Alex C Ruane

List of Publications by Year
in descending order

72 papers	13,207 citations	66315 42 h-index	82499 72 g-index
88 all docs	88 docs citations	88 times ranked	11757 citing authors

#	Article	IF	Citations
1	Temperature increase reduces global yields of major crops in four independent estimates. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9326-9331.	3.3	1,708
2	Assessing agricultural risks of climate change in the 21st century in a global gridded crop model intercomparison. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3268-3273.	3.3	1,649
3	Rising temperatures reduce global wheatÂproduction. Nature Climate Change, 2015, 5, 143-147.	8.1	1,544
4	Uncertainty in simulating wheat yields under climate change. Nature Climate Change, 2013, 3, 827-832.	8.1	1,021
5	Constraints and potentials of future irrigation water availability on agricultural production under climate change. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3239-3244.	3.3	795
6	How do various maize crop models vary in their responses to climate change factors?. Global Change Biology, 2014, 20, 2301-2320.	4.2	525
7	Taking climate model evaluation to the next level. Nature Climate Change, 2019, 9, 102-110.	8.1	407
8	Multimodel ensembles of wheat growth: many models are better than one. Global Change Biology, 2015, 21, 911-925.	4.2	387
9	Similar estimates of temperature impacts on global wheat yield by three independent methods. Nature Climate Change, 2016, 6, 1130-1136.	8.1	352
10	Uncertainties in predicting rice yield by current crop models under a wide range of climatic conditions. Global Change Biology, 2015, 21, 1328-1341.	4.2	339
11	Climate change impact and adaptation for wheat protein. Global Change Biology, 2019, 25, 155-173.	4.2	312
12	Climate forcing datasets for agricultural modeling: Merged products for gap-filling and historical climate series estimation. Agricultural and Forest Meteorology, 2015, 200, 233-248.	1.9	299
13	Understanding and managing connected extreme events. Nature Climate Change, 2020, 10, 611-621.	8.1	273
14	Climate impacts on global agriculture emerge earlier in new generation of climate and crop models. Nature Food, 2021, 2, 873-885.	6.2	263
15	Diverging importance of drought stress for maize and winter wheat in Europe. Nature Communications, 2018, 9, 4249.	5.8	230
16	Global gridded crop model evaluation: benchmarking, skills, deficiencies and implications. Geoscientific Model Development, 2017, 10, 1403-1422.	1.3	213
17	The Global Gridded Crop Model Intercomparison: data and modeling protocols for Phase 1 (v1.0). Geoscientific Model Development, 2015, 8, 261-277.	1.3	190
18	Regional disparities in the beneficial effects of rising CO_2 concentrations on crop waterÂproductivity. Nature Climate Change, 2016, 6, 786-790.	8.1	190

#	Article	IF	Citations
19	The uncertainty of crop yield projections is reduced by improved temperature response functions. Nature Plants, 2017, 3, 17102.	4.7	170
20	Multisectoral climate impact hotspots in a warming world. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 3233-3238.	3.3	149
21	Crop model improvement reduces the uncertainty of the response to temperature of multi-model ensembles. Field Crops Research, 2017, 202, 5-20.	2.3	109
22	Global wheat production with 1.5 and 2.0Â°C above preâ€industrial warming. Global Change Biology, 2019, 25, 1428-1444.	4.2	107
23	Climate change impact uncertainties for maize in Panama: Farm information, climate projections, and yield sensitivities. Agricultural and Forest Meteorology, 2013, 170, 132-145.	1.9	91
24	A potato model intercomparison across varying climates and productivity levels. Global Change Biology, 2017, 23, 1258-1281.	4.2	90
25	Selection of a representative subset of global climate models that captures the profile of regional changes for integrated climate impacts assessment. Earth Perspectives -- Transdisciplinarity Enabled, 2017, 4, .	1.4	82
26	Can Egypt become self-sufficient in wheat?. Environmental Research Letters, 2018, 13, 094012.	2.2	76
27	Impacts of 1.5 versus 2.0â€‰Â°C on cereal yields in the West African Sudan Savanna. Environmental Research Letters, 2018, 13, 034014.	2.2	70
28	How accurately do maize crop models simulate the interactions of atmospheric CO2 concentration levels with limited water supply on water use and yield?. European Journal of Agronomy, 2018, 100, 67-75.	1.9	68
29	Lessons from climate modeling on the design and use of ensembles for crop modeling. Climatic Change, 2016, 139, 551-564.	1.7	66
30	Spatial and temporal uncertainty of crop yield aggregations. European Journal of Agronomy, 2017, 88, 10-21.	1.9	63
31	Large potential for crop production adaptation depends on available future varieties. Global Change Biology, 2021, 27, 3870-3882.	4.2	62
32	Modelling climate change impacts on maize yields under low nitrogen input conditions in subâ€Saharan Africa. Global Change Biology, 2020, 26, 5942-5964.	4.2	60
33	The Global Gridded Crop Model Intercomparison phase 1 simulation dataset. Scientific Data, 2019, 6, 50.	2.4	57
34	An AgMIP framework for improved agricultural representation in integrated assessment models. Environmental Research Letters, 2017, 12, 125003.	2.2	54
35	Representing agriculture in <scp>E</scp>arth <scp>S</scp>ystem <scp>M</scp>odels: Approaches and priorities for development. Journal of Advances in Modeling Earth Systems, 2017, 9, 2230-2265.	1.3	54
36	Exploring uncertainties in global crop yield projections in a large ensemble of crop models and CMIP5 and CMIP6 climate scenarios. Environmental Research Letters, 2021, 16, 034040.	2.2	53

#	Article	IF	Citations
37	Multi-wheat-model ensemble responses to interannual climate variability. Environmental Modelling and Software, 2016, 81, 86-101.	1.9	50
38	Biophysical and economic implications for agriculture of +1.5Â° and +2.0Â°C global warming using AgMIP Coordinated Global and Regional Assessments. Climate Research, 2018, 76, 17-39.	0.4	49
39	Carbonâ€"Temperatureâ€"Water change analysis for peanut production under climate change: a prototype for the <scp>AgMIP</scp> Coordinated Climateâ€Crop Modeling Project (C3<scp>MP</scp>). Global Change Biology, 2014, 20, 394-407.	4.2	48
40	Coordinating AgMIP data and models across global and regional scales for 1.5Â°C and 2.0Â°C assessments. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20160455.	1.6	48
41	Uncertainty of wheat water use: Simulated patterns and sensitivity to temperature and CO2. Field Crops Research, 2016, 198, 80-92.	2.3	47
42	Classifying multi-model wheat yield impact response surfaces showing sensitivity to temperature and precipitation change. Agricultural Systems, 2018, 159, 209-224.	3.2	47
43	Integrating growth stage deficit irrigation into a process based crop model. Agricultural and Forest Meteorology, 2017, 243, 84-92.	1.9	42
44	Parameterization-induced uncertainties and impacts of crop management harmonization in a global gridded crop model ensemble. PLoS ONE, 2019, 14, e0221862.	1.1	42
45	Global patterns of crop yield stability under additional nutrient and water inputs. PLoS ONE, 2018, 13, e0198748.	1.1	40
46	Climate shifts within major agricultural seasons for +1.5 and +2.0 Â°C worlds: HAPPI projections and AgMIP modeling scenarios. Agricultural and Forest Meteorology, 2018, 259, 329-344.	1.9	39
47	Impacts of 1.5â€¯Â°C and 2.0â€¯Â°C global warming above pre-industrial on potential winter wheat production of China. European Journal of Agronomy, 2020, 120, 126149.	1.9	39
48	A framework for the cross-sectoral integration of multi-model impact projections: land use decisions under climate impacts uncertainties. Earth System Dynamics, 2015, 6, 447-460.	2.7	38
49	Global Response Patterns of Major Rainfed Crops to Adaptation by Maintaining Current Growing Periods and Irrigation. Earth's Future, 2019, 7, 1464-1480.	2.4	38
50	The GGCMI Phase 2 experiment: global gridded crop model simulations under uniform changes in CO₂, temperature, water, and nitrogen levels (protocol) Tj ETQq0 0 0 rg BT /Overlock 10 Tf 5	1.3	38
51	The Vulnerability, Impacts, Adaptation and Climate Services Advisory Board (VIACS AB v1.0) contribution to CMIP6. Geoscientific Model Development, 2016, 9, 3493-3515.	1.3	31
52	Integrated assessment of climate change impacts on crop productivity and income of commercial maize farms in northeast South Africa. Food Security, 2020, 12, 659-678.	2.4	29
53	Using reanalysis in crop monitoring and forecasting systems. Agricultural Systems, 2019, 168, 144-153.	3.2	28
54	Representing water scarcity in future agricultural assessments. Anthropocene, 2017, 18, 15-26.	1.6	27

#	Article	IF	Citations
55	Processing tomato production is expected to decrease by 2050 due to the projected increase in temperature. Nature Food, 2022, 3, 437-444.	6.2	27
56	Are soybean models ready for climate change food impact assessments?. European Journal of Agronomy, 2022, 135, 126482.	1.9	25
57	Agricultural breadbaskets shift poleward given adaptive farmer behavior under climate change. Global Change Biology, 2022, 28, 167-181.	4.2	23
58	Sensitivity of Maize Yield in Smallholder Systems to Climate Scenarios in Semi-Arid Regions of West Africa: Accounting for Variability in Farm Management Practices. Agronomy, 2019, 9, 639.	1.3	22
59	Climate change impacts and adaptation for dryland farming systems in Zimbabwe: a stakeholder-driven integrated multi-model assessment. Climatic Change, 2021, 168, 1.	1.7	22
60	The GGCMI PhaseÂ2 emulators: global gridded crop model responses to changes in CO₂, temperature, water, and nitrogen (version 1.0). Geoscientific Model Development, 2020, 13, 3995-4018.	1.3	19
61	A taxonomy-based approach to shed light on the babel of mathematical models for rice simulation. Environmental Modelling and Software, 2016, 85, 332-341.	1.9	18
62	Evaluating the Sensitivity of Agricultural Model Performance to Different Climate Inputs. Journal of Applied Meteorology and Climatology, 2016, 55, 579-594.	0.6	17
63	Strong regional influence of climatic forcing datasets on global crop model ensembles. Agricultural and Forest Meteorology, 2021, 300, 108313.	1.9	17
64	Hydrologic and Agricultural Earth Observations and Modeling for the Water-Food Nexus. Frontiers in Environmental Science, 2019, 7, .	1.5	16
65	Earth Observations and Integrative Models in Support of Food and Water Security. Remote Sensing in Earth Systems Sciences, 2019, 2, 18-38.	1.1	11
66	A crop yield change emulator for use in GCAM and similar models: Persephone v1.0. Geoscientific Model Development, 2019, 12, 1319-1350.	1.3	9
67	Sustainable Use of Groundwater May Dramatically Reduce Irrigated Production of Maize, Soybean, and Wheat. Earth's Future, 2022, 10, .	2.4	8
68	Methodology to assess the changing risk of yield failure due to heat and drought stress under climate change. Environmental Research Letters, 2021, 16, 104033.	2.2	6
69	Extreme lows of wheat production in Brazil. Environmental Research Letters, 2021, 16, 104025.	2.2	6
70	A New Approach to Evaluate and Reduce Uncertainty of Model-Based Biodiversity Projections for Conservation Policy Formulation. BioScience, 2021, 71, 1261-1273.	2.2	6
71	Recent Shrinkage and Fragmentation of Bluegrass Landscape in Kentucky. Remote Sensing, 2020, 12, 1815.	1.8	5
72	Climate Change Impacts on Agriculture. World Scientific Series in Grand Public Policy Challenges of the 21st Century, 2018, , 161-191.	0.3	4