J David Neelin

List of Publications by Year
in descending order

134	12,603	39113	29333
papers	citations	52 h-index	108 g-index

142	142	142	9376
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Distinguishing Convective-Transition Moisture-Temperature Relationships with a Constellation of Polarimetric Radio Occultation Observations in and near Convection. Atmosphere, 2022, 13, 259.	1.0	0
2	Extreme Tropical Precipitation Clusters Show Strong Increases in Frequency Under Global Warming in CMIP6 Models. Geophysical Research Letters, 2022, 49, .	1.5	1
3	Exploratory Precipitation Metrics: Spatiotemporal Characteristics, Process-Oriented, and Phenomena-Based. Journal of Climate, 2022, 35, 3659-3686.	1.2	11
4	Precipitation Extremes and Water Vapor. Current Climate Change Reports, 2022, 8, 17-33.	2.8	17
5	Global tropical precipitation relationships to free tropospheric water vapor using Radio Occultations. Journals of the Atmospheric Sciences, 2022, , .	0.6	3
6	Quasi-Equilibrium and Weak Temperature Gradient Balances in an Equatorial Beta-Plane Model. Journals of the Atmospheric Sciences, 2021, 78, 209-227.	0.6	17
7	Tropical Precipitation Evolution in a Buoyancy-Budget Framework. Journals of the Atmospheric Sciences, 2021, 78, 509-528.	0.6	31
8	Diagnosing Nonâ€Gaussian Temperature Distribution Tails Using Backâ€Trajectory Analysis. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033726.	1.2	4
9	Evaluation of the Tail of the Probability Distribution of Daily and Subdaily Precipitation in CMIP6 Models. Journal of Climate, 2021, 34, 2701-2721.	1.2	11
10	A Processâ€Oriented Diagnostic to Assess Precipitationâ€Thermodynamic Relations and Application to CMIP6 Models. Geophysical Research Letters, 2021, 48, e2021GL094108.	1.5	5
11	Impact of Initialized Land Surface Temperature and Snowpack on Subseasonal to Seasonal Prediction Project, Phase I (LS4P-I): organization and experimental design. Geoscientific Model Development, 2021, 14, 4465-4494.	1.3	31
12	Climate models capture key features of extreme precipitation probabilities across regions. Environmental Research Letters, 2021, 16, 024017.	2.2	12
13	Convective Transition Statistics over Tropical Oceans for Climate Model Diagnostics: GCM Evaluation. Journals of the Atmospheric Sciences, 2020, 77, 379-403.	0.6	22
14	Ruelleâ€“Pollicott Resonances of Stochastic Systems in Reduced State Space. Part III: Application to the Caneâ€“Zebiak Model of the El NiÃ±oâ€“Southern Oscillation. Journal of Statistical Physics, 2020, 179, 1449-1474.	0.5	8
15	Deep Convective Adjustment of Temperature and Moisture. Journals of the Atmospheric Sciences, 2020, 77, 2163-2186.	0.6	26
16	Observed Tightening of Tropical Ascent in Recent Decades and Linkage to Regional Precipitation Changes. Geophysical Research Letters, 2020, 47, e2019GL085809.	1.5	12
17	Evaluating CMIP6 model fidelity at simulating non-Gaussian temperature distribution tails. Environmental Research Letters, 2020, 15, 074026.	2.2	5
18	Relationships Between Tropical Ascent and High Cloud Fraction Changes With Warming Revealed by Perturbation Physics Experiments in CAM5. Geophysical Research Letters, 2019, 46, 10112-10121.	1.5	11

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19	Explaining Scales and Statistics of Tropical Precipitation Clusters with a Stochastic Model. Journals of the Atmospheric Sciences, 2019, 76, 3063-3087.	0.6	16
20	Observed El NiÃ±oâ€Ła NiÃ±a Asymmetry in a Linear Model. Geophysical Research Letters, 2019, 46, 9909-9919.	1.5	18
21	Non-Gaussian Cold-Side Temperature Distribution Tails and Associated Synoptic Meteorology. Journal of Climate, 2019, 32, 8399-8414.	1.2	11
22	A dichotomy between model responses of tropical ascent and descent to surface warming. Npj Climate and Atmospheric Science, 2019, 2, .	2.6	10
23	Why Do Precipitation Intensities Tend to Follow Gamma Distributions?. Journals of the Atmospheric Sciences, 2019, 76, 3611-3631.	0.6	60
24	Changes in Frequency of Large Precipitation Accumulations over Land in a Warming Climate from the CESM Large Ensemble: The Roles of Moisture, Circulation, and Duration. Journal of Climate, 2019, 32, 5397-5416.	1.2	20
25	Process-Oriented Evaluation of Climate and Weather Forecasting Models. Bulletin of the American Meteorological Society, 2019, 100, 1665-1686.	1.7	36
26	Deep Convective Organization, Moisture Vertical Structure, and Convective Transition Using Deep-Inflow Mixing. Journals of the Atmospheric Sciences, 2019, 76, 965-987.	0.6	41
27	Thermodynamic and Dynamic Mechanisms for Hydrological Cycle Intensification over the Full Probability Distribution of Precipitation Events. Journals of the Atmospheric Sciences, 2019, 76, 497-516.	0.6	38
28	Thermodynamic versus Dynamic Controls on Extreme Precipitation in a Warming Climate from the Community Earth System Model Large Ensemble. Journal of Climate, 2019, 32, 1025-1045.	1.2	70
29	GoAmazon2014/5 campaign points to deep-inflow approach to deep convection across scales. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 4577-4582.	3.3	46
30	Increasing precipitation volatility in twenty-first-century California. Nature Climate Change, 2018, 8, 427-433.	8.1	565
31	Convective Transition Statistics over Tropical Oceans for Climate Model Diagnostics: Observational Baseline. Journals of the Atmospheric Sciences, 2018, 75, 1553-1570.	0.6	39
32	Calculating State-Dependent Noise in a Linear Inverse Model Framework. Journals of the Atmospheric Sciences, 2018, 75, 479-496.	0.6	13
33	Tropical continental downdraft characteristics: mesoscale systems versus unorganized convection. Atmospheric Chemistry and Physics, 2018, 18, 1997-2010.	1.9	27
34	Spring Land Surface and Subsurface Temperature Anomalies and Subsequent Downstream Late Springâ€Summer Droughts/Floods in North America and East Asia. Journal of Geophysical Research D: Atmospheres, 2018, 123, 5001-5019.	1.2	65
35	Short Warm-Side Temperature Distribution Tails Drive Hot Spots of Warm Temperature Extreme Increases under Near-Future Warming. Journal of Climate, 2018, 31, 9469-9487.	1.2	15
36	On the role of aerosols, humidity, and vertical wind shear in the transition of shallow-to-deep convection at the Green Ocean Amazon 2014/5 site. Atmospheric Chemistry and Physics, 2018, 18, 11135-11148.	1.9	20

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37	Shifts in Precipitation Accumulation Extremes During the Warm Season Over the United States. Geophysical Research Letters, 2018, 45, 8586-8595.	1.5	40
38	Reverse Engineering the Tropical Precipitationâ€“Buoyancy Relationship. Journals of the Atmospheric Sciences, 2018, 75, 1587-1608.	0.6	56
39	Global warming precipitation accumulation increases above the current-climate cutoff scale. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 1258-1263.	3.3	57
40	Tropical Convective Transition Statistics and Causality in the Water Vaporâ€“Precipitation Relation. Journals of the Atmospheric Sciences, 2017, 74, 915-931.	0.6	64
41	Relationships among climatological vertical moisture structure, column water vapor, and precipitation over the central Amazon in observations and CMIP5 models. Geophysical Research Letters, 2017, 44, 1981-1989.	1.5	24
42	Tightening of tropical ascent and high clouds key to precipitation change in a warmer climate. Nature Communications, 2017, 8, 15771.	5.8	107
43	Distributions of Tropical Precipitation Cluster Power and Their Changes under Global Warming. Part II: Long-Term Time Dependence in Coupled Model Intercomparison Project Phase 5 Models. Journal of Climate, 2017, 30, 8045-8059.	1.2	6
44	Distributions of Tropical Precipitation Cluster Power and Their Changes under Global Warming. Part I: Observational Baseline and Comparison to a High-Resolution Atmospheric Model. Journal of Climate, 2017, 30, 8033-8044.	1.2	13
45	Paretoâ€Optimal Estimates of California Precipitation Change. Geophysical Research Letters, 2017, 44, 12,436.	1.5	16
46	Multiobjective constraints for climate model parameter choices: Pragmatic <scp>P</scp>areto fronts in CESM1. Journal of Advances in Modeling Earth Systems, 2017, 9, 2008-2026.	1.3	13
47	Spring land temperature anomalies in northwestern US and the summer drought over Southern Plains and adjacent areas. Environmental Research Letters, 2016, 11, 044018.	2.2	26
48	Characterizing CMIP5 model spread in simulated rainfall in the Pacific Intertropical Convergence and South Pacific Convergence Zones. Journal of Geophysical Research D: Atmospheres, 2016, 121, 11590-11607.	1.2	11
49	Deep Convection and Column Water Vapor over Tropical Land versus Tropical Ocean: A Comparison between the Amazon and the Tropical Western Pacific. Journals of the Atmospheric Sciences, 2016, 73, 4043-4063.	0.6	123
50	Long temporal autocorrelations in tropical precipitation data and spike train prototypes. Geophysical Research Letters, 2016, 43, 11,472.	1.5	6
51	Identifying sensitive ranges in global warming precipitation change dependence on convective parameters. Geophysical Research Letters, 2016, 43, 5841-5850.	1.5	24
52	Significant modulation of variability and projected change in California winter precipitation by extratropical cyclone activity. Geophysical Research Letters, 2015, 42, 5983-5991.	1.5	76
53	Shortâ€tailed temperature distributions over North America and implications for future changes in extremes. Geophysical Research Letters, 2015, 42, 8577-8585.	1.5	36
54	Sensitivity of terrestrial precipitation trends to the structural evolution of sea surface temperatures. Geophysical Research Letters, 2015, 42, 1190-1196.	1.5	15

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55	Patterns of Precipitation Change and Climatological Uncertainty among CMIP5 Models, with a Focus on the Midlatitude Pacific Storm Track*. Journal of Climate, 2015, 28, 7857-7872.	1.2	37
56	Surface Temperature Probability Distributions in the NARCCAP Hindcast Experiment: Evaluation Methodology, Metrics, and Results. Journal of Climate, 2015, 28, 978-997.	1.2	22
57	Evaluation of large-scale meteorological patterns associated with temperature extremes in the NARCCAP regional climate model simulations. Climate Dynamics, 2015, 45, 3257-3274.	1.7	18
58	Rough parameter dependence in climate models and the role of Ruelle-Pollicott resonances. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 1684-1690.	3.3	63
59	Deep Convective Transition Characteristics in the Community Climate System Model and Changes under Global Warming. Journal of Climate, 2014, 27, 9214-9232.	1.2	20
60	North American Climate in CMIP5 Experiments: Part III: Assessment of Twenty-First-Century Projections*. Journal of Climate, 2014, 27, 2230-2270.	1.2	231
61	First-Passage-Time Prototypes for Precipitation Statistics. Journals of the Atmospheric Sciences, 2014, 71, 3269-3291.	0.6	63
62	Weakening and strengthening structures in the Hadley Circulation change under global warming and implications for cloud response and climate sensitivity. Journal of Geophysical Research D: Atmospheres, 2014, 119, 5787-5805.	1.2	104
63	Classifying reanalysis surface temperature probability density functions (PDFs) over North America with cluster analysis. Geophysical Research Letters, 2013, 40, 3710-3714.	1.5	29
64	Analyzing ENSO Teleconnections in CMIP Models as a Measure of Model Fidelity in Simulating Precipitation. Journal of Climate, 2013, 26, 4431-4446.	1.2	65
65	High dimensional decision dilemmas in climate models. Geoscientific Model Development, 2013, 6, 1673-1687.	1.3	4
66	California Winter Precipitation Change under Global Warming in the Coupled Model Intercomparison Project Phase 5 Ensemble. Journal of Climate, 2013, 26, 6238-6256.	1.2	144
67	Could aerosol emissions be used for regional heat wave mitigation?. Atmospheric Chemistry and Physics, 2013, 13, 6373-6390.	1.9	9
68	Temperatureâ€“Moisture Dependence of the Deep Convective Transition as a Constraint on Entrainment in Climate Models. Journals of the Atmospheric Sciences, 2012, 69, 1340-1358.	0.6	76
69	Reduction of tropical land region precipitation variability via transpiration. Geophysical Research Letters, 2012, 39, .	1.5	35
70	Long tails in regional surface temperature probability distributions with implications for extremes under global warming. Geophysical Research Letters, 2012, 39, .	1.5	58
71	Implementation of the Quasiâ€equilibrium Tropical Circulation Model 2 (QTCM2): Global simulations and convection sensitivity to free tropospheric moisture. Journal of Advances in Modeling Earth Systems, 2012, 4, .	1.3	4
72	Rainfall and Dragon-Kings. European Physical Journal: Special Topics, 2012, 205, 147-158.	1.2	15

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73	A Stochastic Model for the Transition to Strong Convection. Journals of the Atmospheric Sciences, 2011, 68, 2955-2970.	0.6	69
74	Column Water Vapor Statistics and Their Relationship to Deep Convection, Vertical and Horizontal Circulation, and Moisture Structure at Nauru. Journal of Climate, 2011, 24, 5454-5466.	1.2	27
75	Universality of rain event size distributions. Journal of Statistical Mechanics: Theory and Experiment, 2010, 2010, P11030.	0.9	69
76	Temporal Relations of Column Water Vapor and Tropical Precipitation. Journals of the Atmospheric Sciences, 2010, 67, 1091-1105.	0.6	110
77	Tropical South Americaâ€“Atlantic Sector Convective Margins and Their Relationship to Low-Level Inflow. Journal of Climate, 2010, 23, 2671-2685.	1.2	11
78	Considerations for parameter optimization and sensitivity in climate models. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 21349-21354.	3.3	85
79	Long tails in deep columns of natural and anthropogenic tropospheric tracers. Geophysical Research Letters, 2010, 37, .	1.5	40
80	ATMOSPHERIC CONVECTION AS A CONTINUOUS PHASE TRANSITION: FURTHER EVIDENCE. International Journal of Modern Physics B, 2009, 23, 5453-5465.	1.0	12
81	Soil Moisture Impacts on Convective Margins. Journal of Hydrometeorology, 2009, 10, 1026-1039.	0.7	21
82	Moisture Vertical Structure, Column Water Vapor, and Tropical Deep Convection. Journals of the Atmospheric Sciences, 2009, 66, 1665-1683.	0.6	413
83	Mesoscale Convective Systems and Critical Clusters. Journals of the Atmospheric Sciences, 2009, 66, 2913-2924.	0.6	86
84	The Transition to Strong Convection. Journals of the Atmospheric Sciences, 2009, 66, 2367-2384.	0.6	218
85	Evaluating the â€œRich-Get-Richerâ€•Mechanism in Tropical Precipitation Change under Global Warming. Journal of Climate, 2009, 22, 1982-2005.	1.2	554
86	Causes and impacts of the 2005 Amazon drought. Environmental Research Letters, 2008, 3, 014002.	2.2	285
87	Eastern margin variability of the South Pacific Convergence Zone. Geophysical Research Letters, 2008, 35, .	1.5	40
88	Rethinking convective quasi-equilibrium: observational constraints for stochastic convective schemes in climate models. Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences, 2008, 366, 2579-2602.	1.6	68
89	The Convective Cold Top and Quasi Equilibrium*. Journals of the Atmospheric Sciences, 2007, 64, 1467-1487.	0.6	110
90	Impact Mechanisms of Shallow Cumulus Convection on Tropical Climate Dynamics*. Journal of Climate, 2007, 20, 2623-2642.	1.2	85

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91	A prototype for convective margin shifts. Geophysical Research Letters, 2007, 34, .	1.5	31
92	Regional Tropical Precipitation Change Mechanisms in ECHAM4/OPYC3 under Global Warming*. Journal of Climate, 2006, 19, 4207-4223.	1.2	37
93	Interaction of Vegetation and Atmospheric Dynamical Mechanisms in the Mid-Holocene African Monsoon*. Journal of Climate, 2006, 19, 4105-4120.	1.2	16
94	Critical phenomena in atmospheric precipitation. Nature Physics, 2006, 2, 393-396.	6.5	319
95	The boundary layer contribution to intertropical convergence zones in the quasi-equilibrium tropical circulation model framework. Theoretical and Computational Fluid Dynamics, 2006, 20, 323-350.	0.9	77
96	Tropical drying trends in global warming models and observations. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 6110-6115.	3.3	434
97	Local and Remote Impacts of Aerosol Climate Forcing on Tropical Precipitation*. Journal of Climate, 2005, 18, 4621-4636.	1.2	32
98	Mechanisms for Lagged Atmospheric Response to ENSO SST Forcing*. Journal of Climate, 2005, 18, 4195-4215.	1.2	46
99	Moist Teleconnection Mechanisms for the Tropical South American and Atlantic Sector*. Journal of Climate, 2005, 18, 3928-3950.	1.2	65
100	Seasonal influence of ENSO on the Atlantic ITCZ and equatorial South America. Geophysical Research Letters, 2005, 32, .	1.5	45
101	Dynamical mechanisms for African monsoon changes during the mid-Holocene. Journal of Geophysical Research, 2005, 110, .	3.3	33
102	Where is ENSO stress balanced?. Atmospheric Science Letters, 2004, 5, 13-22.	0.8	2
103	ENSO Influence on Atlantic hurricanes via tropospheric warming. Geophysical Research Letters, 2004, 31, .	1.5	117
104	Mechanisms of Global Warming Impacts on Regional Tropical Precipitation*. Journal of Climate, 2004, 17, 2688-2701.	1.2	384
105	Toward stochastic deep convective parameterization in general circulation models. Geophysical Research Letters, 2003, 30, .	1.5	100
106	Tropical drought regions in global warming and El NiÃ±o teleconnections. Geophysical Research Letters, 2003, 30, .	1.5	222
107	Sensitivity of Tropical Tropospheric Temperature to Sea Surface Temperature Forcing*. Journal of Climate, 2003, 16, 1283-1301.	1.2	69
108	The Scatter in Tropical Average Precipitation Anomalies*. Journal of Climate, 2003, 16, 3966-3977.	1.2	46

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109	Mechanisms Limiting the Northward Extent of the Northern Summer Monsoons over North America, Asia, and Africa*. Journal of Climate, 2003, 16, 406-425.	1.2	105
110	Considerations for Stochastic Convective Parameterization. Journals of the Atmospheric Sciences, 2002, 59, 959-975.	0.6	88
111	Teleconnection Mechanisms for Tropical Pacific Descent Anomalies during El NiÃ±o*. Journals of the Atmospheric Sciences, 2002, 59, 2694-2712.	0.6	108
112	Mechanisms limiting the southward extent of the South American Summer Monsoon. Geophysical Research Letters, 2001, 28, 2433-2436.	1.5	36
113	Tropical teleconnection and local response to SST anomalies during the 1997-1998 El NiÃ±o. Journal of Geophysical Research, 2001, 106, 20025-20043.	3.3	70
114	Ocean-atmosphere-land feedbacks in an idealized monsoon. Quarterly Journal of the Royal Meteorological Society, 2001, 127, 1869-1891.	1.0	105
115	A Quasi-Equilibrium Tropical Circulation Modelâ€"Formulation*. Journals of the Atmospheric Sciences, 2000, 57, 1741-1766.	0.6	309
116	A Quasi-Equilibrium Tropical Circulation Modelâ€"Implementation and Simulation*. Journals of the Atmospheric Sciences, 2000, 57, 1767-1796.	0.6	129
117	ENSO in a hybrid coupled model. Part I: sensitivity to physical parametrizations. Climate Dynamics, 2000, 16, 19-34.	1.7	23
118	ENSO in a hybrid coupled model. Part II: prediction with piggyback data assimilation. Climate Dynamics, 2000, 16, 35-48.	1.7	31
119	Influence of a stochastic moist convective parameterization on tropical climate variability. Geophysical Research Letters, 2000, 27, 3691-3694.	1.5	131
120	Enhancement of Interdecadal Climate Variability in the Sahel by Vegetation Interaction. Science, 1999, 286, 1537-1540.	6.0	498
121	Cirrus detrainment-temperature feedback. Geophysical Research Letters, 1999, 26, 1295-1298.	1.5	32
122	On the role of ocean-atmosphere interaction in midlatitude interdecadal variability. Geophysical Research Letters, 1998, 25, 167-170.	1.5	46
123	ENSO theory. Journal of Geophysical Research, 1998, 103, 14261-14290.	3.3	809
124	Estimating the Gross Moist Stability of the Tropical Atmosphere*. Journals of the Atmospheric Sciences, 1998, 55, 1354-1372.	0.6	122
125	Estimating the Effect of Stochastic Wind Stress Forcing on ENSO Irregularity. Journal of Climate, 1997, 10, 1473-1486.	1.2	152
126	Seaâ€ice interaction and the stability of the thermohaline circulation. Atmosphere - Ocean, 1997, 35, 433-469.	0.6	9

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127	Implications of Convective Quasi-Equilibrium for the Large-Scale Flow. , 1997, , 413-446.		25
128	Linearization of a longwave radiation scheme for intermediate tropical atmospheric models. Journal of Geophysical Research, 1996, 101, 15129-15145.	3.3	30
129	On large-scale circulations in convecting atmospheres. Quarterly Journal of the Royal Meteorological Society, 1994, 120, 1111-1143.	1.0	703
130	El Nino on the Devil's Staircase: Annual Subharmonic Steps to Chaos. Science, 1994, 264, 70-72.	6.0	445
131	Modes of Tropical Variability under Convective Adjustment and the Maddenâ€"Julian Oscillation. Part I: Analytical Theory. Journals of the Atmospheric Sciences, 1994, 51, 1876-1894.	0.6	214
132	Modes of Tropical Variability under Convective Adjustment and the Maddenâ€"Julian Oscillation. Part II: Numerical Results. Journals of the Atmospheric Sciences, 1994, 51, 1895-1914.	0.6	91
133	The Slow Sea Surface Temperature Mode and the Fast-Wave Limit: Analytic Theory for Tropical Interannual Oscillations and Experiments in a Hybrid Coupled Model. Journals of the Atmospheric Sciences, 1991, 48, 584-606.	0.6	226
134	Modeling Tropical Convergence Based on the Moist Static Energy Budget. Monthly Weather Review, 1987, 115, 3-12.	0.5	635