Shaocheng Xie

List of Publications by Year
in descending order

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118 papers	6,357 citations	57758 44 h-index	76900 74 g-index
128 all docs	128 docs citations	128 times ranked	4562 citing authors

#	Article	IF	Citations
1	Longâ€term singleâ€column model intercomparison of diurnal cycle of precipitation over midlatitude and tropical land. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 641-669.	2.7	6
2	Exploratory Precipitation Metrics: Spatiotemporal Characteristics, Process-Oriented, and Phenomena-Based. Journal of Climate, 2022, 35, 3659-3686.	3.2	11
3	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. Geoscientific Model Development, 2022, 15, 2881-2916.	3.6	17
4	Assessment of the sea surface temperature diurnal cycle in CNRM-CM6-1 based on its 1D coupled configuration. Geoscientific Model Development, 2022, 15, 3347-3370.	3.6	1
5	Effective radiative forcing of anthropogenic aerosols in E3SM version 1: historical changes, causality, decomposition, and parameterization sensitivities. Atmospheric Chemistry and Physics, 2022, 22, 9129-9160.	4.9	16
6	Global Dust Cycle and Direct Radiative Effect in E3SM Version 1: Impact of Increasing Model Resolution. Journal of Advances in Modeling Earth Systems, 2022, 14, .	3.8	12
7	Evaluating Diurnal and Semi-Diurnal Cycle of Precipitation in CMIP6 Models Using Satellite- and Ground-Based Observations. Journal of Climate, 2021, , 1-56.	3.2	19
8	A multi-year short-range hindcast experiment with CESM1 for evaluating climate model moist processes from diurnal to interannual timescales. Geoscientific Model Development, 2021, 14, 73-90.	3.6	9
9	Disproportionate control on aerosol burden by light rain. Nature Geoscience, 2021, 14, 72-76.	12.9	39
10	Evaluation of the interactive stratospheric ozone (O3v2) module in the E3SM version 1 Earth system model. Geoscientific Model Development, 2021, 14, 1219-1236.	3.6	9
11	Effects of coupling a stochastic convective parameterization with the Zhangâ€“McFarlane scheme on precipitation simulation in the DOE E3SMv1.0 atmosphere model. Geoscientific Model Development, 2021, 14, 1575-1593.	3.6	13
12	Improving Convection Trigger Functions in Deep Convective Parameterization Schemes Using Machine Learning. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002365.	3.8	16
13	Evaluation of the Causes of Wetâ€Season Dry Biases Over Amazonia in CAM5. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033859.	3.3	6
14	Effects of Organized Convection Parameterization on the MJO and Precipitation in E3SMv1. Part I: Mesoscale Heating. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002401.	3.8	14
15	Impact of Initialized Land Surface Temperature and Snowpack on Subseasonal to Seasonal Prediction Project, Phase I (LS4P-I): organization and experimental design. Geoscientific Model Development, 2021, 14, 4465-4494.	3.6	31
16	Comparison of Conventional and Constrained Variational Methods for Computing Largeâ€Scale Budgets and Forcing Fields. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD035183.	3.3	2
17	ENSO Dynamics in the E3SM-1-0, CESM2, and GFDL-CM4 Climate Models. Journal of Climate, 2021, , 1-59.	3.2	10
18	Impact of a New Cloud Microphysics Parameterization on the Simulations of Mesoscale Convective Systems in E3SM. Journal of Advances in Modeling Earth Systems, 2021, 13, .	3.8	10

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19	Aerosols in the E3SM Version 1: New Developments and Their Impacts on Radiative Forcing. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001851.	3.8	68
20	Improvement of Atmospheric Objective Analysis Over Sloping Terrain and Its Impact on Shallowâ€Cumulus Clouds in Largeâ€Eddy Simulations. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032492.	3.3	1
21	Toward Understanding the Simulated Phase Partitioning of Arctic Singleâ€Layer Mixedâ€Phase Clouds in E3SM. Earth and Space Science, 2020, 7, e2020EA001125.	2.6	14
22	Evaluation of an Improved Convective Triggering Function: Observational Evidence and SCM Tests. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD031651.	3.3	8
23	A Hindcast Approach to Diagnosing the Equatorial Pacific Cold Tongue SST Bias in CESM1. Journal of Climate, 2020, 33, 1437-1453.	3.2	10
24	The E3SM version 1 single-column model. Geoscientific Model Development, 2020, 13, 4443-4458.	3.6	11
25	The ARM Data-Oriented Metrics and Diagnostics Package for Climate Models: A New Tool for Evaluating Climate Models with Field Data. Bulletin of the American Meteorological Society, 2020, 101, E1619-E1627.	3.3	7
26	The Summertime Precipitation Bias in E3SM Atmosphere Model Version 1 over the Central United States. Journal of Geophysical Research D: Atmospheres, 2019, 124, 8935-8952.	3.3	14
27	Improved Diurnal Cycle of Precipitation in E3SM With a Revised Convective Triggering Function. Journal of Advances in Modeling Earth Systems, 2019, 11, 2290-2310.	3.8	86
28	Regionally refined test bed in E3SM atmosphere model version 1 (EAMv1) and applications for high-resolution modeling. Geoscientific Model Development, 2019, 12, 2679-2706.	3.6	49
29	The DOE E3SM Coupled Model Version 1: Description and Results at High Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 4095-4146.	3.8	112
30	An Overview of the Atmospheric Component of the Energy Exascale Earth System Model. Journal of Advances in Modeling Earth Systems, 2019, 11, 2377-2411.	3.8	168
31	Regional Moisture Budget and Landâ€Atmosphere Coupling Over the U.S. Southern Great Plains Inferred From the ARM Longâ€Term Observations. Journal of Geophysical Research D: Atmospheres, 2019, 124, 10091-10108.	3.3	10
32	Evaluation of Clouds in Version 1 of the E3SM Atmosphere Model With Satellite Simulators. Journal of Advances in Modeling Earth Systems, 2019, 11, 1253-1268.	3.8	55
33	Northern Hemisphere Blocking in â^¼25â€kmâ€Resolution E3SM v0.3 Atmosphereâ€Land Simulations. Journal of Geophysical Research D: Atmospheres, 2019, 124, 2465-2482.	3.3	7
34	Differences in Eddyâ€Correlation and Energyâ€Balance Surface Turbulent Heat Flux Measurements and Their Impacts on the Largeâ€Scale Forcing Fields at the ARM SGP Site. Journal of Geophysical Research D: Atmospheres, 2019, 124, 3301-3318.	3.3	19
35	The DOE E3SM Coupled Model Version 1: Overview and Evaluation at Standard Resolution. Journal of Advances in Modeling Earth Systems, 2019, 11, 2089-2129.	3.8	404
36	Impacts of Representing Heterogeneous Distribution of Cloud Liquid and Ice on Phase Partitioning of Arctic Mixedâ€Phase Clouds with NCAR CAM5. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13071-13090.	3.3	24

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37	Improved Simulation of the QBO in E3SMv1. Journal of Advances in Modeling Earth Systems, 2019, 11, 3403-3418.	3.8	15
38	CAUSES: Diagnosis of the Summertime Warm Bias in CMIP5 Climate Models at the ARM Southern Great Plains Site. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2968-2992.	3.3	33
39	CAUSES: Attribution of Surface Radiation Biases in NWP and Climate Models near the U.S. Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3612-3644.	3.3	62
40	Observationally derived rise in methane surface forcing mediated by water vapour trends. Nature Geoscience, 2018, 11, 238-243.	12.9	37
41	Impact of numerical choices on water conservation in the E3SM Atmosphere Model version 1 (EAMv1). Geoscientific Model Development, 2018, 11, 1971-1988.	3.6	33
42	Understanding Cloud and Convective Characteristics in Version 1 of the E3SM Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2018, 10, 2618-2644.	3.8	105
43	Introduction to CAUSES: Description of Weather and Climate Models and Their Nearâ€Surface Temperature Errors in 5Âday Hindcasts Near the Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2655-2683.	3.3	53
44	Parametric Sensitivity and Uncertainty Quantification in the Version 1 of E3SM Atmosphere Model Based on Short Perturbed Parameter Ensemble Simulations. Journal of Geophysical Research D: Atmospheres, 2018, 123, 13,046.	3.3	53
45	Automatic tuning of the Community Atmospheric Model (CAM5) by using short-term hindcasts with an improved downhill simplex optimization method. Geoscientific Model Development, 2018, 11, 5189-5201.	3.6	11
46	A Diagnostic <scp>PDF</scp> Cloud Scheme to Improve Subtropical Low Clouds in <scp>NCAR</scp> Community Atmosphere Model (<scp>CAM</scp>5). Journal of Advances in Modeling Earth Systems, 2018, 10, 320-341.	3.8	29
47	The ARM Cloud Radar Simulator for Global Climate Models: Bridging Field Data and Climate Models. Bulletin of the American Meteorological Society, 2018, 99, 21-26.	3.3	24
48	Heterogeneity in Warmâ€Season Landâ€Atmosphere Coupling Over the U.S. Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2018, 123, 7867-7882.	3.3	12
49	CAUSES: On the Role of Surface Energy Budget Errors to the Warm Surface Air Temperature Error Over the Central United States. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2888-2909.	3.3	60
50	Relationships between radiation, clouds, and convection during DYNAMO. Journal of Geophysical Research D: Atmospheres, 2017, 122, 2529-2548.	3.3	31
51	Large-Eddy Simulation of Shallow Cumulus over Land: A Composite Case Based on ARM Long-Term Observations at Its Southern Great Plains Site. Journals of the Atmospheric Sciences, 2017, 74, 3229-3251.	1.7	28
52	Using ARM Observations to Evaluate Climate Model Simulations of Landâ€Atmosphere Coupling on the U.S. Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2017, 122, 11,524.	3.3	24
53	Cloud characteristics, thermodynamic controls and radiative impacts during the Observations and Modeling of the Green Ocean Amazon (GoAmazon2014/5) experiment. Atmospheric Chemistry and Physics, 2017, 17, 14519-14541.	4.9	38
54	Investigating the dependence of SCM simulated precipitation and clouds on the spatial scale of largeâ€scale forcing at SGP. Journal of Geophysical Research D: Atmospheres, 2017, 122, 8724-8738.	3.3	4

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55	The SCM Concept and Creation of ARM Forcing Datasets. Meteorological Monographs, 2016, 57, 24.1-24.12.	5.0	28
56	An ensemble constrained variational analysis of atmospheric forcing data and its application to evaluate clouds in CAM5. Journal of Geophysical Research D: Atmospheres, 2016, 121, 33-48.	3.3	7
57	Large-scale vertical velocity, diabatic heating and drying profiles associated with seasonal and diurnal variations of convective systems observed in the GoAmazon2014/5 experiment. Atmospheric Chemistry and Physics, 2016, 16, 14249-14264.	4.9	44
58	The Midlatitude Continental Convective Clouds Experiment (MC3E). Bulletin of the American Meteorological Society, 2016, 97, 1667-1686.	3.3	131
59	A varianceâ€based decomposition and global sensitivity index method for uncertainty quantification: Application to retrieved ice cloud properties. Journal of Geophysical Research D: Atmospheres, 2015, 120, 4234-4247.	3.3	3
60	An improved hindcast approach for evaluation and diagnosis of physical processes in global climate models. Journal of Advances in Modeling Earth Systems, 2015, 7, 1810-1827.	3.8	54
61	Evaluation of cloudâ€resolving model simulations of midlatitude cirrus with ARM and Aâ€train observations. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6597-6618.	3.3	10
62	The parametric sensitivity of CAM5's MJO. Journal of Geophysical Research D: Atmospheres, 2015, 120, 1424-1444.	3.3	51
63	The Midlatitude Continental Convective Clouds Experiment (MC3E) sounding network: operations, processing and analysis. Atmospheric Measurement Techniques, 2015, 8, 421-434.	3.1	26
64	RACORO continental boundary layer cloud investigations: 1. Case study development and ensemble largeâ€scale forcings. Journal of Geophysical Research D: Atmospheres, 2015, 120, 5962-5992.	3.3	20
65	Quantifying uncertainties of cloud microphysical property retrievals with a perturbation method. Journal of Geophysical Research D: Atmospheres, 2014, 119, 5375-5385.	3.3	25
66	On the Correspondence between Mean Forecast Errors and Climate Errors in CMIP5 Models. Journal of Climate, 2014, 27, 1781-1798.	3.2	110
67	Evaluation of intercomparisons of four different types of model simulating <scp>TWPâ€ICE</scp>. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 826-837.	2.7	18
68	Interactions between cumulus convection and its environment as revealed by the MC3E sounding array. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,784-11,808.	3.3	51
69	Sensitivity of CAM5-Simulated Arctic Clouds and Radiation to Ice Nucleation Parameterization. Journal of Climate, 2013, 26, 5981-5999.	3.2	83
70	Relationships between the largeâ€scale atmosphere and the smallâ€scale convective state for Darwin, Australia. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,534.	3.3	69
71	Metrics and Diagnostics for Precipitation-Related Processes in Climate Model Short-Range Hindcasts. Journal of Climate, 2013, 26, 1516-1534.	3.2	45
72	Precipitation Partitioning, Tropical Clouds, and Intraseasonal Variability in GFDL AM2. Journal of Climate, 2013, 26, 5453-5466.	3.2	30

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73	A singleâ€column model ensemble approach applied to the TWPâ€ICE experiment. Journal of Geophysical Research D: Atmospheres, 2013, 118, 6544-6563.	3.3	33
74	On the Correspondence between Short- and Long-Time-Scale Systematic Errors in CAM4/CAM5 for the Year of Tropical Convection. Journal of Climate, 2012, 25, 7937-7955.	3.2	79
75	An intercomparison of radar-based liquid cloud microphysics retrievals and implications for model evaluation studies. Atmospheric Measurement Techniques, 2012, 5, 1409-1424.	3.1	19
76	Evaluation of cloud fraction and its radiative effect simulated by IPCC AR4 global models against ARM surface observations. Atmospheric Chemistry and Physics, 2012, 12, 1785-1810.	4.9	80
77	A comparison of TWPâ€ICE observational data with cloudâ€resolving model results. Journal of Geophysical Research, 2012, 117, .	3.3	108
78	Toward understanding of differences in current cloud retrievals of ARM groundâ€based measurements. Journal of Geophysical Research, 2012, 117, .	3.3	107
79	TWPâ€ICE global atmospheric model intercomparison: Convection responsiveness and resolution impact. Journal of Geophysical Research, 2012, 117, .	3.3	38
80	Aerosol first indirect effects on nonâ€precipitating lowâ€level liquid cloud properties as simulated by CAM5 at ARM sites. Geophysical Research Letters, 2012, 39, .	4.0	66
81	Sensitivity of aerosol indirect effects to cloud nucleation and autoconversion parameterizations in shortâ€range weather forecasts during the May 2003 aerosol IOP. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	11
82	Regional assessment of the parameterâ€dependent performance of CAM4 in simulating tropical clouds. Geophysical Research Letters, 2012, 39, .	4.0	31
83	Testing cloud microphysics parameterizations in NCAR CAM5 with ISDAC and M-PACE observations. Journal of Geophysical Research, 2011, 116, .	3.3	62
84	Indirect and Semi-direct Aerosol Campaign. Bulletin of the American Meteorological Society, 2011, 92, 183-201.	3.3	228
85	A Comparison of MERRA and NARR Reanalyses with the DOE ARM SGP Data. Journal of Climate, 2011, 24, 4541-4557.	3.2	124
86	Estimating the Ice Crystal Enhancement Factor in the Tropics. Journals of the Atmospheric Sciences, 2011, 68, 1424-1434.	1.7	26
87	Modelling convective processes during the suppressed phase of a Maddenâ€“Julian oscillation: Comparing singleâ€column models with cloudâ€resolving models. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 333-353.	2.7	20
88	CLOUDS AND MORE: ARM Climate Modeling Best Estimate Data. Bulletin of the American Meteorological Society, 2010, 91, 13-20.	3.3	139
89	Observed Large-Scale Structures and Diabatic Heating and Drying Profiles during TWP-ICE. Journal of Climate, 2010, 23, 57-79.	3.2	91
90	An Indirect Effect of Ice Nuclei on Atmospheric Radiation. Journals of the Atmospheric Sciences, 2009, 66, 41-61.	1.7	52

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91	Intercomparison of model simulations of mixedâ€phase clouds observed during the ARM Mixedâ€Phase Arctic Cloud Experiment. II: Multilayer cloud. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 1003-1019.	2.7	84
92	Intercomparison of model simulations of mixedâ€phase clouds observed during the ARM Mixedâ€Phase Arctic Cloud Experiment. I: singleâ€layer cloud. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 979-1002.	2.7	224
93	A contribution by ice nuclei to global warming. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 1614-1629.	2.7	38
94	Testing ice microphysics parameterizations in the NCAR Community Atmospheric Model Version 3 using Tropical Warm Poolâ€"International Cloud Experiment data. Journal of Geophysical Research, 2009, 114, .	3.3	12
95	Simulations of Arctic mixedâ€phase clouds in forecasts with CAM3 and AM2 for Mâ€PACE. Journal of Geophysical Research, 2008, 113, .	3.3	44
96	Climate Model Forecast Experiments for TOGA COARE. Monthly Weather Review, 2008, 136, 808-832.	1.4	39
97	Evaluating Clouds in Long-Term Cloud-Resolving Model Simulations with Observational Data. Journals of the Atmospheric Sciences, 2007, 64, 4153-4177.	1.7	56
98	Investigation of the first and second aerosol indirect effects using data from the May 2003 Intensive Operational Period at the Southern Great Plains. Journal of Geophysical Research, 2007, 112, .	3.3	18
99	Evaluation of a new mixedâ€phase cloud microphysics parameterization with CAM3 singleâ€column model and Mâ€PACE observations. Geophysical Research Letters, 2007, 34, .	4.0	21
100	An assessment of ECMWF analyses and model forecasts over the North Slope of Alaska using observations from the ARM Mixed-Phase Arctic Cloud Experiment. Journal of Geophysical Research, 2006, 111, .	3.3	26
101	Developing large-scale forcing data for single-column and cloud-resolving models from the Mixed-Phase Arctic Cloud Experiment. Journal of Geophysical Research, 2006, 111, .	3.3	24
102	Diagnosis of the summertime warm and dry bias over the U.S. Southern Great Plains in the GFDL climate model using a weather forecasting approach. Geophysical Research Letters, 2006, 33, n/a-n/a.	4.0	112
103	Comparing clouds and their seasonal variations in 10 atmospheric general circulation models with satellite measurements. Journal of Geophysical Research, 2005, 110, .	3.3	250
104	Diagnosis of Community Atmospheric Model 2 (CAM2) in numerical weather forecast configuration at Atmospheric Radiation Measurement sites. Journal of Geophysical Research, 2005, 110, .	3.3	45
105	Moisture and temperature balances at the Atmospheric Radiation Measurement Southern Great Plains Site in forecasts with the Community Atmosphere Model (CAM2). Journal of Geophysical Research, 2005, 110, .	3.3	35
106	Simulations of midlatitude frontal clouds by single-column and cloud-resolving models during the Atmospheric Radiation Measurement March 2000 cloud intensive operational period. Journal of Geophysical Research, 2005, 110, .	3.3	66
107	Modeling springtime shallow frontal clouds with cloud-resolving and single-column models. Journal of Geophysical Research, 2005, 110, .	3.3	51
108	Evaluating Parameterizations in General Circulation Models: Climate Simulation Meets Weather Prediction. Bulletin of the American Meteorological Society, 2004, 85, 1903-1916.	3.3	186

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109	Developing long-term single-column model/cloud systemâ€“resolving model forcing data using numerical weather prediction products constrained by surface and top of the atmosphere observations. Journal of Geophysical Research, 2004, 109, .	3.3	104
110	Impact of a revised convective triggering mechanism on Community Atmosphere Model, Version 2, simulations: Results from short-range weather forecasts. Journal of Geophysical Research, 2004, 109, .	3.3	60
111	Comparison of SCM and CSRM forcing data derived from the ECMWF model and from objective analysis at the ARM SGP site. Journal of Geophysical Research, 2003, 108, .	3.3	20
112	Intercomparison and evaluation of cumulus parametrizations under summertime midlatitude continental conditions. Quarterly Journal of the Royal Meteorological Society, 2002, 128, 1095-1135.	2.7	119
113	An intercomparison of cloud-resolving models with the Atmospheric Radiation Measurement summer 1997 Intensive Observation Period data. Quarterly Journal of the Royal Meteorological Society, 2002, 128, 593-624.	2.7	192
114	Variational Objective Analysis for Atmospheric Field Programs: A Model Assessment. Journals of the Atmospheric Sciences, 2002, 59, 3436-3456.	1.7	8
115	Objective Analysis of ARM IOP Data: Method and Sensitivity. Monthly Weather Review, 2001, 129, 295-311.	1.4	174
116	Impact of the convection triggering function on single-column model simulations. Journal of Geophysical Research, 2000, 105, 14983-14996.	3.3	112
117	A comparison of single column model simulations of summertime midlatitude continental convection. Journal of Geophysical Research, 2000, 105, 2091-2124.	3.3	107
118	Relationship between Cloud Radiative Forcing and Sea Surface Temperatures over the Entire Tropical Oceans. Journal of Climate, 1996, 9, 1374-1384.	3.2	24