Thomas R Knutson

List of Publications by Year
in descending order

97	18,952	25034	39675
papers	citations	57	94
		h-index	g-index

105	105	105	14278
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Tropical cyclones and climate change. Nature Geoscience, 2010, 3, 157-163.	12.9	2,533
2	GFDL's CM2 Global Coupled Climate Models. Part I: Formulation and Simulation Characteristics. Journal of Climate, 2006, 19, 643-674.	3.2	1,431
3	The Dynamical Core, Physical Parameterizations, and Basic Simulation Characteristics of the Atmospheric Component AM3 of the GFDL Global Coupled Model CM3. Journal of Climate, 2011, 24, 3484-3519.	3.2	887
4	Modeled Impact of Anthropogenic Warming on the Frequency of Intense Atlantic Hurricanes. Science, 2010, 327, 454-458.	12.6	886
5	The New GFDL Global Atmosphere and Land Model AM2â€“LM2: Evaluation with Prescribed SST Simulations. Journal of Climate, 2004, 17, 4641-4673.	3.2	756
6	Impact of CO₂-Induced Warming on Simulated Hurricane Intensity and Precipitation: Sensitivity to the Choice of Climate Model and Convective Parameterization. Journal of Climate, 2004, 17, 3477-3495.	3.2	601
7	Tropical Cyclones and Climate Change Assessment: Part II: Projected Response to Anthropogenic Warming. Bulletin of the American Meteorological Society, 2020, 101, E303-E322.	3.3	573
8	Trends in Extreme Weather and Climate Events: Issues Related to Modeling Extremes in Projections of Future Climate Change*. Bulletin of the American Meteorological Society, 2000, 81, 427-436.	3.3	495
9	An Introduction to Trends in Extreme Weather and Climate Events: Observations, Socioeconomic Impacts, Terrestrial Ecological Impacts, and Model Projections*. Bulletin of the American Meteorological Society, 2000, 81, 413-416.	3.3	478
10	30â€“60 Day Atmospheric Oscillations: Composite Life Cycles of Convection and Circulation Anomalies. Monthly Weather Review, 1987, 115, 1407-1436.	1.4	471
11	Tropical cyclones and climate change. Wiley Interdisciplinary Reviews: Climate Change, 2016, 7, 65-89.	8.1	471
12	Monitoring and Understanding Trends in Extreme Storms: State of Knowledge. Bulletin of the American Meteorological Society, 2013, 94, 499-514.	3.3	426
13	Time-Mean Response over the Tropical Pacific to Increased C0₂in a Coupled Ocean-Atmosphere Model. Journal of Climate, 1995, 8, 2181-2199.	3.2	387
14	Global Projections of Intense Tropical Cyclone Activity for the Late Twenty-First Century from Dynamical Downscaling of CMIP5/RCP4.5 Scenarios. Journal of Climate, 2015, 28, 7203-7224.	3.2	371
15	Simulation of Sahel drought in the 20th and 21st centuries. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 17891-17896.	7.1	368
16	On the contribution of local feedback mechanisms to the range of climate sensitivity in two GCM ensembles. Climate Dynamics, 2006, 27, 17-38.	3.8	334
17	Simulated reduction in Atlantic hurricane frequency under twenty-first-century warming conditions. Nature Geoscience, 2008, 1, 359-364.	12.9	334
18	Tropical Cyclones and Climate Change Assessment: Part I: Detection and Attribution. Bulletin of the American Meteorological Society, 2019, 100, 1987-2007.	3.3	326

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19	Dynamical Downscaling Projections of Twenty-First-Century Atlantic Hurricane Activity: CMIP3 and CMIP5 Model-Based Scenarios. Journal of Climate, 2013, 26, 6591-6617.	3.2	316
20	STOIC: a study of coupled model climatology and variability in tropical ocean regions. Climate Dynamics, 2002, 18, 403-420.	3.8	304
21	Simulation of Early 20th Century Global Warming. Science, 2000, 287, 2246-2250.	12.6	256
22	ENSIP: the El NiÃ±o simulation intercomparison project. Climate Dynamics, 2001, 18, 255-276.	3.8	255
23	On Estimates of Historical North Atlantic Tropical Cyclone Activity*. Journal of Climate, 2008, 21, 3580-3600.	3.2	233
24	Simulated Increase of Hurricane Intensities in a CO2-Warmed Climate. Science, 1998, 279, 1018-1021.	12.6	231
25	On the Verification and Comparison of Extreme Rainfall Indices from Climate Models. Journal of Climate, 2008, 21, 1605-1621.	3.2	229
26	Explaining Extreme Events of 2012 from a Climate Perspective. Bulletin of the American Meteorological Society, 2013, 94, S1-S74.	3.3	229
27	Impact of Duration Thresholds on Atlantic Tropical Cyclone Counts*. Journal of Climate, 2010, 23, 2508-2519.	3.2	222
28	Simulation of the Recent Multidecadal Increase of Atlantic Hurricane Activity Using an 18-km-Grid Regional Model. Bulletin of the American Meteorological Society, 2007, 88, 1549-1565.	3.3	219
29	Sufficient conditions for river meandering: A simulation approach. Water Resources Research, 1984, 20, 1659-1667.	4.2	213
30	Assessment of Twentieth-Century Regional Surface Temperature Trends Using the GFDL CM2 Coupled Models. Journal of Climate, 2006, 19, 1624-1651.	3.2	206
31	Model Assessment of Decadal Variability and Trends in the Tropical Pacific Ocean. Journal of Climate, 1998, 11, 2273-2296.	3.2	199
32	Recent increases in tropical cyclone intensification rates. Nature Communications, 2019, 10, 635.	12.8	167
33	Simulated ENSO in a Global Coupled Oceanâ€“Atmosphere Model: Multidecadal Amplitude Modulation and CO2Sensitivity. Journal of Climate, 1997, 10, 138-161.	3.2	162
34	Model-based assessment of the role of human-induced climate change in the 2005 Caribbean coral bleaching event. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5483-5488.	7.1	156
35	Multimodel Assessment of Regional Surface Temperature Trends: CMIP3 and CMIP5 Twentieth-Century Simulations. Journal of Climate, 2013, 26, 8709-8743.	3.2	149
36	Global-Scale Intraseasonal Oscillations of Outgoing Longwave Radiation and 250 mb Zonal Wind during Northern Hemisphere Summer. Monthly Weather Review, 1986, 114, 605-623.	1.4	147

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37	Estimating Annual Numbers of Atlantic Hurricanes Missing from the HURDAT Database (1878â€“1965) Using Ship Track Density. Journal of Climate, 2011, 24, 1736-1746.	3.2	136
38	Review of simulations of climate variability and change with the GFDL R30 coupled climate model. Climate Dynamics, 2002, 19, 555-574.	3.8	119
39	Tropical Cyclone Simulation and Response to CO2 Doubling in the GFDL CM2.5 High-Resolution Coupled Climate Model. Journal of Climate, 2014, 27, 8034-8054.	3.2	115
40	Tropical cyclone sensitivities to CO2 doubling: roles of atmospheric resolution, synoptic variability and background climate changes. Climate Dynamics, 2019, 53, 5999-6033.	3.8	114
41	GFDL's CM2 Global Coupled Climate Models. Part IV: Idealized Climate Response. Journal of Climate, 2006, 19, 723-740.	3.2	110
42	Model assessment of regional surface temperature trends (1949-1997). Journal of Geophysical Research, 1999, 104, 30981-30996.	3.3	98
43	Sensitivity of Tropical Cyclone Rainfall to Idealized Global-Scale Forcings*. Journal of Climate, 2014, 27, 4622-4641.	3.2	98
44	Impact of CO2-Induced Warming on Hurricane Intensities as Simulated in a Hurricane Model with Ocean Coupling. Journal of Climate, 2001, 14, 2458-2468.	3.2	97
45	Twentieth-century temperature and precipitation trends in ensemble climate simulations including natural and anthropogenic forcing. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	96
46	Increased hurricane intensities with CO 2 -induced warming as simulated using the GFDL hurricane prediction system. Climate Dynamics, 1999, 15, 503-519.	3.8	95
47	Impacts of Atmospheric Temperature Trends on Tropical Cyclone Activity. Journal of Climate, 2013, 26, 3877-3891.	3.2	83
48	Underestimated AMOC Variability and Implications for AMV and Predictability in CMIP Models. Geophysical Research Letters, 2018, 45, 4319-4328.	4.0	78
49	Machine-learning-based evidence and attribution mapping of 100,000 climate impact studies. Nature Climate Change, 2021, 11, 966-972.	18.8	77
50	Detection of anthropogenic influence on a summertime heat stress index. Climatic Change, 2016, 138, 25-39.	3.6	76
51	Weak Simulated Extratropical Responses to Complete Tropical Deforestation. Journal of Climate, 2006, 19, 2835-2850.	3.2	70
52	Tropical cyclone motion in a changing climate. Science Advances, 2020, 6, eaaz7610.	10.3	68
53	Changes in Heat Index Associated with CO2-Induced Global Warming. Climatic Change, 1999, 43, 369-386.	3.6	67
54	Causes of large projected increases in hurricane precipitation rates with global warming. Npj Climate and Atmospheric Science, 2019, 2, .	6.8	66

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55	On the discrepancy between observed and CMIP5 multi-model simulated Barents Sea winter sea ice decline. Nature Communications, 2017, 8, 14991.	12.8	63
56	Simulations of the Present and Late-Twenty-First-Century Western North Pacific Tropical Cyclone Activity Using a Regional Model. Journal of Climate, 2014, 27, 3405-3424.	3.2	62
57	The Current Debate on the Linkage Between Global Warming and Hurricanes. Geography Compass, 2007, 1, 1-24.	2.7	61
58	The role of Atlantic overturning circulation in the recent decline of Atlantic major hurricane frequency. Nature Communications, 2017, 8, 1695.	12.8	60
59	Regional climate model projections of rainfall from U.S. landfalling tropical cyclones. Climate Dynamics, 2015, 45, 3365-3379.	3.8	58
60	Perspective: coordinating paleoclimate research on tropical cyclones with hurricane-climate theory and modelling. Tellus, Series A: Dynamic Meteorology and Oceanography, 2007, 59, 529-537.	1.7	54
61	Is the recorded increase in short-duration North Atlantic tropical storms spurious?. Journal of Geophysical Research, 2011, 116, .	3.3	51
62	North Atlantic Tropical Storm Frequency Response to Anthropogenic Forcing: Projections and Sources of Uncertainty. Journal of Climate, 2011, 24, 3224-3238.	3.2	51
63	The Extreme 2015/16 El NiÃ±o, in the Context of Historical Climate Variability and Change. Bulletin of the American Meteorological Society, 2018, 99, S16-S20.	3.3	50
64	Impact of increased CO2on simulated ENSO-like phenomena. Geophysical Research Letters, 1994, 21, 2295-2298.	4.0	48
65	Third assessment on impacts of climate change on tropical cyclones in the Typhoon Committee Region â€“ Part I: Observed changes, detection and attribution. Tropical Cyclone Research and Review, 2020, 9, 1-22.	2.2	48
66	Evaluation of a component of the cloud response to climate change in an intercomparison of climate models. Climate Dynamics, 2006, 26, 145-165.	3.8	47
67	Third assessment on impacts of climate change on tropical cyclones in the Typhoon Committee Region â€“ Part II: Future projections. Tropical Cyclone Research and Review, 2020, 9, 75-86.	2.2	46
68	Prospects for a prolonged slowdown in global warming in the early 21st century. Nature Communications, 2016, 7, 13676.	12.8	44
69	Simulations of Hurricane Katrina (2005) under sea level and climate conditions for 1900. Climatic Change, 2014, 122, 635-649.	3.6	42
70	Changes in Atlantic major hurricane frequency since the late-19th century. Nature Communications, 2021, 12, 4054.	12.8	42
71	A comparison of climate change simulations produced by two GFDL coupled climate models. Global and Planetary Change, 2003, 37, 81-102.	3.5	37
72	A Multivariate AMV Index and Associated Discrepancies Between Observed and CMIP5 Externally Forced AMV. Geophysical Research Letters, 2019, 46, 4421-4431.	4.0	36

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73	The Roles of Wind Shear and Thermal Stratification in Past and Projected Changes of Atlantic Tropical Cyclone Activity. Journal of Climate, 2009, 22, 4723-4734.	3.2	34
74	Observed and Simulated Fingerprints of Multidecadal Climate Variability and Their Contributions to Periods of Global SST Stagnation. Journal of Climate, 2017, 30, 721-737.	3.2	32
75	Model Assessment of Observed Precipitation Trends over Land Regions: Detectable Human Influences and Possible Low Bias in Model Trends. Journal of Climate, 2018, 31, 4617-4637.	3.2	31
76	Impact of Upper-Tropospheric Temperature Anomalies and Vertical Wind Shear on Tropical Cyclone Evolution Using an Idealized Version of the Operational GFDL Hurricane Model. Journals of the Atmospheric Sciences, 2016, 73, 3803-3820.	1.7	29
77	CMIP5 Model-based Assessment of Anthropogenic Influence on Record Global Warmth During 2016. Bulletin of the American Meteorological Society, 2018, 99, S11-S15.	3.3	27
78	Uncertainty levels in predicted patterns of anthropogenic climate change. Journal of Geophysical Research, 2000, 105, 15525-15542.	3.3	20
79	Tropical cyclones and climate change: revisiting recent studies at GFDL. , 2008, , 120-144.		16
80	Comparison of Mechanisms for Low-Frequency Variability of Summer Arctic Sea Ice in Three Coupled Models. Journal of Climate, 2018, 31, 1205-1226.	3.2	12
81	Climate Model Assessment of Changes in Winterâ€“Spring Streamflow Timing over North America. Journal of Climate, 2018, 31, 5581-5593.	3.2	11
82	Dynamical downscaling projections of late twenty-first-century U.S. landfalling hurricane activity. Climatic Change, 2022, 171, 1.	3.6	11
83	Decadal Climate Variability and Cross-Scale Interactions: ICCL 2013 Expert Assessment Workshop. Bulletin of the American Meteorological Society, 2014, 95, ES155-ES158.	3.3	8
84	Multimodel Assessment of Anthropogenic Influence on Record Global and Regional Warmth During 2015. Bulletin of the American Meteorological Society, 2016, 97, S4-S8.	3.3	7
85	Impacts of Extratropical Weather Perturbations on Tropical Cyclone Activity: Idealized Sensitivity Experiments With a Regional Atmospheric Model. Geophysical Research Letters, 2019, 46, 14052-14062.	4.0	7
86	A Comparison of Tropical Cyclone Projections in a High-resolution Global Climate Model and from Downscaling by Statistical and Statistical-deterministic Methods. Journal of Climate, 2021, , 1-48.	3.2	6
87	Reply to â€œComments on â€˜Monitoring and Understanding Trends in Extreme Storms: State of Knowledgeâ€™â€• Bulletin of the American Meteorological Society, 2015, 96, 1177-1179.	3.3	5
88	North Atlantic Hurricane Activity: Past, Present and Future. World Scientific Series on Asia-Pacific Weather and Climate, 2015, , 285-301.	0.2	4
89	Tropical Cyclones and Climate Change: An Indian Ocean Perspective. , 2010, , 47-49.		4
90	Record Annual Mean Warmth Over Europe, the Northeast Pacific, and the Northwest Atlantic During 2014: Assessment of Anthropogenic Influence. Bulletin of the American Meteorological Society, 2015, 96, S61-S65.	3.3	3

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91	CMIP5 Model-based Assessment of Anthropogenic Influence on Highly Anomalous Arctic Warmth During Novemberâ€“December 2016. Bulletin of the American Meteorological Society, 2018, 99, S34-S38.	3.3	3
92	Recent Research at GFDL on Surface Temperature Trends and Simulations of Tropical Cyclone Activity in the Indian Ocean Region. , 2014, , 50-62.		2
93	Teaching and Learning Guide for: The Current Debate on the Linkage between Global Warming and Hurricanes. Geography Compass, 2008, 2, 1232-1236.	2.7	1
94	Tropical cyclones and climate change. , 0, .		1
95	Machine Learningâ€“Based Hurricane Wind Reconstruction. Weather and Forecasting, 2022, 37, 477-493.	1.4	1
96	Physical Climate Forces. , 2012, , 10-51.		0
97	Reply to â€œComments on â€˜Monitoring and Understanding Trends in Extreme Storms: State of Knowledgeâ€™â€. Bulletin of the American Meteorological Society, 2016, 2016, 1177-1179.	3.3	0