

J David Neelin

List of Publications by Year in descending order

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134
papers

12,603
citations

34105

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25787

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142
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docs citations

142
times ranked

8224
citing authors

#	ARTICLE	IF	CITATIONS
1	Distinguishing Convective-Transition Moisture-Temperature Relationships with a Constellation of Polarimetric Radio Occultation Observations in and near Convection. <i>Atmosphere</i> , 2022, 13, 259.	2.3	0
2	Extreme Tropical Precipitation Clusters Show Strong Increases in Frequency Under Global Warming in CMIP6 Models. <i>Geophysical Research Letters</i> , 2022, 49, .	4.0	1
3	Exploratory Precipitation Metrics: Spatiotemporal Characteristics, Process-Oriented, and Phenomena-Based. <i>Journal of Climate</i> , 2022, 35, 3659-3686.	3.2	11
4	Precipitation Extremes and Water Vapor. <i>Current Climate Change Reports</i> , 2022, 8, 17-33.	8.6	17
5	Global tropical precipitation relationships to free tropospheric water vapor using Radio Occultations. <i>Journals of the Atmospheric Sciences</i> , 2022, , .	1.7	3
6	Quasi-Equilibrium and Weak Temperature Gradient Balances in an Equatorial Beta-Plane Model. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 209-227.	1.7	17
7	Tropical Precipitation Evolution in a Buoyancy-Budget Framework. <i>Journals of the Atmospheric Sciences</i> , 2021, 78, 509-528.	1.7	31
8	Diagnosing Non-Gaussian Temperature Distribution Tails Using Back-Trajectory Analysis. <i>Journal of Geophysical Research D: Atmospheres</i> , 2021, 126, e2020JD033726.	3.3	4
9	Evaluation of the Tail of the Probability Distribution of Daily and Subdaily Precipitation in CMIP6 Models. <i>Journal of Climate</i> , 2021, 34, 2701-2721.	3.2	11
10	A Process-Oriented Diagnostic to Assess Precipitation-Thermodynamic Relations and Application to CMIP6 Models. <i>Geophysical Research Letters</i> , 2021, 48, e2021GL094108.	4.0	5
11	Impact of Initialized Land Surface Temperature and Snowpack on Subseasonal to Seasonal Prediction Project, Phase I (LS4P-I): organization and experimental design. <i>Geoscientific Model Development</i> , 2021, 14, 4465-4494.	3.6	31
12	Climate models capture key features of extreme precipitation probabilities across regions. <i>Environmental Research Letters</i> , 2021, 16, 024017.	5.2	12
13	Convective Transition Statistics over Tropical Oceans for Climate Model Diagnostics: GCM Evaluation. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 379-403.	1.7	22
14	Ruelle's Pollicott Resonances of Stochastic Systems in Reduced State Space. Part III: Application to the Cane-Zebiak Model of the El Niño Southern Oscillation. <i>Journal of Statistical Physics</i> , 2020, 179, 1449-1474.	1.2	8
15	Deep Convective Adjustment of Temperature and Moisture. <i>Journals of the Atmospheric Sciences</i> , 2020, 77, 2163-2186.	1.7	26
16	Observed Tightening of Tropical Ascent in Recent Decades and Linkage to Regional Precipitation Changes. <i>Geophysical Research Letters</i> , 2020, 47, e2019GL085809.	4.0	12
17	Evaluating CMIP6 model fidelity at simulating non-Gaussian temperature distribution tails. <i>Environmental Research Letters</i> , 2020, 15, 074026.	5.2	5
18	Relationships Between Tropical Ascent and High Cloud Fraction Changes With Warming Revealed by Perturbation Physics Experiments in CAM5. <i>Geophysical Research Letters</i> , 2019, 46, 10112-10121.	4.0	11

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19	Explaining Scales and Statistics of Tropical Precipitation Clusters with a Stochastic Model. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 3063-3087.	1.7	16
20	Observed El Niño-La Niña Asymmetry in a Linear Model. <i>Geophysical Research Letters</i> , 2019, 46, 9909-9919.	4.0	18
21	Non-Gaussian Cold-Side Temperature Distribution Tails and Associated Synoptic Meteorology. <i>Journal of Climate</i> , 2019, 32, 8399-8414.	3.2	11
22	A dichotomy between model responses of tropical ascent and descent to surface warming. <i>Npj Climate and Atmospheric Science</i> , 2019, 2, .	6.8	10
23	Why Do Precipitation Intensities Tend to Follow Gamma Distributions?. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 3611-3631.	1.7	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. <i>Journal of Climate</i> , 2019, 32, 5397-5416.	3.2	20
25	Process-Oriented Evaluation of Climate and Weather Forecasting Models. <i>Bulletin of the American Meteorological Society</i> , 2019, 100, 1665-1686.	3.3	36
26	Deep Convective Organization, Moisture Vertical Structure, and Convective Transition Using Deep-Inflow Mixing. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 965-987.	1.7	41
27	Thermodynamic and Dynamic Mechanisms for Hydrological Cycle Intensification over the Full Probability Distribution of Precipitation Events. <i>Journals of the Atmospheric Sciences</i> , 2019, 76, 497-516.	1.7	38
28	Thermodynamic versus Dynamic Controls on Extreme Precipitation in a Warming Climate from the Community Earth System Model Large Ensemble. <i>Journal of Climate</i> , 2019, 32, 1025-1045.	3.2	70
29	GoAmazon2014/5 campaign points to deep-inflow approach to deep convection across scales. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018, 115, 4577-4582.	7.1	46
30	Increasing precipitation volatility in twenty-first-century California. <i>Nature Climate Change</i> , 2018, 8, 427-433.	18.8	565
31	Convective Transition Statistics over Tropical Oceans for Climate Model Diagnostics: Observational Baseline. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 1553-1570.	1.7	39
32	Calculating State-Dependent Noise in a Linear Inverse Model Framework. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 479-496.	1.7	13
33	Tropical continental downdraft characteristics: mesoscale systems versus unorganized convection. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 1997-2010.	4.9	27
34	Spring Land Surface and Subsurface Temperature Anomalies and Subsequent Downstream Late Spring-Summer Droughts/Floods in North America and East Asia. <i>Journal of Geophysical Research D: Atmospheres</i> , 2018, 123, 5001-5019.	3.3	65
35	Short Warm-Side Temperature Distribution Tails Drive Hot Spots of Warm Temperature Extreme Increases under Near-Future Warming. <i>Journal of Climate</i> , 2018, 31, 9469-9487.	3.2	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. <i>Atmospheric Chemistry and Physics</i> , 2018, 18, 11135-11148.	4.9	20

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37	Shifts in Precipitation Accumulation Extremes During the Warm Season Over the United States. <i>Geophysical Research Letters</i> , 2018, 45, 8586-8595.	4.0	40
38	Reverse Engineering the Tropical Precipitation–Buoyancy Relationship. <i>Journals of the Atmospheric Sciences</i> , 2018, 75, 1587-1608.	1.7	56
39	Global warming precipitation accumulation increases above the current-climate cutoff scale. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017, 114, 1258-1263.	7.1	57
40	Tropical Convective Transition Statistics and Causality in the Water Vapor–Precipitation Relation. <i>Journals of the Atmospheric Sciences</i> , 2017, 74, 915-931.	1.7	64
41	Relationships among climatological vertical moisture structure, column water vapor, and precipitation over the central Amazon in observations and CMIP5 models. <i>Geophysical Research Letters</i> , 2017, 44, 1981-1989.	4.0	24
42	Tightening of tropical ascent and high clouds key to precipitation change in a warmer climate. <i>Nature Communications</i> , 2017, 8, 15771.	12.8	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. <i>Journal of Climate</i> , 2017, 30, 8045-8059.	3.2	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. <i>Journal of Climate</i> , 2017, 30, 8033-8044.	3.2	13
45	Pareto–Optimal Estimates of California Precipitation Change. <i>Geophysical Research Letters</i> , 2017, 44, 12,436.	4.0	16
46	Multiobjective constraints for climate model parameter choices: Pragmatic Pareto fronts in CESM1. <i>Journal of Advances in Modeling Earth Systems</i> , 2017, 9, 2008-2026.	3.8	13
47	Spring land temperature anomalies in northwestern US and the summer drought over Southern Plains and adjacent areas. <i>Environmental Research Letters</i> , 2016, 11, 044018.	5.2	26
48	Characterizing CMIP5 model spread in simulated rainfall in the Pacific Intertropical Convergence and South Pacific Convergence Zones. <i>Journal of Geophysical Research D: Atmospheres</i> , 2016, 121, 11590-11607.	3.3	11
49	Deep Convection and Column Water Vapor over Tropical Land versus Tropical Ocean: A Comparison between the Amazon and the Tropical Western Pacific. <i>Journals of the Atmospheric Sciences</i> , 2016, 73, 4043-4063.	1.7	123
50	Long temporal autocorrelations in tropical precipitation data and spike train prototypes. <i>Geophysical Research Letters</i> , 2016, 43, 11,472.	4.0	6
51	Identifying sensitive ranges in global warming precipitation change dependence on convective parameters. <i>Geophysical Research Letters</i> , 2016, 43, 5841-5850.	4.0	24
52	Significant modulation of variability and projected change in California winter precipitation by extratropical cyclone activity. <i>Geophysical Research Letters</i> , 2015, 42, 5983-5991.	4.0	76
53	Short-tailed temperature distributions over North America and implications for future changes in extremes. <i>Geophysical Research Letters</i> , 2015, 42, 8577-8585.	4.0	36
54	Sensitivity of terrestrial precipitation trends to the structural evolution of sea surface temperatures. <i>Geophysical Research Letters</i> , 2015, 42, 1190-1196.	4.0	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*. <i>Journal of Climate</i> , 2015, 28, 7857-7872.	3.2	37
56	Surface Temperature Probability Distributions in the NARCCAP Hindcast Experiment: Evaluation Methodology, Metrics, and Results. <i>Journal of Climate</i> , 2015, 28, 978-997.	3.2	22
57	Evaluation of large-scale meteorological patterns associated with temperature extremes in the NARCCAP regional climate model simulations. <i>Climate Dynamics</i> , 2015, 45, 3257-3274.	3.8	18
58	Rough parameter dependence in climate models and the role of Ruelle-Pollicott resonances. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 1684-1690.	7.1	63
59	Deep Convective Transition Characteristics in the Community Climate System Model and Changes under Global Warming. <i>Journal of Climate</i> , 2014, 27, 9214-9232.	3.2	20
60	North American Climate in CMIP5 Experiments: Part III: Assessment of Twenty-First-Century Projections*. <i>Journal of Climate</i> , 2014, 27, 2230-2270.	3.2	231
61	First-Passage-Time Prototypes for Precipitation Statistics. <i>Journals of the Atmospheric Sciences</i> , 2014, 71, 3269-3291.	1.7	63
62	Weakening and strengthening structures in the Hadley Circulation change under global warming and implications for cloud response and climate sensitivity. <i>Journal of Geophysical Research D: Atmospheres</i> , 2014, 119, 5787-5805.	3.3	104
63	Classifying reanalysis surface temperature probability density functions (PDFs) over North America with cluster analysis. <i>Geophysical Research Letters</i> , 2013, 40, 3710-3714.	4.0	29
64	Analyzing ENSO Teleconnections in CMIP Models as a Measure of Model Fidelity in Simulating Precipitation. <i>Journal of Climate</i> , 2013, 26, 4431-4446.	3.2	65
65	High dimensional decision dilemmas in climate models. <i>Geoscientific Model Development</i> , 2013, 6, 1673-1687.	3.6	4
66	California Winter Precipitation Change under Global Warming in the Coupled Model Intercomparison Project Phase 5 Ensemble. <i>Journal of Climate</i> , 2013, 26, 6238-6256.	3.2	144
67	Could aerosol emissions be used for regional heat wave mitigation?. <i>Atmospheric Chemistry and Physics</i> , 2013, 13, 6373-6390.	4.9	9
68	Temperature-Moisture Dependence of the Deep Convective Transition as a Constraint on Entrainment in Climate Models. <i>Journals of the Atmospheric Sciences</i> , 2012, 69, 1340-1358.	1.7	76
69	Reduction of tropical land region precipitation variability via transpiration. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	35
70	Long tails in regional surface temperature probability distributions with implications for extremes under global warming. <i>Geophysical Research Letters</i> , 2012, 39, .	4.0	58
71	Implementation of the Quasi-Equilibrium Tropical Circulation Model 2 (QTCM2): Global simulations and convection sensitivity to free tropospheric moisture. <i>Journal of Advances in Modeling Earth Systems</i> , 2012, 4, .	3.8	4
72	Rainfall and Dragon-Kings. <i>European Physical Journal: Special Topics</i> , 2012, 205, 147-158.	2.6	15

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73	A Stochastic Model for the Transition to Strong Convection. <i>Journals of the Atmospheric Sciences</i> , 2011, 68, 2955-2970.	1.7	69
74	Column Water Vapor Statistics and Their Relationship to Deep Convection, Vertical and Horizontal Circulation, and Moisture Structure at Nauru. <i>Journal of Climate</i> , 2011, 24, 5454-5466.	3.2	27
75	Universality of rain event size distributions. <i>Journal of Statistical Mechanics: Theory and Experiment</i> , 2010, 2010, P11030.	2.3	69
76	Temporal Relations of Column Water Vapor and Tropical Precipitation. <i>Journals of the Atmospheric Sciences</i> , 2010, 67, 1091-1105.	1.7	110
77	Tropical South America's Atlantic Sector Convective Margins and Their Relationship to Low-Level Inflow. <i>Journal of Climate</i> , 2010, 23, 2671-2685.	3.2	11
78	Considerations for parameter optimization and sensitivity in climate models. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 21349-21354.	7.1	85
79	Long tails in deep columns of natural and anthropogenic tropospheric tracers. <i>Geophysical Research Letters</i> , 2010, 37, .	4.0	40
80	ATMOSPHERIC CONVECTION AS A CONTINUOUS PHASE TRANSITION: FURTHER EVIDENCE. <i>International Journal of Modern Physics B</i> , 2009, 23, 5453-5465.	2.0	12
81	Soil Moisture Impacts on Convective Margins. <i>Journal of Hydrometeorology</i> , 2009, 10, 1026-1039.	1.9	21
82	Moisture Vertical Structure, Column Water Vapor, and Tropical Deep Convection. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 1665-1683.	1.7	413
83	Mesoscale Convective Systems and Critical Clusters. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 2913-2924.	1.7	86
84	The Transition to Strong Convection. <i>Journals of the Atmospheric Sciences</i> , 2009, 66, 2367-2384.	1.7	218
85	Evaluating the "Rich-Get-Richer" Mechanism in Tropical Precipitation Change under Global Warming. <i>Journal of Climate</i> , 2009, 22, 1982-2005.	3.2	554
86	Causes and impacts of the 2005 Amazon drought. <i>Environmental Research Letters</i> , 2008, 3, 014002.	5.2	285
87	Eastern margin variability of the South Pacific Convergence Zone. <i>Geophysical Research Letters</i> , 2008, 35, .	4.0	40
88	Rethinking convective quasi-equilibrium: observational constraints for stochastic convective schemes in climate models. <i>Philosophical Transactions Series A, Mathematical, Physical, and Engineering Sciences</i> , 2008, 366, 2579-2602.	3.4	68
89	The Convective Cold Top and Quasi Equilibrium*. <i>Journals of the Atmospheric Sciences</i> , 2007, 64, 1467-1487.	1.7	110
90	Impact Mechanisms of Shallow Cumulus Convection on Tropical Climate Dynamics*. <i>Journal of Climate</i> , 2007, 20, 2623-2642.	3.2	85

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91	A prototype for convective margin shifts. <i>Geophysical Research Letters</i> , 2007, 34, .	4.0	31
92	Regional Tropical Precipitation Change Mechanisms in ECHAM4/OPYC3 under Global Warming*. <i>Journal of Climate</i> , 2006, 19, 4207-4223.	3.2	37
93	Interaction of Vegetation and Atmospheric Dynamical Mechanisms in the Mid-Holocene African Monsoon*. <i>Journal of Climate</i> , 2006, 19, 4105-4120.	3.2	16
94	Critical phenomena in atmospheric precipitation. <i>Nature Physics</i> , 2006, 2, 393-396.	16.7	319
95	The boundary layer contribution to intertropical convergence zones in the quasi-equilibrium tropical circulation model framework. <i>Theoretical and Computational Fluid Dynamics</i> , 2006, 20, 323-350.	2.2	77
96	Tropical drying trends in global warming models and observations. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2006, 103, 6110-6115.	7.1	434
97	Local and Remote Impacts of Aerosol Climate Forcing on Tropical Precipitation*. <i>Journal of Climate</i> , 2005, 18, 4621-4636.	3.2	32
98	Mechanisms for Lagged Atmospheric Response to ENSO SST Forcing*. <i>Journal of Climate</i> , 2005, 18, 4195-4215.	3.2	46
99	Moist Teleconnection Mechanisms for the Tropical South American and Atlantic Sector*. <i>Journal of Climate</i> , 2005, 18, 3928-3950.	3.2	65
100	Seasonal influence of ENSO on the Atlantic ITCZ and equatorial South America. <i>Geophysical Research Letters</i> , 2005, 32, .	4.0	45
101	Dynamical mechanisms for African monsoon changes during the mid-Holocene. <i>Journal of Geophysical Research</i> , 2005, 110, .	3.3	33
102	Where is ENSO stress balanced?. <i>Atmospheric Science Letters</i> , 2004, 5, 13-22.	1.9	2
103	ENSO Influence on Atlantic hurricanes via tropospheric warming. <i>Geophysical Research Letters</i> , 2004, 31, .	4.0	117
104	Mechanisms of Global Warming Impacts on Regional Tropical Precipitation*. <i>Journal of Climate</i> , 2004, 17, 2688-2701.	3.2	384
105	Toward stochastic deep convective parameterization in general circulation models. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	100
106	Tropical drought regions in global warming and El Niño teleconnections. <i>Geophysical Research Letters</i> , 2003, 30, .	4.0	222
107	Sensitivity of Tropical Tropospheric Temperature to Sea Surface Temperature Forcing*. <i>Journal of Climate</i> , 2003, 16, 1283-1301.	3.2	69
108	The Scatter in Tropical Average Precipitation Anomalies*. <i>Journal of Climate</i> , 2003, 16, 3966-3977.	3.2	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.	3.2	105
110	Considerations for Stochastic Convective Parameterization. Journals of the Atmospheric Sciences, 2002, 59, 959-975.	1.7	88
111	Teleconnection Mechanisms for Tropical Pacific Descent Anomalies during El Niño*. Journals of the Atmospheric Sciences, 2002, 59, 2694-2712.	1.7	108
112	Mechanisms limiting the southward extent of the South American Summer Monsoon. Geophysical Research Letters, 2001, 28, 2433-2436.	4.0	36
113	Tropical teleconnection and local response to SST anomalies during the 1997-1998 El Niño. 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.	2.7	105
115	A Quasi-Equilibrium Tropical Circulation Model—Formulation*. Journals of the Atmospheric Sciences, 2000, 57, 1741-1766.	1.7	309
116	A Quasi-Equilibrium Tropical Circulation Model—Implementation and Simulation*. Journals of the Atmospheric Sciences, 2000, 57, 1767-1796.	1.7	129
117	ENSO in a hybrid coupled model. Part I: sensitivity to physical parametrizations. Climate Dynamics, 2000, 16, 19-34.	3.8	23
118	ENSO in a hybrid coupled model. Part II: prediction with piggyback data assimilation. Climate Dynamics, 2000, 16, 35-48.	3.8	31
119	Influence of a stochastic moist convective parameterization on tropical climate variability. Geophysical Research Letters, 2000, 27, 3691-3694.	4.0	131
120	Enhancement of Interdecadal Climate Variability in the Sahel by Vegetation Interaction. Science, 1999, 286, 1537-1540.	12.6	498
121	Cirrus detrainment-temperature feedback. Geophysical Research Letters, 1999, 26, 1295-1298.	4.0	32
122	On the role of ocean-atmosphere interaction in midlatitude interdecadal variability. Geophysical Research Letters, 1998, 25, 167-170.	4.0	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.	1.7	122
125	Estimating the Effect of Stochastic Wind Stress Forcing on ENSO Irregularity. Journal of Climate, 1997, 10, 1473-1486.	3.2	152
126	Sea-ice interaction and the stability of the thermohaline circulation. Atmosphere - Ocean, 1997, 35, 433-469.	1.6	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.	2.7	703
130	El Nino on the Devil's Staircase: Annual Subharmonic Steps to Chaos. Science, 1994, 264, 70-72.	12.6	445
131	Modes of Tropical Variability under Convective Adjustment and the Madden-Julian Oscillation. Part I: Analytical Theory. Journals of the Atmospheric Sciences, 1994, 51, 1876-1894.	1.7	214
132	Modes of Tropical Variability under Convective Adjustment and the Madden-Julian Oscillation. Part II: Numerical Results. Journals of the Atmospheric Sciences, 1994, 51, 1895-1914.	1.7	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.	1.7	226
134	Modeling Tropical Convergence Based on the Moist Static Energy Budget. Monthly Weather Review, 1987, 115, 3-12.	1.4	635