Catherine A Senior

List of Publications by Year
in descending order

60 papers	17,425 citations	76326 40 h-index	128289 60 g-index
60 all docs	60 docs citations	60 times ranked	14225 citing authors

#	Article	IF	Citations
1	Overview of the Coupled Model Intercomparison Project Phase 6 (CMIP6) experimental design and organization. Geoscientific Model Development, 2016, 9, 1937-1958.	3.6	5,303
2	The simulation of SST, sea ice extents and ocean heat transports in a version of the Hadley Centre coupled model without flux adjustments. Climate Dynamics, 2000, 16, 147-168.	3.8	2,328
3	Development and evaluation of an Earth-System model â€" HadGEM2. Geoscientific Model Development, 2011, 4, 1051-1075.	3.6	1,141
4	The HadGEM2 family of Met Office Unified Model climate configurations. Geoscientific Model Development, 2011, 4, 723-757.	3.6	765
5	The second Hadley Centre coupled ocean-atmosphere GCM: model description, spinup and validation. Climate Dynamics, 1997, 13, 103-134.	3.8	668
6	High Resolution Model Intercomparison Project (HighResMIPÂv1.0) for CMIP6. Geoscientific Model Development, 2016, 9, 4185-4208.	3.6	643
7	Heavier summer downpours with climate change revealed by weather forecast resolution model. Nature Climate Change, 2014, 4, 570-576.	18.8	561
8	The New Hadley Centre Climate Model (HadGEM1): Evaluation of Coupled Simulations. Journal of Climate, 2006, 19, 1327-1353.	3.2	424
9	On dynamic and thermodynamic components of cloud changes. Climate Dynamics, 2004, 22, 71-86.	3.8	373
10	Realism of Rainfall in a Very High-Resolution Regional Climate Model. Journal of Climate, 2012, 25, 5791-5806.	3.2	364
11	Combining ERBE and ISCCP data to assess clouds in the Hadley Centre, ECMWF and LMD atmospheric climate models. Climate Dynamics, 2001, 17, 905-922.	3.8	354
12	C02 and climate: a missing feedback?. Nature, 1989, 341, 132-134.	27.8	337
13	On the contribution of local feedback mechanisms to the range of climate sensitivity in two GCM ensembles. Climate Dynamics, 2006, 27, 17-38.	3.8	334
14	Context for interpreting equilibrium climate sensitivity and transient climate response from the CMIP6 Earth system models. Science Advances, 2020, 6, eaba1981.	10.3	321
15	Storylines: an alternative approach to representing uncertainty in physical aspects of climate change. Climatic Change, 2018, 151, 555-571.	3.6	317
16	Carbon Dioxide and Climate. The Impact of Cloud Parameterization. Journal of Climate, 1993, 6, 393-418.	3.2	287
17	The time-dependence of climate sensitivity. Geophysical Research Letters, 2000, 27, 2685-2688.	4.0	224
18	CMIP5 Scientific Gaps and Recommendations for CMIP6. Bulletin of the American Meteorological Society, 2017, 98, 95-105.	3.3	207

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19	The Transpose-AMIP II Experiment and Its Application to the Understanding of Southern Ocean Cloud Biases in Climate Models. Journal of Climate, 2013, 26, 3258-3274.	3.2	168
20	Enhanced future changes in wet and dry extremes over Africa at convection-permitting scale. Nature Communications, 2019, 10, 1794.	12.8	165
21	Analysis and Reduction of Systematic Errors through a Seamless Approach to Modeling Weather and Climate. Journal of Climate, 2010, 23, 5933-5957.	3.2	156
22	On Surface Temperature, Greenhouse Gases, and Aerosols: Models and Observations. Journal of Climate, 1995, 8, 2364-2386.	3.2	147
23	Tropical disturbances in a GCM. Climate Dynamics, 1993, 8, 247-257.	3.8	130
24	The response of the climate system to the indirect effects of anthropogenic sulfate aerosol. Climate Dynamics, 2001, 17, 845-856.	3.8	109
25	Tropical storms: representation and diagnosis in climate models and the impacts of climate change. Climate Dynamics, 2005, 25, 19-36.	3.8	109
26	The Benefits of Global High Resolution for Climate Simulation: Process Understanding and the Enabling of Stakeholder Decisions at the Regional Scale. Bulletin of the American Meteorological Society, 2018, 99, 2341-2359.	3.3	107
27	A Pan-African Convection-Permitting Regional Climate Simulation with the Met Office Unified Model: CP4-Africa. Journal of Climate, 2018, 31, 3485-3508.	3.2	102
28	Changes in mid-latitude variability due to increasing greenhouse gases and sulphate aerosols. Climate Dynamics, 1998, 14, 369-383.	3.8	91
29	Transient Climate Change in the Hadley Centre Models: The Role of Physical Processes. Journal of Climate, 2001, 14, 2659-2674.	3.2	88
30	How linear is the Arctic Oscillation response to greenhouse gases?. Journal of Geophysical Research, 2002, 107, ACL 1-1.	3.3	78
31	Forcings, Feedbacks, and Climate Sensitivity in HadGEM3â€GC3.1 and UKESM1. Journal of Advances in Modeling Earth Systems, 2019, 11, 4377-4394.	3.8	74
32	Evaluating Climate Models with an African Lens. Bulletin of the American Meteorological Society, 2018, 99, 313-336.	3.3	71
33	Environmental effects from burning oil wells in Kuwait. Nature, 1991, 351, 363-367.	27.8	70
34	Challenges and outlook for convection-permitting climate modelling. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2021, 379, 20190547.	3.4	67
35	Evaluating the cloud response to climate change and current climate variability. Climate Dynamics, 2003, 20, 705-721.	3.8	59
36	Global mean cloud feedbacks in idealized climate change experiments. Geophysical Research Letters, 2006, 33, .	4.0	58

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37	Validation of GCM control simulations using indices of daily airflow types over the British Isles. Climate Dynamics, 1993, 9, 95-105.	3.8	57
38	Can climate projection uncertainty be constrained over Africa using metrics of contemporary performance?. Climatic Change, 2016, 134, 621-633.	3.6	54
39	Evaluation of a component of the cloud response to climate change in an intercomparison of climate models. Climate Dynamics, 2006, 26, 145-165.	3.8	47
40	Implications of Improved Representation of Convection for the East Africa Water Budget Using a Convection-Permitting Model. Journal of Climate, 2019, 32, 2109-2129.	3.2	47
41	The antarctic winter; simulations with climatological and reduced sea-ice extents. Quarterly Journal of the Royal Meteorological Society, 1989, 115, 225-246.	2.7	40
42	The impact of dynamic sea-ice on the climatology and climate sensitivity of a GCM: a study of past, present, and future climates. Climate Dynamics, 2001, 17, 655-668.	3.8	39
43	Evaluating the East Asian monsoon simulation in climate models. Journal of Geophysical Research, 2011, 116, .	3.3	37
44	Predictions of extreme precipitation and seaâ€"level rise under climate change. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2002, 360, 1301-1311.	3.4	35
45	Idealized climate change simulations with a highâ€resolution physical model: HadGEM3â€GC2. Journal of Advances in Modeling Earth Systems, 2016, 8, 813-830.	3.8	30
46	The Dependence of Climate Sensitivity on the Horizontal Resolution of a GCM. Journal of Climate, 1995, 8, 2860-2880.	3.2	29
47	The Met Office Hadley Centre climate modelling capability: the competing requirements for improved resolution, complexity and dealing with uncertainty. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2007, 365, 2635-2657.	3.4	27
48	Convection-Permitting Regional Climate Change Simulations for Understanding Future Climate and Informing Decision-Making in Africa. Bulletin of the American Meteorological Society, 2021, 102, E1206-E1223.	3.3	26
49	Comparison of Mechanisms of Cloud-Climate Feedbacks in GCMs. Journal of Climate, 1999, 12, 1480-1489.	3.2	24
50	Greater Future U.K. Winter Precipitation Increase in New Convection-Permitting Scenarios. Journal of Climate, 2020, 33, 7303-7318.	3.2	22
51	The interaction between moist diabatic processes and the atmospheric circulation in African Easterly Wave propagation. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 3207-3227.	2.7	21
52	The Impact of Prescribed Ozone in Climate Projections Run With HadGEM3â€GC3.1. Journal of Advances in Modeling Earth Systems, 2019, 11, 3443-3453.	3.8	20
53	U.K. Community Earth System Modeling for CMIP6. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS002004.	3.8	18
54	Towards evaluating cloud response to climate change using clustering technique identification of cloud regimes. Climate Dynamics, 2005, 24, 701-719.	3.8	12

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55	Regional Differences in the Response of Rainfall to Convectively Coupled Kelvin Waves over Tropical Africa. Journal of Climate, 2019, 32, 8143-8165.	3.2	10
56	Storm tracks in a high-resolution GCM with doubled carbon dioxide. Quarterly Journal of the Royal Meteorological Society, 1994, 120, 1209-1230.	2.7	8
57	An investigation into the mechanisms of changes in mid-latitude mean sea level pressure as greenhouse gases are increased. Climate Dynamics, 2002, 18, 533-543.	3.8	7
58	Towards the development of a robust model hierarchy: investigation of dynamical limitations at low resolution and possible solutions. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 75-84.	2.7	7
59	An assessment of measures of storminess: Simulated changes in northern hemisphere winter due to increasing CO2. Climate Dynamics, 1996, 12, 467-474.	3.8	6
60	The response of Antarctic climate in general circulation model experiments with transiently increasing carbon dioxide concentrations. Philosophical Transactions of the Royal Society B: Biological Sciences, 1992, 338, 209-218.	4.0	2