A J Challinor

List of Publications by Year
in descending order

115 papers	15,020 citations	31949 53 h-index	20343 116 g-index
123 all docs	123 docs citations	123 times ranked	14643 citing authors

#	ARTICLE	IF	CITATIONS
1	Rising temperatures reduce global wheatÂproduction. Nature Climate Change, 2015, 5, 143-147.	8.1	1,544
2	A meta-analysis of crop yield under climate change and adaptation. Nature Climate Change, 2014, 4, 287-291.	8.1	1,492
3	Uncertainty in simulating wheat yields under climate change. Nature Climate Change, 2013, 3, 827-832.	8.1	1,021
4	Threats to an ecosystem service: pressures on pollinators. Frontiers in Ecology and the Environment, 2013, 11, 251-259.	1.9	980
5	Climate variability and vulnerability to climate change: a review. Global Change Biology, 2014, 20, 3313-3328.	4.2	698
6	Assessing the vulnerability of food crop systems in Africa to climate change. Climatic Change, 2007, 83, 381-399.	1.7	426
7	Multimodel ensembles of wheat growth: many models are better than one. Global Change Biology, 2015, 21, 911-925.	4.2	387
8	Options for support to agriculture and food security under climate change. Environmental Science and Policy, 2012, 15, 136-144.	2.4	354
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	Crops and climate change: progress, trends, and challenges in simulating impacts and informing adaptation. Journal of Experimental Botany, 2009, 60, 2775-2789.	2.4	319
11	Climate change impact and adaptation for wheat protein. Global Change Biology, 2019, 25, 155-173.	4.2	312
12	Agriculture and food systems in sub-Saharan Africa in a 4^{Â°}C+ world. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2011, 369, 117-136.	1.6	287
13	Impacts of El NiÃ±o Southern Oscillation on the global yields of major crops. Nature Communications, 2014, 5, 3712.	5.8	273
14	Design and optimisation of a large-area process-based model for annual crops. Agricultural and Forest Meteorology, 2004, 124, 99-120.	1.9	239
15	Translating climate forecasts into agricultural terms: advances and challenges. Climate Research, 2006, 33, 27-41.	0.4	219
16	Calibration and bias correction of climate projections for crop modelling: An idealised case study over Europe. Agricultural and Forest Meteorology, 2013, 170, 19-31.	1.9	216
17	Addressing uncertainty in adaptation planning for agriculture. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8357-8362.	3.3	212
18	African Climate Change: Taking the Shorter Route. Bulletin of the American Meteorological Society, 2006, 87, 1355-1366.	1.7	205

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19	Current warming will reduce yields unless maize breeding and seed systems adapt immediately. Nature Climate Change, 2016, 6, 954-958.	8.1	200
20	Timescales of transformational climate change adaptation in sub-Saharan African agriculture. Nature Climate Change, 2016, 6, 605-609.	8.1	199
21	Increasing influence of heat stress on French maize yields from the 1960s to the 2030s. Global Change Biology, 2013, 19, 937-947.	4.2	186
22	Increased crop failure due to climate change: assessing adaptation options using models and socio-economic data for wheat in China. Environmental Research Letters, 2010, 5, 034012.	2.2	180
23	Simulation of the impact of high temperature stress on annual crop yields. Agricultural and Forest Meteorology, 2005, 135, 180-189.	1.9	174
24	The uncertainty of crop yield projections is reduced by improved temperature response functions. Nature Plants, 2017, 3, 17102.	4.7	170
25	Global and regional impacts of climate change at different levels of global temperature increase. Climatic Change, 2019, 155, 377-391.	1.7	157
26	Crop yield reduction in the tropics under climate change: Processes and uncertainties. Agricultural and Forest Meteorology, 2008, 148, 343-356.	1.9	156
27	Introduction: food crops in a changing climate. Philosophical Transactions of the Royal Society B: Biological Sciences, 2005, 360, 1983-1989.	1.8	155
28	Adaptation of crops to climate change through genotypic responses to mean and extreme temperatures. Agriculture, Ecosystems and Environment, 2007, 119, 190-204.	2.5	149
29	Contribution of Remote Sensing on Crop Models: A Review. Journal of Imaging, 2018, 4, 52.	1.7	149
30	Prediction of seasonal climate-induced variations in global food production. Nature Climate Change, 2013, 3, 904-908.	8.1	143
31	Improving the use of crop models for risk assessment and climate change adaptation. Agricultural Systems, 2018, 159, 296-306.	3.2	122
32	Multimodel ensembles improve predictions of cropâ€"environmentâ€"management interactions. Global Change Biology, 2018, 24, 5072-5083.	4.2	111
33	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
34	Implications of regional improvement in global climate models for agricultural impact research. Environmental Research Letters, 2013, 8, 024018.	2.2	105
35	Development and assessment of a coupled crop?climate model. Global Change Biology, 2007, 13, 169-183.	4.2	103
36	Toward a Combined Seasonal Weather and Crop Productivity Forecasting System: Determination of the Working Spatial Scale. Journal of Applied Meteorology and Climatology, 2003, 42, 175-192.	1.7	100

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37	AN INTEGRATED ADAPTATION AND MITIGATION FRAMEWORK FOR DEVELOPING AGRICULTURAL RESEARCH: SYNERGIES AND TRADE-OFFS. Experimental Agriculture, 2011, 47, 185-203.	0.4	91
38	Intercontinental trans-boundary contributions to ozone-induced crop yield losses in the Northern Hemisphere. Biogeosciences, 2012, 9, 271-292.	1.3	81
39	Influence of vegetation on the local climate and hydrology in the tropics: sensitivity to soil parameters. Climate Dynamics, 2004, 23, 45-61.	1.7	80
40	Ensemble yield simulations: crop and climate uncertainties, sensitivity to temperature and genotypic adaptation to climate change. Climate Research, 2009, 38, 117-127.	0.4	76
41	Emergence of robust precipitation changes across crop production areas in the 21st century. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 6673-6678.	3.3	76
42	The socioeconomics of food crop production and climate change vulnerability: a global scale quantitative analysis of how grain crops are sensitive to drought. Food Security, 2012, 4, 163-179.	2.4	75
43	Transmission of climate risks across sectors and borders. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2018, 376, 20170301.	1.6	74
44	Assessing relevant climate data for agricultural applications. Agricultural and Forest Meteorology, 2012, 161, 26-45.	1.9	70
45	Probabilistic simulations of crop yield over western India using the DEMETER seasonal hindcast ensembles. Tellus, Series A: Dynamic Meteorology and Oceanography, 2005, 57, 498-512.	0.8	66
46	Climate change, agriculture and food security: a global partnership to link research and action for low-income agricultural producers and consumers. Current Opinion in Environmental Sustainability, 2012, 4, 128-133.	3.1	65
47	Use of agro-climate ensembles for quantifying uncertainty and informing adaptation. Agricultural and Forest Meteorology, 2013, 170, 2-7.	1.9	64
48	Towards the development of adaptation options using climate and crop yield forecasting at seasonal to multi-decadal timescales. Environmental Science and Policy, 2009, 12, 453-465.	2.4	63
49	Aspects of climate change prediction relevant to crop productivity. Philosophical Transactions of the Royal Society B: Biological Sciences, 2005, 360, 1999-2009.	1.8	60
50	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
51	Invited review: Intergovernmental Panel on Climate Change, agriculture, and foodâ€"A case of shifting cultivation and history. Global Change Biology, 2019, 25, 2518-2529.	4.2	59
52	Climateâ€driven spatial mismatches between British orchards and their pollinators: increased risks of pollination deficits. Global Change Biology, 2014, 20, 2815-2828.	4.2	57
53	Identifying traits for genotypic adaptation using crop models. Journal of Experimental Botany, 2015, 66, 3451-3462.	2.4	57
54	Use of a crop model ensemble to quantify CO2 stimulation of water-stressed and well-watered crops. Agricultural and Forest Meteorology, 2008, 148, 1062-1077.	1.9	55

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55	Farming System Evolution and Adaptive Capacity: Insights for Adaptation Support. Resources, 2014, 3, 182-214.	1.6	54
56	Making the most of climate impacts ensembles. Nature Climate Change, 2014, 4, 77-80.	8.1	54
57	Crop yield response to climate change varies with cropping intensity. Global Change Biology, 2015, 21, 1679-1688.	4.2	54
58	Climate risks across borders and scales. Nature Climate Change, 2017, 7, 621-623.	8.1	54
59	Simulation of Crop Yields Using ERA-40: Limits to Skill and Nonstationarity in Weatherâ€"Yield Relationships. Journal of Applied Meteorology and Climatology, 2005, 44, 516-531.	1.7	54
60	Quantification of physical and biological uncertainty in the simulation of the yield of a tropical crop using present-day and doubled CO 2 climates. Philosophical Transactions of the Royal Society B: Biological Sciences, 2005, 360, 2085-2094.	1.8	53
61	Probabilistic simulations of crop yield over western India using the DEMETER seasonal hindcast ensembles. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 57, 498.	0.8	52
62	Multi-wheat-model ensemble responses to interannual climate variability. Environmental Modelling and Software, 2016, 81, 86-101.	1.9	50
63	Integrating Plant Science and Crop Modeling: Assessment of the Impact of Climate Change on Soybean and Maize Production. Plant and Cell Physiology, 2017, 58, 1833-1847.	1.5	49
64	Enhanced Leaf Cooling Is a Pathway to Heat Tolerance in Common Bean. Frontiers in Plant Science, 2020, 11, 19.	1.7	49
65	The observed relationships between wheat and climate in China. Agricultural and Forest Meteorology, 2010, 150, 1412-1419.	1.9	47
66	Uncertainty of wheat water use: Simulated patterns and sensitivity to temperature and CO2. Field Crops Research, 2016, 198, 80-92.	2.3	47
67	CGIAR modeling approaches for resourceâ€constrained scenarios: I. Accelerating crop breeding for a changing climate. Crop Science, 2020, 60, 547-567.	0.8	45
68	Breeding implications of drought stress under future climate for upland rice in Brazil. Global Change Biology, 2018, 24, 2035-2050.	4.2	42
69	Crop failure rates in a geoengineered climate: impact of climate change and marine cloud brightening. Environmental Research Letters, 2015, 10, 084003.	2.2	41
70	Climate change is predicted to alter the current pest status of <i>Globodera pallida</i> and <i>G.Ârostochiensis</i> in the United Kingdom. Global Change Biology, 2017, 23, 4497-4507.	4.2	41
71	Methods and Resources for Climate Impacts Research. Bulletin of the American Meteorological Society, 2009, 90, 836-848.	1.7	39
72	Assessing uncertainty and complexity in regional-scale crop model simulations. European Journal of Agronomy, 2017, 88, 84-95.	1.9	39

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73	The relative importance of rainfall, temperature and yield data for a regional-scale crop model. Agricultural and Forest Meteorology, 2013, 170, 47-57.	1.9	37
74	The global and regional impacts of climate change under representative concentration pathway forcings and shared socioeconomic pathway socioeconomic scenarios. Environmental Research Letters, 2019, 14, 084046.	2.2	37
75	Influences of increasing temperature on Indian wheat: quantifying limits to predictability. Environmental Research Letters, 2013, 8, 034016.	2.2	36
76	Ensembles and uncertainty in climate change impacts. Frontiers in Environmental Science, 2014, 2, .	1.5	36
77	Effects of diurnal temperature range and drought on wheat yield in Spain. Theoretical and Applied Climatology, 2017, 129, 503-519.	1.3	36
78	Crop modelling: towards locally relevant and climate-informed adaptation. Climatic Change, 2018, 147, 475-489.	1.7	36
79	A statistical analysis of three ensembles of crop model responses to temperature and CO2 concentration. Agricultural and Forest Meteorology, 2015, 214-215, 483-493.	1.9	31
80	Global Potato Yields Increase Under Climate Change With Adaptation and CO2 Fertilisation. Frontiers in Sustainable Food Systems, 2020, 4, .	1.8	30
81	Estimating model prediction error: Should you treat predictions as fixed or random?. Environmental Modelling and Software, 2016, 84, 529-539.	1.9	27
82	Drought in Northeast Brazil: A review of agricultural and policy adaptation options for food security. Climate Resilience and Sustainability, 2022, 1, .	0.9	26
83	Climate Change Modelling and Its Roles to Chinese Crops Yield. Journal of Integrative Agriculture, 2013, 12, 892-902.	1.7	25
84	Estimating sowing and harvest dates based on the Asian summer monsoon. Earth System Dynamics, 2018, 9, 563-592.	2.7	22
85	Experiences and Drivers of Food Insecurity in Guatemala's Dry Corridor: Insights From the Integration of Ethnographic and Household Survey Data. Frontiers in Sustainable Food Systems, 2019, 3, .	1.8	21
86	A framework for examining justice in food system transformations research. Nature Food, 2021, 2, 383-385.	6.2	21
87	Maize yield and rainfall on different spatial and temporal scales in Southern Brazil. Pesquisa Agropecuaria Brasileira, 2007, 42, 603-613.	0.9	21
88	TAMSAT-ALERT v1: a new framework for agricultural decision support. Geoscientific Model Development, 2018, 11, 2353-2371.	1.3	19
89	Forecasting food. Nature Climate Change, 2011, 1, 103-104.	8.1	18
90	Equipped to deal with uncertainty in climate and impacts predictions: lessons from internal peer review. Climatic Change, 2015, 132, 1-14.	1.7	18

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91	Potential negative consequences of geoengineering on crop production: A study of Indian groundnut. Geophysical Research Letters, 2016, 43, 11786-11795.	1.5	18
92	Food Security: Focus on Agriculture. Science, 2010, 328, 172-173.	6.0	16
93	Comparing the effects of calibration and climate errors on a statistical crop model and a process-based crop model. Climatic Change, 2015, 132, 93-109.	1.7	16
94	The Impact of Parameterized Convection on the Simulation of Crop Processes. Journal of Applied Meteorology and Climatology, 2015, 54, 1283-1296.	0.6	15
95	A Climate Smartness Index (CSI) Based on Greenhouse Gas Intensity and Water Productivity: Application to Irrigated Rice. Frontiers in Sustainable Food Systems, 2019, 3, .	1.8	15
96	A farming system typology for the adoption of new technology in Bangladesh. Food and Energy Security, 2021, 10, e287.	2.0	15
97	South Asia river-flow projections and their implications for water resources. Hydrology and Earth System Sciences, 2015, 19, 4783-4810.	1.9	14
98	New modelling technique for improving crop model performance - Application to the GLAM model. Environmental Modelling and Software, 2019, 118, 187-200.	1.9	12
99	Designing AfriCultuReS services to support food security in Africa. Transactions in GIS, 2021, 25, 692-720.	1.0	9
100	Simulating maize yield in subâ€'tropical conditions of southern Brazil using Glam model. Pesquisa Agropecuaria Brasileira, 2013, 48, 132-140.	0.9	9
101	A new model of ozone stress in wheat including grain yield loss and plant acclimation to the pollutant. European Journal of Agronomy, 2020, 120, 126125.	1.9	8
102	Mapping vulnerability to multiple hazards in the savannah Ecosystem in Ghana. Regional Environmental Change, 2017, 17, 665-676.	1.4	7
103	Towards a genotypic adaptation strategy for Indian groundnut cultivation using an ensemble of crop simulations. Climatic Change, 2016, 138, 223-238.	1.7	6
104	Data requirements for crop modellingâ€"Applying the learning curve approach to the simulation of winter wheat flowering time under climate change. European Journal of Agronomy, 2018, 95, 33-44.	1.9	6
105	Design of a Soil-based Climate-Smartness Index (SCSI) using the trend and variability of yields and soil organic carbon. Agricultural Systems, 2021, 190, 103086.	3.2	5
106	Carbon Sequestration and Greenhouse Gas Fluxes from Cropland Soils â€" Climate Opportunities and Threats. Environmental Science and Engineering, 2009, , 81-111.	0.1	5
107	A framework to quantify uncertainty of crop model parameters and its application in arid Northwest China. Agricultural and Forest Meteorology, 2022, 316, 108844.	1.9	4
108	Measuring the Effectiveness of Climate-Smart Practices in the Context of Food Systems: Progress and Challenges. Frontiers in Sustainable Food Systems, 2022, 6, .	1.8	4

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109	What do changing weather and climate shocks and stresses mean for the UK food system?. Environmental Research Letters, 2022, 17, 051001.	2.2	4
110	Towards a Science of Adaptation that Prioritises the Poor. IDS Bulletin, 2009, 39, 81-86.	0.4	3
111	Statistical Analysis of Large Simulated Yield Datasets for Studying Climate Effects. ICP Series on Climate Change Impacts, Adaptation, and Mitigation, 2015, , 279-295.	0.4	2
112	CHARACTERIZING THE RELIABILITY OF GLOBAL CROP PREDICTION BASED ON SEASONAL CLIMATE FORECASTS. World Scientific Series on Asia-Pacific Weather and Climate, 2016, , 281-304.	0.2	2
113	South India projected to be susceptible to high future groundnut failure rates for future climate change and geo-engineered scenarios. Science of the Total Environment, 2020, 747, 141240.	3.9	2
114	Implementation of sequential cropping into JULESvn5.2 land-surface model. Geoscientific Model Development, 2021, 14, 437-471.	1.3	2
115	Climate variability, climate change and crop productivity in the tropics. Outlooks on Pest Management, 2005, 16, 71-74.	0.1	0