M S Pritchard

List of Publications by Year
in descending order

51 papers	2,193 citations	279487 23 h-index	233125 45 g-index
57 all docs	57 docs citations	57 times ranked	2622 citing authors

#	Article	IF	Citations
1	Loadâ€Balancing Intense Physics Calculations to Embed Regionalized Highâ€Resolution Cloud Resolving Models in the E3SM and CESM Climate Models. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	1
2	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.	1.3	17
3	Nonâ€Linear Dimensionality Reduction With a Variational Encoder Decoder to Understand Convective Processes in Climate Models. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	4
4	Lower Tropospheric Processes: A Control on the Global Mean Precipitation Rate. Geophysical Research Letters, 2021, 48, e2020GL091169.	1.5	0
5	Enforcing Analytic Constraints in Neural Networks Emulating Physical Systems. Physical Review Letters, 2021, 126, 098302.	2.9	124
6	Assessing the Potential of Deep Learning for Emulating Cloud Superparameterization in Climate Models With Realâ€Geography Boundary Conditions. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002385.	1.3	20
7	Zonally contrasting shifts of the tropical rain belt in response to climate change. Nature Climate Change, 2021, 11, 143-151.	8.1	88
8	The Impact of Resolving Subkilometer Processes on Aerosolâ€Cloud Interactions of Lowâ€Level Clouds in Global Model Simulations. Journal of Advances in Modeling Earth Systems, 2020, 12, e2020MS002274.	1.3	16
9	Regional MJO Modulation of Northwest Pacific Tropical Cyclones Driven by Multiple Transient Controls. Geophysical Research Letters, 2020, 47, e2020GL087148.	1.5	7
10	The Ongoing Need for High-Resolution Regional Climate Models: Process Understanding and Stakeholder Information. Bulletin of the American Meteorological Society, 2020, 101, E664-E683.	1.7	90
11	Initial Results From the Superâ€Parameterized E3SM. Journal of Advances in Modeling Earth Systems, 2020, 12, e2019MS001863.	1.3	28
12	Towards Physically-Consistent, Data-Driven Models of Convection. , 2020, , .		18
13	Interpreting and Stabilizing Machine-Learning Parametrizations of Convection. Journals of the Atmospheric Sciences, 2020, 77, 4357-4375.	0.6	49
14	High-Resolution Regional Climate Models: Meeting Ongoing Community and Scientific Needs. Bulletin of the American Meteorological Society, 2020, 101, 693-697.	1.7	5
15	Comparing Convective Selfâ€Aggregation in Idealized Models to Observed Moist Static Energy Variability Near the Equator. Geophysical Research Letters, 2019, 46, 10589-10598.	1.5	7
16	The effect of plant physiological responses to rising CO2 on global streamflow. Nature Climate Change, 2019, 9, 873-879.	8.1	32
17	A Strong Role for the AMOC in Partitioning Global Energy Transport and Shifting ITCZ Position in Response to Latitudinally Discrete Solar Forcing in CESM1.2. Journal of Climate, 2019, 32, 2207-2226.	1.2	27
18	Why Does Amazon Precipitation Decrease When Tropical Forests Respond to Increasing CO₂?. Earth's Future, 2019, 7, 450-468.	2.4	53

#	Article	IF	Citations
19	Soil Moisture Variability Intensifies and Prolongs Eastern Amazon Temperature and Carbon Cycle Response to El NiÃ±oâ€“Southern Oscillation. Journal of Climate, 2019, 32, 1273-1292.	1.2	20
20	Assessing the Impact of Indian Irrigation on Precipitation in the Irrigation-Enabled Community Earth System Model. Journal of Hydrometeorology, 2018, 19, 427-443.	0.7	6
21	Global Effects of Superparameterization on Hydrothermal Landâ€Atmosphere Coupling on Multiple Timescales. Journal of Advances in Modeling Earth Systems, 2018, 10, 530-549.	1.3	5
22	Sensitivity of Coupled Tropical Pacific Model Biases to Convective Parameterization in CESM1. Journal of Advances in Modeling Earth Systems, 2018, 10, 126-144.	1.3	26
23	Rainfall From Resolved Rather Than Parameterized Processes Better Represents the Presentâ€Day and Climate Change Response of Moderate Rates in the Community Atmosphere Model. Journal of Advances in Modeling Earth Systems, 2018, 10, 971-988.	1.3	36
24	Forest response to rising CO2 drives zonally asymmetric rainfall change over tropical land. Nature Climate Change, 2018, 8, 434-440.	8.1	80
25	Insensitivity of the Cloud Response to Surface Warming Under Radical Changes to Boundary Layer Turbulence and Cloud Microphysics: Results From the Ultraparameterized CAM. Journal of Advances in Modeling Earth Systems, 2018, 10, 3139-3158.	1.3	20
26	Future Community Efforts in Understanding and Modeling Atmospheric Processes. Bulletin of the American Meteorological Society, 2018, 99, ES159-ES162.	1.7	1
27	Effects of Explicit Convection on Land Surface Air Temperature and Landâ€Atmosphere Coupling in the Thermal Feedback Pathway. Journal of Advances in Modeling Earth Systems, 2018, 10, 2376-2392.	1.3	4
28	Plant Physiological Responses to Rising CO₂ Modify Simulated Daily Runoff Intensity With Implications for Globalâ€Scale Flood Risk Assessment. Geophysical Research Letters, 2018, 45, 12,457.	1.5	23
29	Deep learning to represent subgrid processes in climate models. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 9684-9689.	3.3	420
30	Could Machine Learning Break the Convection Parameterization Deadlock?. Geophysical Research Letters, 2018, 45, 5742-5751.	1.5	246
31	Toward lowâ€cloudâ€permitting cloud superparameterization with explicit boundary layer turbulence. Journal of Advances in Modeling Earth Systems, 2017, 9, 1542-1571.	1.3	43
32	Effects of explicit convection on global landâ€atmosphere coupling in the superparameterized CAM. Journal of Advances in Modeling Earth Systems, 2016, 8, 1248-1269.	1.3	22
33	Impacts of cloud superparameterization on projected daily rainfall intensity climate changes in multiple versions of the Community Earth System Model. Journal of Advances in Modeling Earth Systems, 2016, 8, 1727-1750.	1.3	23
34	Sensitivity of summer ensembles of fledgling superparameterized U.S. mesoscale convective systems to cloud resolving model microphysics and grid configuration. Journal of Advances in Modeling Earth Systems, 2016, 8, 634-649.	1.3	12
35	Robust effects of cloud superparameterization on simulated daily rainfall intensity statistics across multiple versions of the <scp>C</scp>ommunity <scp>E</scp>arth <scp>S</scp>ystem <scp>M</scp>odel. Journal of Advances in Modeling Earth Systems, 2016, 8, 140-165.	1.3	64
36	Response of the Superparameterized Maddenâ€“Julian Oscillation to Extreme Climate and Basic-State Variation Challenges a Moisture Mode View. Journal of Climate, 2016, 29, 4995-5008.	1.2	32

#	Article	IF	Citations
37	Meanâ€state acceleration of cloudâ€resolving models and large eddy simulations. Journal of Advances in Modeling Earth Systems, 2015, 7, 1643-1660.	1.3	14
38	Causal Evidence that Rotational Moisture Advection is Critical to the Superparameterized Maddenâ€“Julian Oscillation. Journals of the Atmospheric Sciences, 2014, 71, 800-815.	0.6	74
39	The response of US summer rainfall to quadrupled CO₂ climate change in conventional and superparameterized versions of the NCAR community atmosphere model. Journal of Advances in Modeling Earth Systems, 2014, 6, 859-882.	1.3	31
40	Restricting 32â€“128 km horizontal scales hardly affects the MJO in the Superparameterized Community Atmosphere Model v.3.0 but the number of cloudâ€resolving grid columns constrains vertical mixing. Journal of Advances in Modeling Earth Systems, 2014, 6, 723-739.	1.3	30
41	Investigating impacts of forest fires in Alaska and western Canada on regional weather over the northeastern United States using CAM5 global simulations to constrain transport to a WRF-Chem regional domain. Journal of Geophysical Research D: Atmospheres, 2014, 119, 7515-7536.	1.2	9
42	Robustness and sensitivities of central U.S. summer convection in the superâ€parameterized CAM: Multiâ€model intercomparison with a new regional EOF index. Geophysical Research Letters, 2013, 40, 3287-3291.	1.5	37
43	Radar observations of individual rain drops in the free atmosphere. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 9293-9298.	3.3	7
44	Effects on precipitation, clouds, and temperature from longâ€range transport of idealized aerosol plumes in WRFâ€Chem simulations. Journal of Geophysical Research, 2012, 117, .	3.3	7
45	Constraining the influence of natural variability to improve estimates of global aerosol indirect effects in a nudged version of the Community Atmosphere Model 5. Journal of Geophysical Research, 2012, 117, .	3.3	89
46	Orogenic Propagating Precipitation Systems over the United States in a Global Climate Model with Embedded Explicit Convection. Journals of the Atmospheric Sciences, 2011, 68, 1821-1840.	0.6	88
47	Assessing the Diurnal Cycle of Precipitation in a Multiâ€Scale Climate Model. Journal of Advances in Modeling Earth Systems, 2009, 1, .	1.3	56
48	Empirical orthogonal function analysis of the diurnal cycle of precipitation in a multiâ€scale climate model. Geophysical Research Letters, 2009, 36, .	1.5	36
49	Neglecting iceâ€atmosphere interactions underestimates ice sheet melt in millennialâ€scale deglaciation simulations. Geophysical Research Letters, 2008, 35, .	1.5	21
50	Interannual Atmospheric Variability Affects Continental Ice Sheet Simulations on Millennial Time Scales. Journal of Climate, 2008, 21, 5976-5992.	1.2	5
51	Normal mode Rossby waves and their effects on chemical composition in the late summer stratosphere. Atmospheric Chemistry and Physics, 2008, 8, 1925-1935.	1.9	13