

William I. Gustafson Jr.

List of Publications by Year in descending order

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67
papers

4,074
citations

159525

30
h-index

133188

59
g-index

75
all docs

75
docs citations

75
times ranked

4167
citing authors

#	ARTICLE	IF	CITATIONS
1	Determining Spatial Scales of Soil Moisture–Cloud Coupling Pathways Using Semi-Idealized Simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2022, 127, e2021JD035282.	1.2	2
2	Effect of dust on rainfall over the Red Sea coast based on WRF-Chem model simulations. <i>Atmospheric Chemistry and Physics</i> , 2022, 22, 8659-8682.	1.9	7
3	Impact of Lateral Flow on Surface Water and Energy Budgets Over the Southern Great Plains—A Modeling Study. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033659.	1.2	8
4	Quantifying physical parameterization uncertainties associated with land-atmosphere interactions in the WRF model over Amazon. <i>Atmospheric Research</i> , 2021, 262, 105761.	1.8	5
5	Large-Scale Forcing Impact on the Development of Shallow Convective Clouds Revealed From LASSO Large-Eddy Simulations. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2021JD035208.	1.2	3
6	Simulation of Continental Shallow Cumulus Populations Using an Observation-Constrained Cloud-System Resolving Model. <i>Journal of Advances in Modeling Earth Systems</i> , 2020, 12, e2020MS002091.	1.3	4
7	Neglecting irrigation contributes to the simulated summertime warm-and-dry bias in the central United States. <i>Npj Climate and Atmospheric Science</i> , 2020, 3, .	2.6	24
8	Understanding irrigation impacts on low-level jets over the Great Plains. <i>Climate Dynamics</i> , 2020, 55, 925-943.	1.7	7
9	The Large-Eddy Simulation (LES) Atmospheric Radiation Measurement (ARM) Symbiotic Simulation and Observation (LASSO) Activity for Continental Shallow Convection. <i>Bulletin of the American Meteorological Society</i> , 2020, 101, E462-E479.	1.7	41
10	Reconciling Differences Between Large-Eddy Simulations and Doppler Lidar Observations of Continental Shallow Cumulus Cloud-Base Vertical Velocity. <i>Geophysical Research Letters</i> , 2019, 46, 11539-11547.	1.5	14
11	Irrigation Impact on Water and Energy Cycle During Dry Years Over the United States Using Convection-Permitting WRF and a Dynamical Recycling Model. <i>Journal of Geophysical Research D: Atmospheres</i> , 2019, 124, 11220-11241.	1.2	34
12	Long-Term Retrievals of Cloud Type and Fair-Weather Shallow Cumulus Events at the ARM SGP Site. <i>Journal of Atmospheric and Oceanic Technology</i> , 2019, 36, 2031-2043.	0.5	9
13	Spatiotemporal Characteristics and Large-Scale Environments of Mesoscale Convective Systems East of the Rocky Mountains. <i>Journal of Climate</i> , 2019, 32, 7303-7328.	1.2	91
14	Can the Multiscale Modeling Framework (MMF) Simulate the MCS-Associated Precipitation Over the Central United States?. <i>Journal of Advances in Modeling Earth Systems</i> , 2019, 11, 4669-4686.	1.3	11
15	CAUSES: Attribution of Surface Radiation Biases in NWP and Climate Models near the U.S. Southern Great Plains. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 3612-3644.	1.2	62
16	Introduction to CAUSES: Description of Weather and Climate Models and Their Near-Surface Temperature Errors in 5-Day Hindcasts Near the Southern Great Plains. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 2655-2683.	1.2	53
17	Shallow Cumulus in WRF Parameterizations Evaluated against LASSO Large-Eddy Simulations. <i>Monthly Weather Review</i> , 2018, 146, 4303-4322.	0.5	36
18	CAUSES: On the Role of Surface Energy Budget Errors to the Warm Surface Air Temperature Error Over the Central United States. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 2888-2909.	1.2	60

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19	Assessing the Resolution Adaptability of the Zhang&McFarlane Cumulus Parameterization With Spatial and Temporal Averaging. Journal of Advances in Modeling Earth Systems, 2017, 9, 2753-2770.	1.3	11
20	Spectral characteristics of background error covariance and multiscale data assimilation. International Journal for Numerical Methods in Fluids, 2016, 82, 1035-1048.	0.9	10
21	Estimation of cloud fraction profile in shallow convection using a scanning cloud radar. Geophysical Research Letters, 2016, 43, 10,998.	1.5	22
22	Outcomes from the DOE Workshop on Turbulent Flow Simulation at the Exascale. , 2016, , .		1
23	Roles of wind shear at different vertical levels: Cloud system organization and properties. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6551-6574.	1.2	48
24	How does increasing horizontal resolution in a global climate model improve the simulation of aerosol&cloud interactions?. Geophysical Research Letters, 2015, 42, 5058-5065.	1.5	62
25	Modifications to <sc>WRF</sc>'s dynamical core to improve the treatment of moisture for large&eddy simulations. Journal of Advances in Modeling Earth Systems, 2015, 7, 1627-1642.	1.3	8
26	Evaluation of tropical channel refinement using <sc>MPAS&A</sc> aquaplanet simulations. Journal of Advances in Modeling Earth Systems, 2015, 7, 1351-1367.	1.3	9
27	Resolution&dependent behavior of subgrid&scale vertical transport in the Zhang&McFarlane convection parameterization. Journal of Advances in Modeling Earth Systems, 2015, 7, 537-550.	1.3	8
28	Global and regional modeling of clouds and aerosols in the marine boundary layer during VOCALS: the VOCA intercomparison. Atmospheric Chemistry and Physics, 2015, 15, 153-172.	1.9	36
29	Assessing the CAM5 physics suite in the WRF-Chem model: implementation, resolution sensitivity, and a first evaluation for a regional case study. Geoscientific Model Development, 2014, 7, 755-778.	1.3	74
30	Impact of resolution on simulation of closed mesoscale cellular convection identified by dynamically guided watershed segmentation. Journal of Geophysical Research D: Atmospheres, 2014, 119, 12,674.	1.2	4
31	Precipitation characteristics of CAM5 physics at mesoscale resolution during MC3E and the impact of convective timescale choice. Journal of Advances in Modeling Earth Systems, 2014, 6, 1271-1287.	1.3	32
32	Eddy fluxes and sensitivity of the water cycle to spatial resolution in idealized regional aquaplanet model simulations. Climate Dynamics, 2014, 42, 931-940.	1.7	6
33	Impact of subgrid&scale radiative heating variability on the stratocumulus&trade cumulus transition in climate models. Journal of Geophysical Research D: Atmospheres, 2014, 119, 4192-4203.	1.2	9
34	The Separate Physics and Dynamics Experiment (SPADE) framework for determining resolution awareness: A case study of microphysics. Journal of Geophysical Research D: Atmospheres, 2013, 118, 9258-9276.	1.2	13
35	Evaluation of a Modified Scheme for Shallow Convection: Implementation of CuP and Case Studies. Monthly Weather Review, 2013, 141, 134-147.	0.5	52
36	Untangling dynamical and microphysical controls for the structure of stratocumulus. Geophysical Research Letters, 2013, 40, 4432-4436.	1.5	15

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37	Modeling aerosols and their interactions with shallow cumuli during the 2007 CHAPS field study. <i>Journal of Geophysical Research D: Atmospheres</i> , 2013, 118, 1343-1360.	1.2	30
38	Implementing the Data Center Energy Productivity Metric in a High-Performance Computing Data Center. , 2013, , 93-116.		1
39	Implementing the data center energy productivity metric. <i>ACM Journal on Emerging Technologies in Computing Systems</i> , 2012, 8, 1-22.	1.8	7
40	Transport and mixing patterns over Central California during the carbonaceous aerosol and radiative effects study (CARES). <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 1759-1783.	1.9	67
41	Overview of the 2010 Carbonaceous Aerosols and Radiative Effects Study (CARES). <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 7647-7687.	1.9	94
42	Impact of natural and anthropogenic aerosols on stratocumulus and precipitation in the Southeast Pacific: a regional modelling study using WRF-Chem. <i>Atmospheric Chemistry and Physics</i> , 2012, 12, 8777-8796.	1.9	43
43	Evaluation of regional climate simulations over the Great Lakes region driven by three global data sets. <i>Journal of Great Lakes Research</i> , 2012, 38, 212-225.	0.8	8
44	Generalized approach for using unbiased symmetric metrics with negative values: normalized mean bias factor and normalized mean absolute error factor. <i>Atmospheric Science Letters</i> , 2012, 13, 262-267.	0.8	20
45	NO _x Emission Reduction and its Effects on Ozone during the 2008 Olympic Games. <i>Environmental Science & Technology</i> , 2011, 45, 6404-6410.	4.6	51
46	Downscaling aerosols and the impact of neglected subgrid processes on direct aerosol radiative forcing for a representative global climate model grid spacing. <i>Journal of Geophysical Research</i> , 2011, 116, .	3.3	33
47	Assessing regional scale predictions of aerosols, marine stratocumulus, and their interactions during VOCALS-REx using WRF-Chem. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 11951-11975.	1.9	99
48	Modeling organic aerosols in a megacity: comparison of simple and complex representations of the volatility basis set approach. <i>Atmospheric Chemistry and Physics</i> , 2011, 11, 6639-6662.	1.9	230
49	The multi-scale aerosol-climate model PNNL-MMF: model description and evaluation. <i>Geoscientific Model Development</i> , 2011, 4, 137-168.	1.3	88
50	The Aerosol Modeling Testbed: A Community Tool to Objectively Evaluate Aerosol Process Modules. <i>Bulletin of the American Meteorological Society</i> , 2011, 92, 343-360.	1.7	31
51	An investigation of the sub-grid variability of trace gases and aerosols for global climate modeling. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 6917-6946.	1.9	62
52	The spatial distribution of mineral dust and its shortwave radiative forcing over North Africa: modeling sensitivities to dust emissions and aerosol size treatments. <i>Atmospheric Chemistry and Physics</i> , 2010, 10, 8821-8838.	1.9	265
53	The Madden-Julian oscillation wind-convection coupling and the role of moisture processes in the MM5 model. <i>Climate Dynamics</i> , 2010, 35, 435-447.	1.7	7
54	On-Line Chemistry Within WRF: Description and Evaluation of a State-of-the-Art Multiscale Air Quality and Weather Prediction Model. , 2010, , 41-54.		6

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55	A Preliminary Synthesis of Modeled Climate Change Impacts on U.S. Regional Ozone Concentrations. Bulletin of the American Meteorological Society, 2009, 90, 1843-1864.	1.7	175
56	The effects of aerosols on intense convective precipitation in the northeastern United States. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 1367-1391.	1.0	83
57	Effects of soot-induced snow albedo change on snowpack and hydrological cycle in western United States based on Weather Research and Forecasting chemistry and regional climate simulations. Journal of Geophysical Research, 2009, 114, .	3.3	126
58	Coupling aerosol-cloud-radiative processes in the WRF-Chem model: Investigating the radiative impact of elevated point sources. Atmospheric Chemistry and Physics, 2009, 9, 945-964.	1.9	318
59	Impacts of regional climate change on biogenic emissions and air quality. Journal of Geophysical Research, 2008, 113, .	3.3	42
60	The Explicit-Cloud Parameterized-Pollutant hybrid approach for aerosol-cloud interactions in multiscale modeling framework models: tracer transport results. Environmental Research Letters, 2008, 3, 025005.	2.2	34
61	Regional Downscaling for Air Quality Assessment. Bulletin of the American Meteorological Society, 2007, 88, 1215-1228.	1.7	33
62	Impact on modeled cloud characteristics due to simplified treatment of uniform cloud condensation nuclei during NEAQS 2004. Geophysical Research Letters, 2007, 34, .	1.5	145
63	Evolution of ozone, particulates, and aerosol direct radiative forcing in the vicinity of Houston using a fully coupled meteorology-chemistry-aerosol model. Journal of Geophysical Research, 2006, 111, .	3.3	843
64	Potential regional climate change and implications to U.S. air quality. Geophysical Research Letters, 2005, 32, .	1.5	152
65	MM5 Modeling of the Madden-Julian Oscillation in the Indian and West Pacific Oceans: Model Description and Control Run Results. Journal of Climate, 2004, 17, 1320-1337.	1.2	24
66	MM5 Modeling of the Madden-Julian Oscillation in the Indian and West Pacific Oceans: Implications of 30-70-Day Boundary Effects on MJO Development. Journal of Climate, 2004, 17, 1338-1351.	1.2	13
67	Coupling between the University of California, Davis, Advanced Canopy-Atmosphere-Soil Algorithm (ACASA) and MM5: Preliminary Results for July 1998 for Western North America. Journal of Applied Meteorology and Climatology, 2003, 42, 557-569.	1.7	23