Steven C Sherwood

List of Publications by Year
in descending order

136 papers	10,748 citations	46984 47 h-index	33869 99 g-index
145 all docs	145 docs citations	145 times ranked	10680 citing authors

#	Article	IF	Citations
1	An adaptability limit to climate change due to heat stress. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9552-9555.	3.3	744
2	Clouds, circulation and climate sensitivity. Nature Geoscience, 2015, 8, 261-268.	5.4	647
3	Spread in model climate sensitivity traced to atmospheric convective mixing. Nature, 2014, 505, 37-42.	13.7	586
4	An Assessment of Earth's Climate Sensitivity Using Multiple Lines of Evidence. Reviews of Geophysics, 2020, 58, e2019RG000678.	9.0	498
5	A Drier Future?. Science, 2014, 343, 737-739.	6.0	469
6	Taking climate model evaluation to the next level. Nature Climate Change, 2019, 9, 102-110.	8.1	407
7	Tropospheric water vapor, convection, and climate. Reviews of Geophysics, 2010, 48, .	9.0	355
8	Climate Effects of Aerosol-Cloud Interactions. Science, 2014, 343, 379-380.	6.0	347
9	Robust direct effect of carbon dioxide on tropical circulation and regional precipitation. Nature Geoscience, 2013, 6, 447-451.	5.4	338
10	A Cloud and Precipitation Feature Database from Nine Years of TRMM Observations. Journal of Applied Meteorology and Climatology, 2008, 47, 2712-2728.	0.6	317
11	Future increases in extreme precipitation exceed observed scaling rates. Nature Climate Change, 2017, 7, 128-132.	8.1	242
12	Adjustments in the Forcing-Feedback Framework for Understanding Climate Change. Bulletin of the American Meteorological Society, 2015, 96, 217-228.	1.7	239
13	Consistency of modelled and observed temperature trends in the tropical troposphere. International Journal of Climatology, 2008, 28, 1703-1722.	1.5	236
14	Exceedance of heat index thresholds for 15 regions under a warming climate using the wetâ€bulb globe temperature. International Journal of Climatology, 2012, 32, 161-177.	1.5	222
15	Recent Northern Hemisphere tropical expansion primarily driven by black carbon and tropospheric ozone. Nature, 2012, 485, 350-354.	13.7	216
16	On the control of stratospheric humidity. Geophysical Research Letters, 2000, 27, 2513-2516.	1.5	205
17	Science controversies past and present. Physics Today, 2011, 64, 39-44.	0.3	192
18	Relative humidity changes in a warmer climate. Journal of Geophysical Research, 2010, 115, .	3.3	185

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19	A Model for Transport across the Tropical Tropopause. Journals of the Atmospheric Sciences, 2001, 58, 765-779.	0.6	183
20	Convective Precursors and Predictability in the Tropical Western Pacific. Monthly Weather Review, 1999, 127, 2977-2991.	0.5	150
21	A Matter of Humidity. Science, 2009, 323, 1020-1021.	6.0	144
22	Radiosonde Daytime Biases and Late-20th Century Warming. Science, 2005, 309, 1556-1559.	6.0	128
23	Prospects for narrowing bounds on Earth's equilibrium climate sensitivity. Earth's Future, 2016, 4, 512-522.	2.4	123
24	Underestimation of deep convective cloud tops by thermal imagery. Geophysical Research Letters, 2004, 31, n/a-n/a.	1.5	119
25	Robust Tropospheric Warming Revealed by Iteratively Homogenized Radiosonde Data. Journal of Climate, 2008, 21, 5336-5352.	1.2	108
26	A stratospheric â€œdrainâ€•over the maritime continent. Geophysical Research Letters, 2000, 27, 677-680.	1.5	106
27	Effect of convection on the summertime extratropical lower stratosphere. Journal of Geophysical Research, 2004, 109, .	3.3	106
28	Warming maximum in the tropical upper troposphere deduced from thermal winds. Nature Geoscience, 2008, 1, 399-403.	5.4	105
29	A Microphysical Connection Among Biomass Burning, Cumulus Clouds, and Stratospheric Moisture. Science, 2002, 295, 1272-1275.	6.0	97
30	Observed Evolution of Tropical Deep Convective Events and Their Environment. Monthly Weather Review, 1999, 127, 1777-1795.	0.5	94
31	Convective Impact on Temperatures Observed near the Tropical Tropopause. Journals of the Atmospheric Sciences, 2003, 60, 1847-1856.	0.6	94
32	Slippery Thermals and the Cumulus Entrainment Paradox*. Journals of the Atmospheric Sciences, 2013, 70, 2426-2442.	0.6	93
33	Small ice crystals and the climatology of lightning. Geophysical Research Letters, 2006, 33, .	1.5	87
34	Processes Responsible for Cloud Feedback. Current Climate Change Reports, 2016, 2, 179-189.	2.8	81
35	The impact of natural versus anthropogenic aerosols on atmospheric circulation in the Community Atmosphere Model. Climate Dynamics, 2011, 36, 1959-1978.	1.7	77
36	Maintenance of the Free-Tropospheric Tropical Water Vapor Distribution. Part II: Simulation by Large-Scale Advection. Journal of Climate, 1996, 9, 2919-2934.	1.2	72

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37	Aerosolâ€cloud semiâ€direct effect and landâ€sea temperature contrast in a GCM. Geophysical Research Letters, 2010, 37, .	1.5	68
38	Simulations of tropical upper tropospheric humidity. Journal of Geophysical Research, 2000, 105, 20155-20163.	3.3	63
39	The impact of parametrized convection on cloud feedback. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2015, 373, 20140414.	1.6	63
40	Emergent constraints on equilibrium climate sensitivity in CMIP5: do they hold for CMIP6?. Earth System Dynamics, 2020, 11, 1233-1258.	2.7	63
41	Response of an atmospheric general circulation model to radiative forcing of tropical clouds. Journal of Geophysical Research, 1994, 99, 20829.	3.3	62
42	Convective Mixing near the Tropical Tropopause: Insights from Seasonal Variations. Journals of the Atmospheric Sciences, 2003, 60, 2674-2685.	0.6	60
43	How Important Is Humidity in Heat Stress?. Journal of Geophysical Research D: Atmospheres, 2018, 123, 11,808.	1.2	60
44	Deep convective cloud-top heights and their thermodynamic control during CRYSTAL-FACE. Journal of Geophysical Research, 2004, 109, .	3.3	58
45	Model Hierarchies for Understanding Atmospheric Circulation. Reviews of Geophysics, 2019, 57, 250-280.	9.0	58
46	Aerosols and Ice Particle Size in Tropical Cumulonimbus. Journal of Climate, 2002, 15, 1051-1063.	1.2	57
47	A Numerical Investigation of Cumulus Thermals. Journals of the Atmospheric Sciences, 2016, 73, 4117-4136.	0.6	56
48	A model of HDO in the tropical tropopause layer. Atmospheric Chemistry and Physics, 2003, 3, 2173-2181.	1.9	51
49	Anvil glaciation in a deep cumulus updraught over Florida simulated with the Explicit Microphysics Model. I: Impact of various nucleation processes. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 2019-2046.	1.0	51
50	A quantification of uncertainties in historical tropical tropospheric temperature trends from radiosondes. Journal of Geophysical Research, 2011, 116, .	3.3	48
51	UARS/MLS Cloud Ice Measurements: Implications for H2O Transport near the Tropopause. Journals of the Atmospheric Sciences, 2005, 62, 518-530.	0.6	46
52	Changes in Stratospheric Temperatures and Their Implications for Changes in the Brewerâ€“Dobson Circulation, 1979â€“2005. Journal of Climate, 2012, 25, 1759-1772.	1.2	45
53	On moistening of the tropical troposphere by cirrus clouds. Journal of Geophysical Research, 1999, 104, 11949-11960.	3.3	43
54	Natural variations of tropical width and recent trends. Geophysical Research Letters, 2017, 44, 3825-3832.	1.5	43

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55	The General Circulation and Robust Relative Humidity. Journal of Climate, 2006, 19, 6278-6290.	1.2	40
56	Resonant Response of Deep Convection to Surface Hot Spots. Journals of the Atmospheric Sciences, 2008, 65, 276-286.	0.6	40
57	Exploring the Landâ€“Ocean Contrast in Convective Vigor Using Islands. Journals of the Atmospheric Sciences, 2011, 68, 602-618.	0.6	39
58	A practical philosophy of complex climate modelling. European Journal for Philosophy of Science, 2015, 5, 149-169.	0.6	37
59	Atmospheric changes through 2012 as shown by iteratively homogenized radiosonde temperature and wind data (IUKv2). Environmental Research Letters, 2015, 10, 054007.	2.2	35
60	On the Role of Entrainment in the Fate of Cumulus Thermals. Journals of the Atmospheric Sciences, 2018, 75, 3911-3924.	0.6	35
61	Maintenance of the Free-Tropospheric Tropical Water Vapor Distribution. Part I: Clear Regime Budget. Journal of Climate, 1996, 9, 2903-2918.	1.2	34
62	Simultaneous Detection of Climate Change and Observing Biases in a Network with Incomplete Sampling. Journal of Climate, 2007, 20, 4047-4062.	1.2	34
63	Projected changes in east Australian midlatitude cyclones during the 21st century. Geophysical Research Letters, 2016, 43, 334-340.	1.5	34
64	A Distribution Law for Free-Tropospheric Relative Humidity. Journal of Climate, 2006, 19, 6267-6277.	1.2	33
65	The role of tropical deep convective clouds on temperature, water vapor, and dehydration in the tropical tropopause layer (TTL). Atmospheric Chemistry and Physics, 2011, 11, 3811-3821.	1.9	33
66	Impact of Identification Method on the Inferred Characteristics and Variability of Australian East Coast Lows. Monthly Weather Review, 2015, 143, 864-877.	0.5	33
67	The equilibrium response to idealized thermal forcings in a comprehensive GCM: implications for recent tropical expansion. Atmospheric Chemistry and Physics, 2012, 12, 4795-4816.	1.9	32
68	A Numerical Modeling Study of the Propagation of Idealized Sea-Breeze Density Currents. Journals of the Atmospheric Sciences, 2013, 70, 653-668.	0.6	32
69	The global warming potential of near-surface emitted water vapour. Environmental Research Letters, 2018, 13, 104006.	2.2	32
70	The Robust Relationship Between Extreme Precipitation and Convective Organization in Idealized Numerical Modeling Simulations. Journal of Advances in Modeling Earth Systems, 2017, 9, 2291-2303.	1.3	31
71	Annual temperature cycle of the tropical tropopause: A simple model study. Journal of Geophysical Research, 2007, 112, .	3.3	29
72	Aerosol Cloud-Mediated Radiative Forcing: Highly Uncertain and Opposite Effects from Shallow and Deep Clouds. , 2013, , 105-149.		29

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73	Modeling the Impact of Convective Entrainment on the Tropical Tropopause. Journals of the Atmospheric Sciences, 2006, 63, 1013-1027.	0.6	28
74	Identifying the Sources of Convective Memory in Cloud-Resolving Simulations. Journals of the Atmospheric Sciences, 2019, 76, 947-962.	0.6	27
75	Insights into Cloud-Top Height and Dynamics from the Seasonal Cycle of Cloud-Top Heights Observed by MISR in the West Pacific Region. Journals of the Atmospheric Sciences, 2010, 67, 248-261.	0.6	26
76	The Impact of Parameterized Convection on Climatological Precipitation in Atmospheric Global Climate Models. Geophysical Research Letters, 2018, 45, 3728-3736.	1.5	26
77	Adapting to the challenges of warming. Science, 2020, 370, 782-783.	6.0	25
78	Disentangling the Multiple Sources of Large-Scale Variability in Australian Wintertime Precipitation. Journal of Climate, 2014, 27, 6377-6392.	1.2	24
79	Temperature and Humidity Effects on Hospital Morbidity in Darwin, Australia. Annals of Global Health, 2018, 81, 333.	0.8	24
80	On Moist Instability*. Monthly Weather Review, 2000, 128, 4139-4142.	0.5	23
81	Changes in relative fit of human heat stress indices to cardiovascular, respiratory, and renal hospitalizations across five Australian urban populations. International Journal of Biometeorology, 2018, 62, 423-432.	1.3	22
82	The Role of Convective Selfâ€Aggregation in Extreme Instantaneous Versus Daily Precipitation. Journal of Advances in Modeling Earth Systems, 2019, 11, 19-33.	1.3	21
83	Spontaneous Aggregation of Convective Storms. Annual Review of Fluid Mechanics, 2022, 54, 133-157.	10.8	21
84	On the role of the stratiform cloud scheme in the interâ€model spread of cloud feedback. Journal of Advances in Modeling Earth Systems, 2017, 9, 423-437.	1.3	19
85	Utility of Radiosonde Wind Data in Representing Climatological Variations of Tropospheric Temperature and Baroclinicity in the Western Tropical Pacific. Journal of Climate, 2007, 20, 5229-5243.	1.2	17
86	An Exploration of Multivariate Fluctuation Dissipation Operators and Their Response to Sea Surface Temperature Perturbations. Journals of the Atmospheric Sciences, 2015, 72, 472-486.	0.6	17
87	Ensemble optimisation, multiple constraints and overconfidence: a case study with future Australian precipitation change. Climate Dynamics, 2019, 53, 1581-1596.	1.7	17
88	Ten new insights in climate science 2020 â€" a horizon scan. Global Sustainability, 2021, 4, .	1.6	17
89	The Cloud Feedback Model Intercomparison Project (CFMIP) Diagnostic Codes Catalogue â€" metrics, diagnostics and methodologies to evaluate, understand and improve the representation of clouds and cloud feedbacks in climate models. Geoscientific Model Development, 2017, 10, 4285-4305.	1.3	16
90	How Strongly Are Mean and Extreme Precipitation Coupled?. Geophysical Research Letters, 2021, 48, e2020GL092075.	1.5	16

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91	Climate Processes: Clouds, Aerosols and Dynamics. , 2013, , 73-103.		15
92	Control of ITCZ Width by Lowâ€Level Radiative Heating From Upperâ€Level Clouds in Aquaplanet Simulations. Geophysical Research Letters, 2018, 45, 5788-5797.	1.5	15
93	Evaluation and improvement of TAPM in estimating solar irradiance in Eastern Australia. Solar Energy, 2014, 107, 668-680.	2.9	14
94	The influence of local sea surface temperatures on Australian east coast cyclones. Journal of Geophysical Research D: Atmospheres, 2016, 121, 13,352.	1.2	14
95	Direct versus indirect effects of tropospheric humidity changes on the hydrologic cycle. Environmental Research Letters, 2010, 5, 025206.	2.2	13
96	Radiative driving of shallow return flows from the ITCZ. Journal of Advances in Modeling Earth Systems, 2016, 8, 831-842.	1.3	13
97	Comparative evaluation of human heat stress indices on selected hospital admissions in Sydney, Australia. Australian and New Zealand Journal of Public Health, 2017, 41, 381-387.	0.8	13
98	Are Storm Characteristics the Same When Viewed Using Merged Surface Radars or a Merged Satellite Product?. Journal of Hydrometeorology, 2021, 22, 43-62.	0.7	13
99	Amplified warming of seasonal cold extremes relative to the mean in the Northern Hemisphere extratropics. Earth System Dynamics, 2020, 11, 97-111.	2.7	12
100	Influences of Environmental Relative Humidity and Horizontal Scale of Subcloud Ascent on Deep Convective Initiation. Journals of the Atmospheric Sciences, 2022, 79, 337-359.	0.6	11
101	Climate signals from station arrays with missing data, and an application to winds. Journal of Geophysical Research, 2000, 105, 29489-29500.	3.3	10
102	Climate signal mapping and an application to atmospheric tides. Geophysical Research Letters, 2000, 27, 3525-3528.	1.5	10
103	Zonal winds and southeast Australian rainfall in global and regional climate models. Climate Dynamics, 2016, 46, 123-133.	1.7	10
104	A cloudâ€resolving model study of aerosolâ€cloud correlation in a pristine maritime environment. Geophysical Research Letters, 2017, 44, 5774-5781.	1.5	10
105	Comments on â€œtemperatureâ€extreme precipitation scaling: A twoâ€way causality?â€• International Journal of Climatology, 2018, 38, 4661-4663.	1.5	10
106	Aerosol-induced modification of organised convection and top-of-atmosphere radiation. Npj Climate and Atmospheric Science, 2019, 2, .	2.6	10
107	Discounting and uncertainty: a non-economistâ€™s view. Climatic Change, 2007, 80, 205-212.	1.7	9
108	Erroneous Relationships among Humidity and Cloud Forcing Variables in Three Global Climate Models. Journal of Climate, 2008, 21, 4190-4206.	1.2	8

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109	Extreme precipitation in WRF during the Newcastle East Coast Low of 2007. Theoretical and Applied Climatology, 2016, 125, 809-827.	1.3	8
110	Toward Global Harmonization of Derived Cloud Products. Bulletin of the American Meteorological Society, 2017, 98, ES49-ES52.	1.7	8
111	Comparing Growth Rates of Simulated Moist and Dry Convective Thermals. Journals of the Atmospheric Sciences, 2021, 78, 797-816.	0.6	8
112	Feedbacks in a Simple Prognostic Tropical Climate Model. Journals of the Atmospheric Sciences, 1999, 56, 2178-2200.	0.6	6
113	How do we tell which estimates of past climate change are correct?. International Journal of Climatology, 2009, 29, 1520-1523.	1.5	6
114	Skill in Simulating Australian Precipitation at the Tropical Edge*. Journal of Climate, 2016, 29, 1477-1496.	1.2	6
115	Rapidly Evolving Cirrus Clouds Modulated by Convectively Generated Gravity Waves. Journal of Geophysical Research D: Atmospheres, 2019, 124, 7327.	1.2	6
116	Mid-level clouds over the Sahara in a convection-permitting regional model. Climate Dynamics, 2020, 54, 3425-3439.	1.7	6
117	Characterizing Convection Schemes Using Their Responses to Imposed Tendency Perturbations. Journal of Advances in Modeling Earth Systems, 2021, 13, e2021MS002461.	1.3	6
118	Detection of faceted crystals in deep convective clouds via the antisolar peak. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	5
119	The HDO/H₂O relationship in tropospheric water vapor in an idealized â€œlastâ€saturationâ€• model. Journal of Geophysical Research, 2012, 117, .	3.3	5
120	The influence of topography on midlatitude cyclones on Australia's east coast. Journal of Geophysical Research D: Atmospheres, 2017, 122, 9173-9184.	1.2	5
121	The Role of Nonlinear Drying above the Boundary Layer in the Mid-Holocene African Monsoon. Journal of Climate, 2018, 31, 233-249.	1.2	5
122	Evaluating Precipitation Errors Using the Environmentally Conditioned Intensityâ€Frequency Decomposition Method. Journal of Advances in Modeling Earth Systems, 2021, 13, e2020MS002447.	1.3	5
123	What Can Water Vapor Reveal About Past and Future Climate Change?: AGU Chapman Conference on Water Vapor and Its Role in Climate; Kailuaâ€Kona, Hawaii, 20â€"24 October 2008. Eos, 2009, 90, 122-122.	0.1	3
124	The Sun and the rain. Nature, 2015, 528, 200-201.	13.7	3
125	Consistency of Modeled and Observed Temperature Trends in the Tropical Troposphere. , 2018, , 85-136.		3
126	Using Meghaâ€Tropiques satellite data to constrain humidity in regional convective simulations: A northern Australian test case. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 2768-2788.	1.0	3

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127	Atmospheric Convection as an Unstable Predatorâ€“Prey Process with Memory. Journals of the Atmospheric Sciences, 2021, 78, 3781-3797.	0.6	3
128	Can We Use 1D Models to Predict 3D Model Response to Forcing in an Idealized Framework?. Journal of Advances in Modeling Earth Systems, 2022, 14, .	1.3	3
129	Probability of committed warming exceeding 1.5 ^{âˆ˜}C and 2.0 ^{âˆ˜}C Paris targets. Environmental Research Letters, 2022, 17, 064022.	2.2	3
130	Climate Change: A Titanic Challenge. Science, 2008, 319, 900-900.	6.0	2
131	A multimodel investigation of atmospheric mechanisms for driving Arctic amplification in warmer climates. Journal of Climate, 2021, , 1-55.	1.2	2
132	The Water Cycle across Scales. Bulletin of the American Meteorological Society, 2005, 86, 1743-1746.	1.7	1
133	Practical Approximations to Seasonal Fluctuationâ€“Dissipation Operators Given a Limited Sample. Journals of the Atmospheric Sciences, 2016, 73, 2529-2545.	0.6	1
134	A Doppler radar study of convective draft lengths over Darwin, Australia. Monthly Weather Review, 2021, , .	0.5	1
135	An object-based climatology of precipitation systems in Sydney, Australia. Climate Dynamics, 2023, 60, 1669-1688.	1.7	1
136	Clarion call from climate panel. Science, 2021, 373, 719-719.	6.0	0