Minghua Zhang

List of Publications by Year
in descending order

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101 papers	6,895 citations	109321 35 h-index	62596 80 g-index
103 all docs	103 docs citations	103 times ranked	7234 citing authors

#	Article	IF	Citations
1	The Community Climate System Model Version 4. Journal of Climate, 2011, 24, 4973-4991.	3.2	2,428
2	The Mean Climate of the Community Atmosphere Model (CAM4) in Forced SST and Fully Coupled Experiments. Journal of Climate, 2013, 26, 5150-5168.	3.2	639
3	Constrained Variational Analysis of Sounding Data Based on Column-Integrated Budgets of Mass, Heat, Moisture, and Momentum: Approach and Application to ARM Measurements. Journals of the Atmospheric Sciences, 1997, 54, 1503-1524.	1.7	227
4	Stratiform Precipitation, Vertical Heating Profiles, and the Maddenâ€"Julian Oscillation. Journals of the Atmospheric Sciences, 2004, 61, 296-309.	1.7	210
5	Objective Analysis of ARM IOP Data: Method and Sensitivity. Monthly Weather Review, 2001, 129, 295-311.	1.4	174
6	A modified formulation of fractional stratiform condensation rate in the NCAR Community Atmospheric Model (CAM2). Journal of Geophysical Research, 2003, 108, ACL 10-1.	3.3	157
7	CGILS: Results from the first phase of an international project to understand the physical mechanisms of low cloud feedbacks in single column models. Journal of Advances in Modeling Earth Systems, 2013, 5, 826-842.	3.8	140
8	Marine low cloud sensitivity to an idealized climate change: The CGILS LES intercomparison. Journal of Advances in Modeling Earth Systems, 2013, 5, 234-258.	3.8	128
9	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
10	Historical Evaluation and Future Prediction of Eastern North American and Western Atlantic Extratropical Cyclones in the CMIP5 Models during the Cool Season. Journal of Climate, 2013, 26, 6882-6903.	3.2	117
11	Impact of the convection triggering function on single-column model simulations. Journal of Geophysical Research, 2000, 105, 14983-14996.	3.3	112
12	CAS FGOALS-f3-L Model Datasets for CMIP6 Historical Atmospheric Model Intercomparison Project Simulation. Advances in Atmospheric Sciences, 2019, 36, 771-778.	4.3	109
13	A comparison of TWPâ€ICE observational data with cloudâ€resolving model results. Journal of Geophysical Research, 2012, 117, .	3.3	108
14	A comparison of single column model simulations of summertime midlatitude continental convection. Journal of Geophysical Research, 2000, 105, 2091-2124.	3.3	107
15	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
16	Double ITCZ in Coupled Ocean-Atmosphere Models: From CMIP3 to CMIP5. Geophysical Research Letters, 2015, 42, 8651-8659.	4.0	93
17	Causes of model dry and warm bias over central U.S. and impact on climate projections. Nature Communications, 2017, 8, 881.	12.8	92
18	Observed Large-Scale Structures and Diabatic Heating and Drying Profiles during TWP-ICE. Journal of Climate, 2010, 23, 57-79.	3.2	91

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19	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
20	Evidence of deceleration of atmospheric vertical overturning circulation over the tropical Pacific. Geophysical Research Letters, 2006, 33, .	4.0	84
21	New understanding and quantification of the regime dependence of aerosolâ€cloud interaction for studying aerosol indirect effects. Geophysical Research Letters, 2016, 43, 1780-1787.	4.0	67
22	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
23	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
24	Description and Climate Simulation Performance of CASâ€ESM Version 2. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002210.	3.8	59
25	Toward understanding the double Intertropical Convergence Zone pathology in coupled ocean-atmosphere general circulation models. Journal of Geophysical Research, 2007, 112, .	3.3	58
26	Sensitivity of Simulated Climate to Two Atmospheric Models: Interpretation of Differences between Dry Models and Moist Models. Monthly Weather Review, 2013, 141, 1558-1576.	1.4	57
27	Mechanisms of Low Cloudâ€“Climate Feedback in Idealized Single-Column Simulations with the Community Atmospheric Model, Version 3 (CAM3). Journal of Climate, 2008, 21, 4859-4878.	3.2	56
28	Seasonal Variation of the Physical Properties of Marine Boundary Layer Clouds off the California Coast. Journal of Climate, 2009, 22, 2624-2638.	3.2	56
29	An Indirect Effect of Ice Nuclei on Atmospheric Radiation. Journals of the Atmospheric Sciences, 2009, 66, 41-61.	1.7	52
30	Modeling springtime shallow frontal clouds with cloud-resolving and single-column models. Journal of Geophysical Research, 2005, 110, .	3.3	51
31	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
32	Impacts of the Maddenâ€“Julian Oscillation on Storm-Track Activity, Surface Air Temperature, and Precipitation over North America. Journal of Climate, 2018, 31, 6113-6134.	3.2	51
33	Development of Climate and Earth System Models in China: Past Achievements and New CMIP6 Results. Journal of Meteorological Research, 2020, 34, 1-19.	2.4	46
34	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
35	The CGILS experimental design to investigate low cloud feedbacks in general circulation models by using singleâ€column and largeâ€eddy simulation models. Journal of Advances in Modeling Earth Systems, 2012, 4, .	3.8	35
36	A processâ€oriented evaluation of dust emission parameterizations in CESM: Simulation of a typical severe dust storm in <scp>E</scp>ast <scp>A</scp>sia. Journal of Advances in Modeling Earth Systems, 2016, 8, 1432-1452.	3.8	33

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37	Cloud-Resolving Simulation of Low-Cloud Feedback to an Increase in Sea Surface Temperature. Journals of the Atmospheric Sciences, 2010, 67, 730-748.	1.7	29
38	Height Dependency of Aerosolâ€Cloud Interaction Regimes. Journal of Geophysical Research D: Atmospheres, 2018, 123, 491-506.	3.3	29
39	Vertical velocity in shallow convection for different plume types. Journal of Advances in Modeling Earth Systems, 2014, 6, 478-489.	3.8	28
40	The SCM Concept and Creation of ARM Forcing Datasets. Meteorological Monographs, 2016, 57, 24.1-24.12.	5.0	28
41	Estimating the Ice Crystal Enhancement Factor in the Tropics. Journals of the Atmospheric Sciences, 2011, 68, 1424-1434.	1.7	26
42	Prediction of Tropical Cyclone Genesis from Mesoscale Convective Systems Using Machine Learning. Weather and Forecasting, 2019, 34, 1035-1049.	1.4	26
43	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
44	An Investigation of the Initial Development of the Double-ITCZ Warm SST Biases in the CCSM. Journal of Climate, 2012, 25, 140-155.	3.2	24
45	Scaleâ€aware parameterization of liquid cloud inhomogeneity and its impact on simulated climate in CESM. Journal of Geophysical Research D: Atmospheres, 2015, 120, 8359-8371.	3.3	24
46	Response of Tropical Terrestrial Gross Primary Production to the Super El NiÃ±o Event in 2015. Journal of Geophysical Research G: Biogeosciences, 2018, 123, 3193-3203.	3.0	24
47	An analysis of parameterization interactions and sensitivity of singleâ€column model simulations to convection schemes in CAM4 and CAM5. Journal of Geophysical Research D: Atmospheres, 2013, 118, 8869-8880.	3.3	23
48	The Role of Shallow Convection over the Tibetan Plateau. Journal of Climate, 2017, 30, 5791-5803.	3.2	21
49	Evaluation of the New Dynamic Global Vegetation Model in CAS-ESM. Advances in Atmospheric Sciences, 2018, 35, 659-670.	4.3	21
50	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
51	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
52	CAS-ESM2.0 Model Datasets for the CMIP6 Ocean Model Intercomparison Project Phase 1 (OMIP1). Advances in Atmospheric Sciences, 2021, 38, 307-316.	4.3	20
53	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
54	The WRF nested within the CESM: Simulations of a midlatitude cyclone over the Southern Great Plains. Journal of Advances in Modeling Earth Systems, 2013, 5, 611-622.	3.8	18

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55	RACORO continental boundary layer cloud investigations: 3. Separation of parameterization biases singleâ€column model CAM5 simulations of shallow cumulus. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6015-6033.	3.3	18
56	Subseasonal to Seasonal Prediction of Wintertime Northern Hemisphere Extratropical Cyclone Activity by S2S and NMME Models. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12057-12077.	3.3	17
57	CAS-ESM2.0 Model Datasets for the CMIP6 Flux-Anomaly-Forced Model Intercomparison Project (FAFMIP). Advances in Atmospheric Sciences, 2021, 38, 296-306.	4.3	17
58	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
59	On the incident solar radiation in CMIP5 models. Geophysical Research Letters, 2015, 42, 1930-1935.	4.0	14
60	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
61	Summer and winter precipitation in East Asia scale with global warming at different rates. Communications Earth & Environment, 2021, 2, .	6.8	14
62	Development of fineâ€resolution analyses and expanded largeâ€scale forcing properties: 1. Methodology and evaluation. Journal of Geophysical Research D: Atmospheres, 2015, 120, 654-666.	3.3	13
63	Role of internal atmospheric variability in the 2015 extreme winter climate over the North American continent. Geophysical Research Letters, 2017, 44, 2464-2471.	4.0	13
64	Formulation of a new ocean salinity boundary condition and impact on the simulated climate of an oceanic general circulation model. Science China Earth Sciences, 2017, 60, 491-500.	5.2	11
65	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
66	Double Intertropical Convergence Zones in Coupled Oceanâ€Atmosphere Models: Progress in CMIP6. Geophysical Research Letters, 2021, 48, e2021GL094779.	4.0	10
67	Threeâ€dimensional constrained variational analysis: Approach and application to analysis of atmospheric diabatic heating and derivative fields during an ARM SGP intensive observational period. Journal of Geophysical Research D: Atmospheres, 2015, 120, 7283-7299.	3.3	9
68	An Orographicâ€Drag Parametrization Scheme Including Orographic Anisotropy for All Flow Directions. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001921.	3.8	8
69	Changes in Global Vegetation Distribution and Carbon Fluxes in Response to Global Warming: Simulated Results from IAP-DGVM in CAS-ESM2. Advances in Atmospheric Sciences, 2022, 39, 1285-1298.	4.3	8
70	A case study of a frontal system simulated by a climate model: Clouds and radiation. Journal of Geophysical Research, 2007, 112, .	3.3	7
71	The coupling of mixed Rossbyâ€gravity waves with diabatic heating during the TRMMâ€KWAJEX field campaign. Geophysical Research Letters, 2015, 42, 8241-8249.	4.0	7
72	How much of the NAO monthly variability is from oceanâ€“atmospheric coupling: results from an interactive ensemble climate model. Climate Dynamics, 2015, 44, 781-790.	3.8	7

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73	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
74	Role of Arctic Sea Ice in the 2014â€“2015 Eurasian Warm Winter. Geophysical Research Letters, 2019, 46, 337-345.	4.0	7
75	Footprint of Tropical Mesoscale Convective System Variability on Stratospheric Water Vapor. Geophysical Research Letters, 2020, 47, e2019GL086320.	4.0	7
76	CLOUD-CLIMATE FEEDBACK: HOW MUCH DO WE KNOW?. World Scientific Series on Asia-Pacific Weather and Climate, 2004, , 161-183.	0.2	6
77	Climate impacts of stochastic atmospheric perturbations on the ocean. International Journal of Climatology, 2014, 34, 3900-3912.	3.5	5
78	Explaining the Yearâ€toâ€Year Variability of the Eastern Pacific Intertropical Convergence Zone in the Boreal Spring. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3847-3856.	3.3	5
79	Effects of Lateral Entrainment Mixing With Entrained Aerosols on Cloud Microphysics. Geophysical Research Letters, 2020, 47, e2020GL087667.	4.0	5
80	A high-top version of IAP-AGCM: Preliminary assessment and sensitivity IAP-AGCM. Atmospheric and Oceanic Science Letters, 2021, 14, 100025.	1.3	5
81	Development of fineâ€resolution analyses and expanded largeâ€scale forcing properties: 2. Scale awareness and application to singleâ€column model experiments. Journal of Geophysical Research D: Atmospheres, 2015, 120, 667-677.	3.3	4
82	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
83	AGCM3D: A Highly Scalable Finite-Difference Dynamical Core of Atmospheric General Circulation Model Based on 3D Decomposition. , 2018, , .		4
84	Coordination to Understand and Reduce Global Model Biases by U.S. and Chinese Institutions. Bulletin of the American Meteorological Society, 2018, 99, ES109-ES113.	3.3	4
85	Design and Research of CASâ€CIG for Earth System Models. Earth and Space Science, 2020, 7, e2019EA000965.	2.6	4
86	Geoscientists, Who Have Documented the Rapid and Accelerating Climate Crisis for Decades, Are Now Pleading for Immediate Collective Action. Geophysical Research Letters, 2021, 48, e2021GL096644.	4.0	3
87	Ocean Response to a Climate Change Heat-Flux Perturbation in an Ocean Model and Its Corresponding Coupled Model. Advances in Atmospheric Sciences, 2022, 39, 55-66.	4.3	3
88	Increasing Future Precipitation in the Southwestern US in the Summer and Its Contrasting Mechanism With Decreasing Precipitation in the Spring. Geophysical Research Letters, 2022, 49, .	4.0	3
89	Cloud transitions: comparison of temporal variation in the southeastern Pacific with the spatial variation in the northeastern Pacific at low latitudes. International Journal of Climatology, 2017, 37, 2923-2933.	3.5	2
90	A Highly Efficient Dynamical Core of Atmospheric General Circulation Model based on Leap-Format. , 2020, , .		2

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91	Simulation of the QBO in IAP-AGCM: Analysis of momentum budget. Atmospheric and Oceanic Science Letters, 2021, 14, 100021.	1.3	2
92	Implementation of an Orographic Drag Scheme Considering Orographic Anisotropy in All Flow Directions in the Earth System Model CASâ€ESM 2.0. Journal of Advances in Modeling Earth Systems, 2021, 13, .	3.8	2
93	Formulation of a new explicit tidal scheme in revised LICOM2.0. Geoscientific Model Development, 2022, 15, 4259-4273.	3.6	2
94	Linkage between tropical terrestrial carbon cycle and precipitation: The two anomalous years of 1979 and 1996. Atmospheric Science Letters, 2019, 20, e876.	1.9	1
95	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
96	Transient Precipitation Increase During Winter in the Eastern North America. Geophysical Research Letters, 2022, 49, .	4.0	1
97	The effects of redistributed heat flux on ocean climate change in FAFMIP heat flux anomaly experiments. Ocean Modelling, 2022, , 102063.	2.4	1
98	Evaluation of Sea Ice Simulation of CAS-ESM 2.0 in Historical Experiment. Atmosphere, 2022, 13, 1056.	2.3	1
99	Appreciation of Peer Reviewers for 2019. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032611.	3.3	0
100	Appreciation of Peer Reviewers for 2020. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034920.	3.3	0
101	Appreciation of Peer Reviewers for 2021. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	3.3	0