Kuan-Man Xu

List of Publications by Year
in descending order

104 papers	5,453 citations	94269 37 h-index	85405 71 g-index
107 all docs	107 docs citations	107 times ranked	3901 citing authors

#	Article	IF	Citations
1	A Semiempirical Cloudiness Parameterization for Use in Climate Models. Journals of the Atmospheric Sciences, 1996, 53, 3084-3102.	0.6	293
2	Single-Column Model Intercomparison for a Stably Stratified Atmospheric Boundary Layer. Boundary-Layer Meteorology, 2006, 118, 273-303.	1.2	278
3	Occurrence, liquid water content, and fraction of supercooled water clouds from combined CALIOP/IIR/MODIS measurements. Journal of Geophysical Research, 2010, 115, .	3.3	250
4	Is the Tropical Atmosphere Conditionally Unstable?. Monthly Weather Review, 1989, 117, 1471-1479.	0.5	239
5	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.	1.0	224
6	Single-Column Models and Cloud Ensemble Models as Links between Observations and Climate Models. Journal of Climate, 1996, 9, 1683-1697.	1.2	219
7	Improvements of top-of-atmosphere and surface irradiance computations with CALIPSO-, CloudSat-, and MODIS-derived cloud and aerosol properties. Journal of Geophysical Research, 2011, 116, .	3.3	208
8	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.	1.0	192
9	Evaluation of Cloudiness Parameterizations Using a Cumulus Ensemble Model. Monthly Weather Review, 1991, 119, 342-367.	0.5	169
10	Daytime convective development over land: A model intercomparison based on LBA observations. Quarterly Journal of the Royal Meteorological Society, 2006, 132, 317-344.	1.0	160
11	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.	1.3	140
12	Marine low cloud sensitivity to an idealized climate change: The CGILS LES intercomparison. Journal of Advances in Modeling Earth Systems, 2013, 5, 234-258.	1.3	128
13	Explicit Simulation of Cumulus Ensembles with the GATE Phase III Data: Comparison with Observations. Journals of the Atmospheric Sciences, 1996, 53, 3710-3736.	0.6	125
14	Intercomparison and evaluation of cumulus parametrizations under summertime midlatitude continental conditions. Quarterly Journal of the Royal Meteorological Society, 2002, 128, 1095-1135.	1.0	119
15	A comparison of single column model simulations of summertime midlatitude continental convection. Journal of Geophysical Research, 2000, 105, 2091-2124.	3.3	107
16	The Iris Hypothesis: A Negative or Positive Cloud Feedback?. Journal of Climate, 2002, 15, 3-7.	1.2	99
17	The Macroscopic Behavior of Cumulus Ensembles Simulated by a Cumulus Ensemble Model. Journals of the Atmospheric Sciences, 1992, 49, 2402-2420.	0.6	98
18	Impact of Interactive Radiative Transfer on the Macroscopic Behavior of Cumulus Ensembles. Part II: Mechanisms for Cloud-Radiation Interactions. Journals of the Atmospheric Sciences, 1995, 52, 800-817.	0.6	95

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19	Recent trends of the tropical hydrological cycle inferred from Global Precipitation Climatology Project and International Satellite Cloud Climatology Project data. Journal of Geophysical Research, 2011, 116, .	3.3	90
20	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.	1.0	84
21	Covariance between Arctic sea ice and clouds within atmospheric state regimes at the satellite footprint level. Journal of Geophysical Research D: Atmospheres, 2015, 120, 12656-12678.	1.2	84
22	Partitioning Mass, Heat, and Moisture Budgets of Explicitly Simulated Cumulus Ensembles into Convective and Stratiform Components. Journals of the Atmospheric Sciences, 1995, 52, 551-573.	0.6	72
23	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
24	Updraft and Downdraft Statistics of Simulated Tropical and Midlatitude Cumulus Convection. Journals of the Atmospheric Sciences, 2001, 58, 1630-1649.	0.6	61
25	Simulation of shallow cumuli and their transition to deep convective clouds by cloud-resolving models with different third-order turbulence closures. Quarterly Journal of the Royal Meteorological Society, 2006, 132, 359-382.	1.0	61
26	Statistical Analyses of Satellite Cloud Object Data from CERES. Part I: Methodology and Preliminary Results of the 1998 El NiÃ±o/2000 La NiÃ±a. Journal of Climate, 2005, 18, 2497-2514.	1.2	57
27	Overlap assumptions for assumed probability distribution function cloud schemes in large-scale models. Journal of Geophysical Research, 2005, 110, .	3.3	57
28	Improving representation of convective transport for scaleâ€aware parameterization: 1. Convection and cloud properties simulated with spectral bin and bulk microphysics. Journal of Geophysical Research D: Atmospheres, 2015, 120, 3485-3509.	1.2	57
29	Semiprognostic Tests of the Arakawa-Schubert Cumulus Parameterization Using Simulated Data. Journals of the Atmospheric Sciences, 1992, 49, 2421-2436.	0.6	56
30	Impact of Interactive Radiative Transfer on the Macroscopic Behavior of Cumulus Ensembles. Part I: Radiation Parameterization and Sensitivity Tests. Journals of the Atmospheric Sciences, 1995, 52, 785-799.	0.6	53
31	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.	1.2	53
32	Modeling springtime shallow frontal clouds with cloud-resolving and single-column models. Journal of Geophysical Research, 2005, 110, .	3.3	51
33	Observational constraints on atmospheric and oceanic cross-equatorial heat transports: revisiting the precipitation asymmetry problem in climate models. Climate Dynamics, 2016, 46, 3239-3257.	1.7	49
34	Statistical Analyses of Satellite Cloud Object Data from CERES. Part II: Tropical Convective Cloud Objects during 1998 El NiÃ±o and Evidence for Supporting the Fixed Anvil Temperature Hypothesis. Journal of Climate, 2007, 20, 819-842.	1.2	44
35	The Effect of Environmental Conditions on Tropical Deep Convective Systems Observed from the TRMM Satellite. Journal of Climate, 2006, 19, 5745-5761.	1.2	43
36	Evaluation of Statistically Based Cloudiness Parameterizations Used in Climate Models. Journals of the Atmospheric Sciences, 1996, 53, 3103-3119.	0.6	41

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37	Parameterization of Shortwave and Longwave Radiative Properties of Ice Clouds for Use in Climate Models. Journal of Climate, 2009, 22, 6287-6312.	1.2	40
38	Improved low-cloud simulation from a multiscale modeling framework with a third-order turbulence closure in its cloud-resolving model component. Journal of Geophysical Research, 2011, 116, .	3.3	39
39	Cirrus Cloud Properties from a Cloud-Resolving Model Simulation Compared to Cloud Radar Observations. Journals of the Atmospheric Sciences, 2003, 60, 510-525.	0.6	39
40	An Overview of CMIP5 and CMIP6 Simulated Cloud Ice, Radiation Fields, Surface Wind Stress, Sea Surface Temperatures, and Precipitation Over Tropical and Subtropical Oceans. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2020JD032848.	1.2	38
41	Influence of Large-Scale Advective Cooling and Moistening Effects on the Quasi-Equilibrium Behavior of Explicitly Simulated Cumulus Ensembles. Journals of the Atmospheric Sciences, 1998, 55, 896-909.	0.6	37
42	Simulation of Boundary-Layer Cumulus and Stratocumulus Clouds Using a Cloud-Resolving Model with Low-and Third-order Turbulence Closures. Journal of the Meteorological Society of Japan, 2008, 86A, 67-86.	0.7	37
43	An estimate of aerosol indirect effect from satellite measurements with concurrent meteorological analysis. Journal of Geophysical Research, 2010, 115, .	3.3	37
44	Effects of Resolution on the Simulation of Boundaryâ€layer Clouds and the Partition of Kinetic Energy to Subgrid Scales. Journal of Advances in Modeling Earth Systems, 2010, 2, .	1.3	36
45	Multiâ€layer arctic mixedâ€phase clouds simulated by a cloudâ€resolving model: Comparison with ARM observations and sensitivity experiments. Journal of Geophysical Research, 2008, 113, .	3.3	33
46	Arctic Mixed-Phase Clouds Simulated by a Cloud-Resolving Model: Comparison with ARM Observations and Sensitivity to Microphysics Parameterizations. Journals of the Atmospheric Sciences, 2008, 65, 1285-1303.	0.6	33
47	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part I: Sensitivity to Spatial Resolution and Climatology. Journal of Climate, 2013, 26, 5717-5740.	1.2	33
48	A PDF-Based Microphysics Parameterization for Simulation of Drizzling Boundary Layer Clouds. Journals of the Atmospheric Sciences, 2009, 66, 2317-2334.	0.6	31
49	An Estimate of Low-Cloud Feedbacks from Variations of Cloud Radiative and Physical Properties with Sea Surface Temperature on Interannual Time Scales. Journal of Climate, 2011, 24, 1106-1121.	1.2	31
50	Use of cloud radar observations for model evaluation: A probabilistic approach. Journal of Geophysical Research, 2004, 109, n/a-n/a.	3.3	30
51	How might a statistical cloud scheme be coupled to a mass-flux convection scheme?. Journal of Geophysical Research, 2005, 110, .	3.3	30
52	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part II: Seasonal Variations over the Eastern Pacific. Journal of Climate, 2013, 26, 5741-5760.	1.2	30
53	Cloud-Resolving Simulation of Low-Cloud Feedback to an Increase in Sea Surface Temperature. Journals of the Atmospheric Sciences, 2010, 67, 730-748.	0.6	29
54	Improved Low-Cloud Simulation from the Community Atmosphere Model with an Advanced Third-Order Turbulence Closure. Journal of Climate, 2015, 28, 5737-5762.	1.2	29

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55	Comparison of the tropical radiative flux and cloud radiative effect profiles in a climate model with Clouds and the Earth's Radiant Energy System (CERES) data. Journal of Geophysical Research, 2010, 115, .	3.3	28
56	A Sensitivity Study of Radiativeâ€"Convective Equilibrium in the Tropicswith a Convection-Resolving Model. Journals of the Atmospheric Sciences, 1999, 56, 3385-3400.	0.6	27
57	Evaluating Low-Cloud Simulation from an Upgraded Multiscale Modeling Framework Model. Part III: Tropical and Subtropical Cloud Transitions over the Northern Pacific. Journal of Climate, 2013, 26, 5761-5781.	1.2	27
58	Singleâ€Column Model Simulations of Subtropical Marine Boundaryâ€Layer Cloud Transitions Under Weakening Inversions. Journal of Advances in Modeling Earth Systems, 2017, 9, 2385-2412.	1.3	27
59	Mean Structure and Diurnal Cycle of Southeast Atlantic Boundary Layer Clouds: Insights from Satellite Observations and Multiscale Modeling Framework Simulations. Journal of Climate, 2015, 28, 324-341.	1.2	25
60	Deriving Marine-Boundary-Layer Lapse Rate from Collocated CALIPSO, MODIS, and AMSR-E Data to Study Global Low-Cloud Height Statistics. IEEE Geoscience and Remote Sensing Letters, 2008, 5, 649-652.	1.4	22
61	Statistical Analyses of Satellite Cloud Object Data from CERES. Part IV: Boundary Layer Cloud Objects during 1998 El NiÃ±o. Journal of Climate, 2008, 21, 1500-1521.	1.2	22
62	Radiative-convective disequilibrium. Atmospheric Research, 1994, 31, 315-327.	1.8	21
63	A statistical comparison of deep convective cloud objects observed by an Earth Observing System satellite and simulated by a cloud-resolving model. Journal of Geophysical Research, 2005, 110, .	3.3	21
64	Using the Bootstrap Method for a Statistical Significance Test of Differences between Summary Histograms. Monthly Weather Review, 2006, 134, 1442-1453.	0.5	21
65	Statistical Analyses of Satellite Cloud Object Data from CERES. Part V: Relationships between Physical Properties of Marine Boundary Layer Clouds. Journal of Climate, 2008, 21, 6668-6688.	1.2	21
66	Cloud and Radiative Characteristics of Tropical Deep Convective Systems in Extended Cloud Objects from CERES Observations. Journal of Climate, 2009, 22, 5983-6000.	1.2	21
67	Improving representation of convective transport for scaleâ€aware parameterization: 2. Analysis of cloudâ€resolving model simulations. Journal of Geophysical Research D: Atmospheres, 2015, 120, 3510-3532.	1.2	21
68	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.	1.0	20
69	Annual and seasonal mean tropical and subtropical precipitation bias in CMIP5 and CMIP6 models. Environmental Research Letters, 2020, 15, 124068.	2.2	20
70	The Liquid Water Oscillation in Modeling Boundary Layer Cumuli with Third-Order Turbulence Closure Models. Journals of the Atmospheric Sciences, 2004, 61, 1621-1629.	0.6	17
71	Explicit Simulation of Midlatitude Cumulus Ensembles: Comparison with ARM Data. Journals of the Atmospheric Sciences, 2000, 57, 2839-2858.	0.6	16
72	Impact of a cloud thermodynamic phase parameterization based on CALIPSO observations on climate simulation. Journal of Geophysical Research, 2012, 117, .	3.3	16

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73	Diurnal variability of low clouds in the Southeast Pacific simulated by a multiscale modeling framework model. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9191-9208.	1.2	16
74	Statistical Analyses of Satellite Cloud Object Data from CERES. Part III: Comparison with Cloud-Resolving Model Simulations of Tropical Convective Clouds. Journals of the Atmospheric Sciences, 2007, 64, 762-785.	0.6	15
75	An explicit representation of vertical momentum transport in a multiscale modeling framework through its 2â€Đ cloudâ€resolving model component. Journal of Geophysical Research D: Atmospheres, 2014, 119, 2356-2374.	1.2	13
76	Investigation of the Residual in Column-Integrated Atmospheric Energy Balance Using Cloud Objects. Journal of Climate, 2016, 29, 7435-7452.	1.2	13
77	A Statistical Analysis of the Dependency of Closure Assumptions in Cumulus Parameterization on the Horizontal Resolution. Journals of the Atmospheric Sciences, 1994, 51, 3674-3691.	0.6	11
78	Assessing the Resolution Adaptability of the Zhangâ€McFarlane Cumulus Parameterization With Spatial and Temporal Averaging. Journal of Advances in Modeling Earth Systems, 2017, 9, 2753-2770.	1.3	11
79	Evaluation of Cloud Physical Properties of ECMWF Analysis and Re-Analysis (ERA) against CERES Tropical Deep Convective Cloud Object Observations. Monthly Weather Review, 2009, 137, 207-223.	0.5	10
80	Cloud Object Analysis of CERES Aqua Observations of Tropical and Subtropical Cloud Regimes: Four-Year Climatology. Journal of Climate, 2016, 29, 1617-1638.	1.2	10
81	Comments on â€œA Unified Representation of Deep Moist Convection in Numerical Modeling of the Atmosphere. Part Iâ€. Journals of the Atmospheric Sciences, 2015, 72, 2562-2565.	0.6	9
82	Convective Aggregation and Indices Examined from CERES Cloud Object Data. Journal of Geophysical Research D: Atmospheres, 2019, 124, 13604-13624.	1.2	9
83	Cloud Properties Simulated by a Single-Column Model. Part II: Evaluation of Cumulus Detrainment and Ice-Phase Microphysics Using a Cloud-Resolving Model. Journals of the Atmospheric Sciences, 2006, 63, 2831-2847.	0.6	8
84	Coincident occurrences of tropical individual cirrus clouds and deep convective systems derived from TRMM observations. Geophysical Research Letters, 2007, 34, .	1.5	8
85	Sensitivity of a Large Ensemble of Tropical Convective Systems to Changes in the Thermodynamic and Dynamic Forcings. Journals of the Atmospheric Sciences, 2008, 65, 1773-1794.	0.6	8
86	The Sensitivity of Diagnostic Radiative Properties to Cloud Microphysics among Cloud-Resolving Model Simulations. Journals of the Atmospheric Sciences, 2005, 62, 1241-1254.	0.6	7
87	Improved ice content, radiation, precipitation and low-level circulation over the tropical pacific from ECMWF ERA-interim to ERA5. Environmental Research Communications, 2021, 3, 081006.	0.9	7
88	Understanding the tropical cloud feedback from an analysis of the circulation and stability regimes simulated from an upgraded multiscale modeling framework. Journal of Advances in Modeling Earth Systems, 2016, 8, 1825-1846.	1.3	6
89	Entrainment rate diurnal cycle in marine stratiform clouds estimated from geostationary satellite retrievals and a meteorological forecast model. Geophysical Research Letters, 2017, 44, 7482-7489.	1.5	6
90	Relating Precipitating Ice Radiative Effects to Surface Energy Balance and Temperature Biases Over the Tibetan Plateau in Winter. Journal of Geophysical Research D: Atmospheres, 2019, 124, 12455-12467.	1.2	6

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91	Exploring Radiation Biases Over the Tropical and Subtropical Oceans Based on Treatments of Frozenâ€Hydrometeor Radiative Properties in CMIP6 Models. Journal of Geophysical Research D: Atmospheres, 2022, 127, .	1.2	6
92	Comparing surface wind stress and sea surface temperature biases over the tropical and subtropical oceans in subsets of CMIP6 models categorized by frozen hydrometeors-radiation interactions. Environmental Research Communications, 2022, 4, 055009.	0.9	6
93	Explicit simulation of cumulus ensembles with the GATE phase III data: Budgets of a composite easterly wave. Quarterly Journal of the Royal Meteorological Society, 2001, 127, 1571-1591.	1.0	5
94	Evaluation of a General Circulation Model by the CERES Fluxâ€byâ€Cloud Type Simulator. Journal of Geophysical Research D: Atmospheres, 2017, 122, 10655-10668.	1.2	5
95	Changes of Southâ€Central Pacific Largeâ€Scale Environment Associated With Hydrometeorsâ€Radiationâ€Circulation Interactions in a Coupled GCM. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2021JD034973.	1.2	4
96	Cloud object analysis of CERES Aqua observations of tropical and subtropical cloud regimes: Evolution of cloud object size distributions during the Maddenâ€"Julian Oscillation. Journal of Quantitative Spectroscopy and Radiative Transfer, 2017, 188, 148-158.	1.1	3
97	The Response of Simulated Arctic Mixedâ€Phase Stratocumulus to Sea Ice Cover Variability in the Absence of Largeâ€Scale Advection. Journal of Geophysical Research D: Atmospheres, 2017, 122, 12,335.	1.2	3
98	Differences in the hydrological cycle and sensitivity between multiscale modeling frameworks with and without a higherâ€order turbulence closure. Journal of Advances in Modeling Earth Systems, 2017, 9, 2120-2137.	1.3	3
99	Analysis of Cloud-Resolving Model Simulations for Scale Dependence of Convective Momentum Transport. Journals of the Atmospheric Sciences, 2018, 75, 2445-2472.	0.6	3
100	Arctic Clouds Simulated by a Multiscale Modeling Framework and Comparisons With Observations and Conventional GCMs. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD030522.	1.2	3
101	Changes in clouds and atmospheric circulation associated with rapid adjustment induced by increased atmospheric CO2: aÂmultiscale modeling framework study. Climate Dynamics, 2020, 55, 277-293.	1.7	2
102	The potential influence of falling ice radiative effects on Central-Pacific El NiÃ±o variability under progressive global warming. Environmental Research Letters, 2021, 16, 124062.	2.2	2
103	Linking global land surface temperature projections to radiative effects of hydrometeors under a global warming scenario. Environmental Research Letters, 2021, 16, 084044.	2.2	1
104	Observational evaluation of global climate model simulations of arctic sea ice and adjacent land pertaining to the radiative effects of frozen hydrometeors. Environmental Research Communications, 2022, 4, 025008.	0.9	1