, 16, 1503-1514.	4.2	125
31	Adaptation to changing water resources in the Ganges basin, northern India. Environmental Science and Policy, 2011, 14, 758-769.	2.4	122
32	Reconciling global-model estimates and country reporting of anthropogenic forest CO2 sinks. Nature Climate Change, 2018, 8, 914-920.	8.1	101
33	Is there warming in the pipeline? A multi-model analysis of the Zero Emissions Commitment from CO₂. Biogeosciences, 2020, 17, 2987-3016.	1.3	87
34	Snowmelt contributions to discharge of the Ganges. Science of the Total Environment, 2013, 468-469, S93-S101.	3.9	86
35	Variability and quasi-decadal changes in the methane budget over the period 2000â€“2012. Atmospheric Chemistry and Physics, 2017, 17, 11135-11161.	1.9	85
36	Implementation of U.K. Earth System Models for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001946.	1.3	83

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37	Food security outcomes under a changing climate: impacts of mitigation and adaptation on vulnerability to food insecurity. Climatic Change, 2018, 147, 327-341.	1.7	78
38	More frequent occurrence of westerly disturbances in Karakoram up to 2100. Science of the Total Environment, 2013, 468-469, S31-S35.	3.9	76
39	Global glacier volume projections under high-end climate change scenarios. Cryosphere, 2019, 13, 325-350.	1.5	66
40	Impact of the 2015/2016 El NiÃ±o on the terrestrial carbon cycle constrained by bottom-up and top-down approaches. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170304.	1.8	63
41	Regional projections of North Indian climate for adaptation studies. Science of the Total Environment, 2013, 468-469, S4-S17.	3.9	61
42	Land-use and land-cover change carbon emissions between 1901 and 2012 constrained by biomass observations. Biogeosciences, 2017, 14, 5053-5067.	1.3	58
43	Effects of Irrigation in India on the Atmospheric Water Budget. Journal of Hydrometeorology, 2014, 15, 1028-1050.	0.7	55
44	Nonlinear regional warming with increasing CO2Âconcentrations. Nature Climate Change, 2015, 5, 138-142.	8.1	55
45	Evaluation of climateâ€related carbon turnover processes in global vegetation models for boreal and temperate forests. Global Change Biology, 2017, 23, 3076-3091.	4.2	52
46	Vegetation distribution and terrestrial carbon cycle in a carbon cycle configuration of JULES4.6 with new plant functional types. Geoscientific Model Development, 2018, 11, 2857-2873.	1.3	49
47	Biophysics and vegetation cover change: a process-based evaluation framework for confronting land surface models with satellite observations. Earth System Science Data, 2018, 10, 1265-1279.	3.7	46
48	JULES-crop: a parametrisation of crops in the Joint UK Land Environment Simulator. Geoscientific Model Development, 2015, 8, 1139-1155.	1.3	45
49	Climate and land use change impacts on global terrestrial ecosystems and river flows in the HadGEM2-ES Earth system model using the representative concentration pathways. Biogeosciences, 2015, 12, 1317-1338.	1.3	44
50	Representation of fire, land-use change and vegetation dynamics in the Joint UK Land Environment Simulator vn4.9 (JULES). Geoscientific Model Development, 2019, 12, 179-193.	1.3	41
51	The impact of structural error on parameter constraint in a climate model. Earth System Dynamics, 2016, 7, 917-935.	2.7	39
52	The terrestrial carbon budget of South and Southeast Asia. Environmental Research Letters, 2016, 11, 105006.	2.2	39
53	The importance of population, climate change and CO2 plant physiological forcing in determining future global water stress. Global Environmental Change, 2013, 23, 1083-1097.	3.6	38
54	Climateâ€Driven Variability and Trends in Plant Productivity Over Recent Decades Based on Three Global Products. Global Biogeochemical Cycles, 2020, 34, e2020GB006613.	1.9	36

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55	A retrospective analysis of pan Arctic permafrost using the JULES land surface model. Climate Dynamics, 2013, 41, 1025-1038.	1.7	35
56	Terrestrial nitrogen cycling in Earth system models revisited. New Phytologist, 2016, 210, 1165-1168.	3.5	35
57	Soil carbon sequestration simulated in CMIP6-LUMIP models: implications for climatic mitigation. Environmental Research Letters, 2020, 15, 124061.	2.2	35
58	Validation of River Flows in HadGEM1 and HadCM3 with the TRIP River Flow Model. Journal of Hydrometeorology, 2011, 12, 1157-1180.	0.7	33
59	A multi-data assessment of land use and land cover emissions from Brazil during 2000â€“2019. Environmental Research Letters, 2021, 16, 074004.	2.2	33
60	Plant Regrowth as a Driver of Recent Enhancement of Terrestrial CO₂ Uptake. Geophysical Research Letters, 2018, 45, 4820-4830.	1.5	32
61	JULES-CN: a coupled terrestrial carbonâ€“nitrogen scheme (JULES vn5.1). Geoscientific Model Development, 2021, 14, 2161-2186.	1.3	32
62	Regional carbon fluxes from land use and land cover change in Asia, 1980â€“2009. Environmental Research Letters, 2016, 11, 074011.	2.2	31
63	Modelled land use and land cover change emissions â€“ a spatio-temporal comparison of different approaches. Earth System Dynamics, 2021, 12, 635-670.	2.7	29
64	Assessment of pre-industrial to present-day anthropogenic climate forcing in UKESM1. Atmospheric Chemistry and Physics, 2021, 21, 1211-1243.	1.9	29
65	Land use change and El NiÃ±o-Southern Oscillation drive decadal carbon balance shifts in Southeast Asia. Nature Communications, 2018, 9, 1154.	5.8	28
66	Role of CO₂, climate and land use in regulating the seasonal amplitude increase of carbon fluxes in terrestrial ecosystems: a multimodel analysis. Biogeosciences, 2016, 13, 5121-5137.	1.3	26
67	Spinâ€up of UK Earth System Model 1 (UKESM1) for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001933.	1.3	25
68	The carbon cycle in Mexico: past, present and future of C stocks and fluxes. Biogeosciences, 2016, 13, 223-238.	1.3	24
69	Evaluation of JULES-crop performance against site observations of irrigated maize from Mead, Nebraska. Geoscientific Model Development, 2017, 10, 1291-1320.	1.3	24
70	The Impact of Climate, CO2 and Population on Regional Food and Water Resources in the 2050s. Sustainability, 2013, 5, 2129-2151.	1.6	23
71	Validation of an ensemble modelling system for climate projections for the northwest European shelf seas. Progress in Oceanography, 2015, 138, 211-237.	1.5	22
72	Evaluating the Interplay Between Biophysical Processes and Leaf Area Changes in Land Surface Models. Journal of Advances in Modeling Earth Systems, 2018, 10, 1102-1126.	1.3	22

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73	A successful prediction of the record CO ₂ rise associated with the 2015/2016 El NiÃ±o. Philosophical Transactions of the Royal Society B: Biological Sciences, 2018, 373, 20170301.	1.8	22
74	Evaluating Global Land Surface Models in CMIP5: Analysis of Ecosystem Water- and Light-Use Efficiencies and Rainfall Partitioning. Journal of Climate, 2018, 31, 2995-3008.	1.2	20
75	Plant phenology evaluation of CRESCENDO land surface models â€" Part 1: Start and end of the growing season. Biogeosciences, 2021, 18, 2405-2428.	1.3	19
76	Response to Comments on â€œRecent global decline of CO ₂ fertilization effects on vegetation photosynthesisâ€• Science, 2021, 373, eabg7484.	6.0	15
77	Compensatory climate effects link trends in global runoff to rising atmospheric CO₂ concentration. Environmental Research Letters, 2019, 14, 124075.	2.2	14
78	Robust Ecosystem Demography (RED version 1.0): a parsimonious approach to modelling vegetation dynamics in Earth system models. Geoscientific Model Development, 2020, 13, 4067-4089.	1.3	14
79	CO₂ fertilization of crops offsets yield losses due to future surface ozone damage and climate change. Environmental Research Letters, 2022, 17, 074007.	2.2	12
80	Skillful seasonal prediction of key carbon cycle components: NPP and fire risk. Environmental Research Communications, 2020, 2, 055002.	0.9	9
81	An alert system for Seasonal Fire probability forecast for South American Protected Areas. Climate Resilience and Sustainability, 2022, 1, .	0.9	9
82	Understanding the role of landâ€use emissions in achieving the Brazilian Nationally Determined Contribution to mitigate climate change. Climate Resilience and Sustainability, 2022, 1, .	0.9	9
83	Description and Evaluation of an Emissionâ€Driven and Fully Coupled Methane Cycle in UKESM1. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	9
84	Are Landâ€Use Change Emissions in Southeast Asia Decreasing or Increasing?. Global Biogeochemical Cycles, 2022, 36, .	1.9	7
85	Nitrogen cycle impacts on CO₂ fertilisation and climate forcing of land carbon stores. Environmental Research Letters, 2022, 17, 044072.	2.2	6