George C Craig

List of Publications by Year
in descending order

100 papers	4,059 citations	101543 36 h-index	128289 60 g-index
103 all docs	103 docs citations	103 times ranked	2834 citing authors

#	Article	IF	Citations
1	A Stochastic Parameterization for Deep Convection Based on Equilibrium Statistics. Journals of the Atmospheric Sciences, 2008, 65, 87-105.	1.7	245
2	RESEARCH CAMPAIGN: The Convective and Orographically Induced Precipitation Study. Bulletin of the American Meteorological Society, 2008, 89, 1477-1486.	3.3	194
3	The Convective and Orographicallyâ€induced Precipitation Study (COPS): the scientific strategy, the field phase, and research highlights. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 3-30.	2.7	181
4	CISK or WISHE as the Mechanism for Tropical Cyclone Intensification. Journals of the Atmospheric Sciences, 1996, 53, 3528-3540.	1.7	137
5	Radiativeâ€“convective equilibrium in a three-dimensional cloud-ensemble model. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 2073-2097.	2.7	136
6	Stratospheric Influence on Tropopause Height: The Radiative Constraint. Journals of the Atmospheric Sciences, 2000, 57, 17-28.	1.7	122
7	The dynamics of a midlatitude cyclone with very strong latent-heat release. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 295-323.	2.7	110
8	The North Atlantic Waveguide and Downstream Impact Experiment. Bulletin of the American Meteorological Society, 2018, 99, 1607-1637.	3.3	105
9	GCM Tests of Theories for the Height of the Tropopause. Journals of the Atmospheric Sciences, 1997, 54, 869-882.	1.7	101
10	Mesoscale simulations of organized convection: Importance of convective equilibrium. Quarterly Journal of the Royal Meteorological Society, 2006, 132, 737-756.	2.7	95
11	On the temperature structure of the tropical substratosphere. Journal of Geophysical Research, 2002, 107, ACL 10-1.	3.3	92
12	Upscale Error Growth in a High-Resolution Simulation of a Summertime Weather Event over Europe*. Monthly Weather Review, 2015, 143, 813-827.	1.4	88
13	The impact of downscaled initial condition perturbations on convectiveâ€scale ensemble forecasts of precipitation. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1552-1562.	2.7	87
14	Sensitivity of Tropical Convection to Sea Surface Temperature in the Absence of Large-Scale Flow. Journal of Climate, 1999, 12, 462-476.	3.2	83
15	Fluctuations in an Equilibrium Convective Ensemble. Part I: Theoretical Formulation. Journals of the Atmospheric Sciences, 2006, 63, 1996-2004.	1.7	82
16	The convective adjustment timeâ€scale as indicator of predictability of convective precipitation. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 480-490.	2.7	79
17	The hurricane-like Mediterranean cyclone of January 1995. Meteorological Applications, 2000, 7, 261-279.	2.1	73
18	The extratropical transition of hurricane <I>Irene</I> (1999): A potential-vorticity perspective. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 1047-1074.	2.7	70

#	Article	IF	Citations
19	Poleward heat transport by the atmospheric heat engine. Nature, 2002, 415, 774-777.	27.8	66
20	A Displacement-Based Error Measure Applied in a Regional Ensemble Forecasting System. Monthly Weather Review, 2007, 135, 3248-3259.	1.4	65
21	A coarsening model for selfâ€organization of tropical convection. Journal of Geophysical Research D: Atmospheres, 2013, 118, 8761-8769.	3.3	65
22	Entrainment in Cumulus Clouds: What Resolution is Cloud-Resolving?. Journals of the Atmospheric Sciences, 2008, 65, 3978-3988.	1.7	58
23	A Displacement and Amplitude Score Employing an Optical Flow Technique. Weather and Forecasting, 2009, 24, 1297-1308.	1.4	58
24	Radiative-convective equilibrium in a three-dimensional cloud-ensemble model. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 2073-2097.	2.7	57
25	Fluctuations in an Equilibrium Convective Ensemble. Part II: Numerical Experiments. Journals of the Atmospheric Sciences, 2006, 63, 2005-2015.	1.7	56
26	On a threefold classification of extratropical cyclogenesis. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 2989-3012.	2.7	54
27	Blending a probabilistic nowcasting method with a highâ€resolution numerical weather prediction ensemble for convective precipitation forecasts. Quarterly Journal of the Royal Meteorological Society, 2012, 138, 755-768.	2.7	54
28	Classifying severe rainfall events over Italy by hydrometeorological and dynamical criteria. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 148-154.	2.7	48
29	Stochastic convective parameterization improving the simulation of tropical precipitation variability in the NCAR CAM5. Geophysical Research Letters, 2016, 43, 6612-6619.	4.0	47
30	Classification of precipitation events with a convective response timescale and their forecasting characteristics. Geophysical Research Letters, 2011, 38, n/a-n/a.	4.0	44
31	The response time of a convective cloud ensemble to a change in forcing. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 933-944.	2.7	43
32	The Impact of Data Assimilation Length Scales on Analysis and Prediction of Convective Storms. Monthly Weather Review, 2014, 142, 3781-3808.	1.4	42
33	Extreme precipitation events over northern Italy. Part I: A systematic classification with machineâ€learning techniques. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 69-85.	2.7	39
34	Cumulus Heating and CISK in the Extratropical Atmosphere. Part I: Polar Lows and Comma Clouds. Journals of the Atmospheric Sciences, 1988, 45, 2622-2640.	1.7	38
35	A Polarimetric Radar Forward Operator for Model Evaluation. Journal of Applied Meteorology and Climatology, 2008, 47, 3202-3220.	1.5	38
36	Physically Based Stochastic Perturbations (PSP) in the Boundary Layer to Represent Uncertainty in Convective Initiation. Journals of the Atmospheric Sciences, 2016, 73, 2893-2911.	1.7	38

#	Article	IF	Citations
37	Coldâ€poolâ€driven convective initiation: using causal graph analysis to determine what convectionâ€permitting models are missing. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 2205-2227.	2.7	38
38	Sensitivity of quantitative precipitation forecast to height dependent changes in humidity. Geophysical Research Letters, 2008, 35, .	4.0	37
39	The Extratropical Transition of Tropical Cyclone Lili (1996) and Its Crucial Contribution to a Moderate Extratropical Development. Monthly Weather Review, 2005, 133, 1562-1573.	1.4	36
40	Study of the Hurricane-like Mediterranean cyclone of January 1995. Physics and Chemistry of the Earth, 1999, 24, 627-632.	0.3	32
41	Mass and water transport into the tropical stratosphere: A cloud-resolving simulation. Journal of Geophysical Research, 2004, 109, .	3.3	32
42	Soil moistureâ€“precipitation coupling over Central Europe: Interactions between surface anomalies at different scales and the dynamical implication. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 2863-2875.	2.7	32
43	A simple theoretical model for the intensification of tropical cyclones and polar lows. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 919-947.	2.7	31
44	Regime-dependent forecast uncertainty of convective precipitation. Meteorologische Zeitschrift, 2011, 20, 145-151.	1.0	31
45	Caseâ€toâ€case variability of predictability of deep convection in a mesoscale model. Quarterly Journal of the Royal Meteorological Society, 2012, 138, 638-648.	2.7	31
46	Time-scales of adjustment to radiative-convective equilibrium in the tropical atmosphere. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 2693-2713.	2.7	30
47	A GCM Investigation into the Nature of Baroclinic Adjustment. Journals of the Atmospheric Sciences, 2000, 57, 1141-1155.	1.7	29
48	Variability and Clustering of Midlatitude Summertime Convection: Testing the Craig and Cohen Theory in a Convection-Permitting Ensemble with Stochastic Boundary Layer Perturbations. Journals of the Atmospheric Sciences, 2018, 75, 691-706.	1.7	29
49	Constraints on the impact of radar rainfall data assimilation on forecasts of cumulus convection. Quarterly Journal of the Royal Meteorological Society, 2012, 138, 340-352.	2.7	28
50	A simple dynamical model of cumulus convection for data assimilation research. Meteorologische Zeitschrift, 2014, 23, 483-490.	1.0	28
51	Quantitative View on the Processes Governing the Upscale Error Growth up to the Planetary Scale Using a Stochastic Convection Scheme. Monthly Weather Review, 2019, 147, 1713-1731.	1.4	28
52	Predictability of Deep Convection in Idealized and Operational Forecasts: Effects of Radar Data Assimilation, Orography, and Synoptic Weather Regime. Monthly Weather Review, 2020, 148, 63-81.	1.4	28
53	Dimensional analysis of a convecting atmosphere in equilibrium with external forcing. Quarterly Journal of the Royal Meteorological Society, 1996, 122, 1963-1967.	2.7	27
54	Convective-Scale Perturbation Growth across the Spectrum of Convective Regimes. Monthly Weather Review, 2018, 146, 387-405.	1.4	27

#	Article	IF	Citations
55	Simulation of upscale error growth with a stochastic convection scheme. Geophysical Research Letters, 2015, 42, 3056-3062.	4.0	25
56	Numerical experiments on radiation and tropical cyclones. Quarterly Journal of the Royal Meteorological Society, 1996, 122, 415-422.	2.7	24
57	Ensemble forecasting with a stochastic convective parametrization based on equilibrium statistics. Atmospheric Chemistry and Physics, 2012, 12, 4555-4565.	4.9	22
58	Stochastic Parameterization of Processes Leading to Convective Initiation in Kilometer-Scale Models. Monthly Weather Review, 2019, 147, 3917-3934.	1.4	22
59	Horizontal structure function and vertical correlation analysis of mesoscale water vapor variability observed by airborne lidar. Journal of Geophysical Research D: Atmospheres, 2013, 118, 7579-7590.	3.3	21
60	The Plantâ€“Craig Stochastic Convection Scheme in ICON and Its Scale Adaptivity. Journals of the Atmospheric Sciences, 2014, 71, 3404-3415.	1.7	21
61	Spontaneous Aggregation of Convective Storms. Annual Review of Fluid Mechanics, 2022, 54, 133-157.	25.0	21
62	Characterisation of convective regimes over the British Isles. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1541-1553.	2.7	20
63	Convective and Slantwise Trajectory Ascent in Convection-Permitting Simulations of Midlatitude Cyclones. Monthly Weather Review, 2016, 144, 3961-3976.	1.4	20
64	Theoretical aspects of upscale error growth through the mesoscales: an analytical model. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 3048-3059.	2.7	20
65	Aspects of shortâ€term probabilistic blending in different weather regimes. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1179-1188.	2.7	17
66	Universality in the Spatial Evolution of Self-Aggregation of Tropical Convection. Journals of the Atmospheric Sciences, 2019, 76, 1677-1696.	1.7	17
67	Extreme precipitation events over northern Italy. Part <scp>II</scp>: Dynamical precursors. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 1237-1257.	2.7	17
68	Time-scales of adjustments to radiative-convective equilibrium in the tropical atmosphere. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 2693-2713.	2.7	15
69	A Scaling for the Three-Dimensional Semigeostrophic Approximation. Journals of the Atmospheric Sciences, 1993, 50, 3350-3355.	1.7	13
70	Combining probabilistic precipitation forecasts from a nowcasting technique with a time-lagged ensemble. Meteorological Applications, 2014, 21, 230-240.	2.1	13
71	Estimation of the Variability of Mesoscale Energy Spectra with Three Years of COSMO-DE Analyses. Journals of the Atmospheric Sciences, 2019, 76, 627-637.	1.7	13
72	Effects of coupling a stochastic convective parameterization with the Zhangâ€“McFarlane scheme on precipitation simulation in the DOE E3SMv1.0 atmosphere model. Geoscientific Model Development, 2021, 14, 1575-1593.	3.6	13

#	Article	IF	Citations
73	Comparison of Methods Accounting for Subgrid-Scale Model Error in Convective-Scale Data Assimilation. Monthly Weather Review, 2020, 148, 2457-2477.	1.4	13
74	Radiation and polar lows. Quarterly Journal of the Royal Meteorological Society, 1995, 121, 79-94.	2.7	12
75	Theoretical aspects of upscale error growth on the mesoscales: Idealized numerical simulations. Quarterly Journal of the Royal Meteorological Society, 2018, 144, 682-694.	2.7	12
76	Heightâ€resolved variability of midlatitude tropospheric water vapor measured by an airborne lidar. Geophysical Research Letters, 2012, 39, .	4.0	11
77	Mesoscale Dynamical Regimes in the Midlatitudes. Geophysical Research Letters, 2018, 45, 410-417.	4.0	11
78	The role of mass transfer in describing the dynamics of mesoscale convective systems. Quarterly Journal of the Royal Meteorological Society, 1998, 124, 1183-1207.	2.7	10
79	Characterizing noise and spurious convection in convective data assimilation. Quarterly Journal of the Royal Meteorological Society, 2017, 143, 3060-3069.	2.7	10
80	Validating precipitation forecasts using remote sensor synergy: A case study approach. Meteorologische Zeitschrift, 2010, 19, 601-617.	1.0	9
81	Cumulus Convection and CISK in Midlatitudes. Part II: Comma-Cloud Formation in Cyclonic Shear Regions. Journals of the Atmospheric Sciences, 1992, 49, 1318-1333.	1.7	8
82	Best Member Selection for convective-scale ensembles. Meteorologische Zeitschrift, 2011, 20, 153-164.	1.0	7
83	Examination of a Stochastic and Deterministic Convection Parameterization in the COSMO Model. Monthly Weather Review, 2015, 143, 4088-4103.	1.4	7
84	The Transition from Practical to Intrinsic Predictability of Midlatitude Weather. Journals of the Atmospheric Sciences, 2022, 79, 2013-2030.	1.7	7
85	The impact of localization and observation averaging for convectiveâ€scale data assimilation in a simple stochastic model. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 515-523.	2.7	6
86	A cold pool perturbation scheme to improve convective initiation in convectionâ€permitting models. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 2429-2447.	2.7	6
87	A scaling hypothesis for moist convective updraughts. Quarterly Journal of the Royal Meteorological Society, 2001, 127, 1551-1570.	2.7	5
88	Testing particle filters on simple convectiveâ€scale models. PartÂ2: AÂmodified shallowâ€water model. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1628-1646.	2.7	5
89	Waves to Weather: Exploring the Limits of Predictability of Weather. Bulletin of the American Meteorological Society, 2021, 102, E2151-E2164.	3.3	5
90	Distributions and convergence of forecast variables in a 1,000â€member convectionâ€permitting ensemble. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 2325-2343.	2.7	4

#	Article	IF	Citations
91	A Study of Two Cases of Comma-Cloud Cyclogenesis Using a Semigeostrophic Model. Monthly Weather Review, 1992, 120, 2942-2961.	1.4	3
92	Testing particle filters on simple convectiveâ€scale models Part I: A stochastic cloud model. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1439-1452.	2.7	2
93	Structure Function Analysis of Water Vapor Simulated with a Convection-Permitting Model and Comparison to Airborne Lidar Observations. Journals of the Atmospheric Sciences, 2017, 74, 1201-1210.	1.7	2
94	Visualization of Parameter Sensitivity of 2D Time-Dependent Flow. Lecture Notes in Computer Science, 2018, , 359-370.	1.3	2
95	Evolution and mesoscale structure of a polar low outbreak. Quarterly Journal of the Royal Meteorological Society, 2000, 126, 1031-1064.	2.7	2
96	Probabilistic Weather Forecasting. Research Topics in Aerospace, 2012, , 661-673.	0.7	1
97	Using neural networks to improve simulations in the gray zone. Nonlinear Processes in Geophysics, 2022, 29, 171-181.	1.3	0
98	Radiation and polar lows. Quarterly Journal of the Royal Meteorological Society, 1995, 121, 79-94.	2.7	0
99	A comparison of two bulk microphysical schemes and their effects on radiative transfer using a single-column model. Quarterly Journal of the Royal Meteorological Society, 1997, 123, 1561-1601.	2.7	0
100	A scaling hypothesis for moist convective updraughts. Quarterly Journal of the Royal Meteorological Society, 2001, 127, 1551-1570.	2.7	0