John Methven

List of Publications by Year
in descending order

100 papers	4,024 citations	147801 31 h-index	138484 58 g-index
110 all docs	110 docs citations	110 times ranked	4484 citing authors

#	Article	IF	Citations
1	Factors contributing to the summer 2003 European heatwave. Weather, 2004, 59, 217-223.	0.7	454
2	Blocking and its Response to Climate Change. Current Climate Change Reports, 2018, 4, 287-300.	8.6	273
3	Using reanalysis data to quantify extreme wind power generation statistics: A 33 year case study in Great Britain. Renewable Energy, 2015, 75, 767-778.	8.9	186
4	Processes influencing ozone levels in Alaskan forest fire plumes during long-range transport over the North Atlantic. Journal of Geophysical Research, 2007, 112, .	3.3	182
5	The TIGGE Project and Its Achievements. Bulletin of the American Meteorological Society, 2016, 97, 49-67.	3.3	171
6	The use of trajectory cluster analysis to interpret trace gas measurements at Mace Head, Ireland. Atmospheric Environment, 2000, 34, 3651-3663.	4.1	149
7	The North Atlantic Waveguide and Downstream Impact Experiment. Bulletin of the American Meteorological Society, 2018, 99, 1607-1637.	3.3	105
8	The impact of large scale atmospheric circulation patterns on wind power generation and its potential predictability: A case study over the UK. Renewable Energy, 2011, 36, 2087-2096.	8.9	102
9	Diabatic processes modifying potential vorticity in a North Atlantic cyclone. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 1270-1282.	2.7	100
10	Chemical and aerosol characterisation of the troposphere over West Africa during the monsoon period as part of AMMA. Atmospheric Chemistry and Physics, 2010, 10, 7575-7601.	4.9	93
11	The counter-propagating Rossby-wave perspective on baroclinic instability. I: Mathematical basis. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 211-231.	2.7	87
12	Chemical composition observed over the mid-Atlantic and the detection of pollution signatures far from source regions. Journal of Geophysical Research, 2007, 112, .	3.3	70
13	Systematic model forecast error in Rossby wave structure. Geophysical Research Letters, 2014, 41, 2979-2987.	4.0	69
14	Reactive Halogens in the Marine Boundary Layer (RHaMBLe): the tropical North Atlantic experiments. Atmospheric Chemistry and Physics, 2010, 10, 1031-1055.	4.9	66
15	The North Atlantic Marine Boundary Layer Experiment(NAMBLEX). Overview of the campaign held at Mace Head, Ireland, in summer 2002. Atmospheric Chemistry and Physics, 2006, 6, 2241-2272.	4.9	65
16	Largeâ€scale context for the UK floods in summer 2007. Weather, 2008, 63, 280-288.	0.7	64
17	Evaluation of ERAâ€Interim reanalysis precipitation products using England and Wales observations. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 798-806.	2.7	61
18	Establishing Lagrangian connections between observations within air masses crossing the Atlantic during the International Consortium for Atmospheric Research on Transport and Transformation experiment. Journal of Geophysical Research, 2006, 111, .	3.3	60

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19	Relating optimal growth to counterpropagating Rossby waves in shear instability. Physics of Fluids, 2005, 17, 064107.	4.0	59
20	A 27 day persistence model of nearâ€Earth solar wind conditions: A long leadâ€time forecast and a benchmark for dynamical models. Space Weather, 2013, 11, 225-236.	3.7	58
21	Evaluation of a Lagrangian box model using field measurements from EASE (Eastern Atlantic Summer) Tj ETQq1 1 0.784314 rgBT /Overl	4.1	57
22	Estimating photochemically produced ozone throughout a domain using flight data and a Lagrangian model. Journal of Geophysical Research, 2003, 108, n/a-n/a.	3.3	56
23	A Planetary-Scale to Mesoscale Perspective of the Life Cycles of Extratropical Cyclones: The Bridge between Theory and Observations. , 1999, , 139-185.		52
24	Lagrangian analysis of low altitude anthropogenic plume processing across the North Atlantic. Atmospheric Chemistry and Physics, 2008, 8, 7737-7754.	4.9	48
25	Implications of the North Atlantic Oscillation for a UKâ€"Norway Renewable power system. Energy Policy, 2013, 62, 1420-1427.	8.8	45
26	The dichotomous structure of the warm conveyor belt. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1809-1824.	2.7	45
27	Linking extreme precipitation in Southeast Asia to equatorial waves. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 665-684.	2.7	43
28	Origins of Dry Air in the Tropics and Subtropics. Journal of Climate, 2007, 20, 2745-2759.	3.2	42
29	Distinguishing the Cold Conveyor Belt and Sting Jet Airstreams in an Intense Extratropical Cyclone. Monthly Weather Review, 2014, 142, 2571-2595.	1.4	41
30	The Advection of High-Resolution Tracers by Low-Resolution Winds. Journals of the Atmospheric Sciences, 1999, 56, 3262-3285.	1.7	40
31	Rapid uplift of nonmethane hydrocarbons in a cold front over central Europe. Journal of Geophysical Research, 2003, 108, .	3.3	36
32	Estimating relationships between air mass origin and chemical composition. Journal of Geophysical Research, 2001, 106, 5005-5019.	3.3	34
33	Potential vorticity in warm conveyor belt outflow. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1065-1071.	2.7	34
34	Boundary layer structure and decoupling from synoptic scale flow during NAMBLEX. Atmospheric Chemistry and Physics, 2006, 6, 433-445.	4.9	33
35	Alkyl nitrates in outflow from North America over the North Atlantic during Intercontinental Transport of Ozone and Precursors 2004. Journal of Geophysical Research, 2007, 112, .	3.3	33
36	Cloud Banding and Winds in Intense European Cyclones: Results from the DIAMET Project. Bulletin of the American Meteorological Society, 2015, 96, 249-265.	3.3	32

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37	Statistical inference of OH concentrations and air mass dilution rates from successive observations of nonmethane hydrocarbons in single air masses. Journal of Geophysical Research, 2007, 112, .	3.3	31
38	The counter-propagating Rossby-wave perspective on baroclinic instability. II: Application to the Charney model. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 233-258.	2.7	30
39	Ensemble prediction of transitions of the North Atlantic eddyâ€driven jet. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1288-1297.	2.7	29
40	Is the subtropical jet shifting poleward?. Climate Dynamics, 2020, 54, 1741-1759.	3.8	28
41	Comparison and visualisation of high-resolution transport modelling with aircraft measurements. Atmospheric Science Letters, 2005, 6, 164-170.	1.9	26
42	Baroclinic Waves with Parameterized Effects of Moisture Interpreted Using Rossby Wave Components. Journals of the Atmospheric Sciences, 2010, 67, 2766-2784.	1.7	26
43	Spirals in Potential Vorticity. Part I: Measures of Structure. Journals of the Atmospheric Sciences, 1998, 55, 2053-2066.	1.7	24
44	The counter-propagating Rossby-wave perspective on baroclinic instability. Part III: Primitive-equation disturbances on the sphere. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 1393-1424.	2.7	24
45	Peroxy radical partitioning during the AMMA radical intercomparison exercise. Atmospheric Chemistry and Physics, 2010, 10, 10621-10638.	4.9	24
46	A Lagrangian model of air-mass photochemistry and mixing using a trajectory ensemble: the Cambridge Tropospheric Trajectory model of Chemistry And Transport (CiTTyCAT) version 4.2. Geoscientific Model Development, 2012, 5, 193-221.	3.6	24
47	The counter-propagating Rossby-wave perspective on baroclinic instability. Part IV: Nonlinear life cycles. Quarterly Journal of the Royal Meteorological Society, 2005, 131, 1425-1440.	2.7	23
48	Representation of dry tropical layers and their origins in ERA-40 data. Journal of Geophysical Research, 2005, 110, n/a-n/a.	3.3	23
49	Flowâ€dependent predictability of the North Atlantic jet. Geophysical Research Letters, 2013, 40, 2411-2416.	4.0	22
50	Rossby wave propagation on potential vorticity fronts with finite width. Journal of Fluid Mechanics, 2016, 794, 775-797.	3.4	22
51	Processes Maintaining Tropopause Sharpness in Numerical Models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 9611-9627.	3.3	22
52	Linking African Easterly Wave Activity with Equatorial Waves and the Influence of Rossby Waves from the Southern Hemisphere. Journals of the Atmospheric Sciences, 2018, 75, 1783-1809.	1.7	22
53	Diabatic Processes and the Evolution of Two Contrasting Summer Extratropical Cyclones. Monthly Weather Review, 2016, 144, 3251-3276.	1.4	20
54	Transport in the Low-Latitude Tropopause Zone Diagnosed Using Particle Trajectories. Journals of the Atmospheric Sciences, 2001, 58, 173-192.	1.7	19

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55	The slowly evolving background state of the atmosphere. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 2237-2258.	2.7	18
56	The nonâ€conservation of potential vorticity by a dynamical core compared with the effects of parametrized physical processes. Quarterly Journal of the Royal Meteorological Society, 2016, 142, 1265-1275.	2.7	18
57	The contrast between Atlantic and Pacific surface water fluxes. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1330454.	1.7	17
58	Wave Activity for Large-Amplitude Disturbances Described by the Primitive Equations on the Sphere. Journals of the Atmospheric Sciences, 2013, 70, 1616-1630.	1.7	16
59	Diabatic generation of negative potential vorticity and its impact on the North Atlantic jet stream. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 1477-1497.	2.7	16
60	Exploring the meteorological potential for planning a high performance European electricity super-grid: optimal power capacity distribution among countries. Environmental Research Letters, 2017, 12, 114030.	5.2	15
61	Observation of Jet Stream Winds during NAWDEX and Characterization of Systematic Meteorological Analysis Errors. Monthly Weather Review, 2020, 148, 2889-2907.	1.4	15
62	Numerical modeling study of boundary-layer ventilation by a cold front over Europe. Journal of Geophysical Research, 2005, 110, .	3.3	14
63	Variability and trends in England and Wales precipitation. International Journal of Climatology, 2016, 36, 2823-2836.	3.5	14
64	The added value of convectionâ€permitting ensemble forecasts of sea breeze compared to a Bayesian forecast driven by the global ensemble. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 1780-1798.	2.7	14
65	Linking rapid forecast error growth to diabatic processes. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 3548-3569.	2.7	14
66	Determining the bounds of skilful forecast range for probabilistic prediction of system-wide wind power generation. Meteorologische Zeitschrift, 2017, 26, 239-252.	1.0	13
67	An Interpretation of Baroclinic Initial Value Problems: Results for Simple Basic States with Nonzero Interior PV Gradients. Journals of the Atmospheric Sciences, 2009, 66, 864-882.	1.7	12
68	Physical Factors Influencing Regional Precipitation Variability Attributed Using an Airmass Trajectory Method. Journal of Climate, 2017, 30, 7359-7378.	3.2	12
69	The intricacies of identifying equatorial waves. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 2814-2852.	2.7	12
70	Forecast Impact of Targeted Observations: Sensitivity to Observation Error and Proximity to Steep Orography. Monthly Weather Review, 2011, 139, 69-78.	1.4	11
71	Sensitivity of tropospheric ozone to chemical kinetic uncertainties in air masses influenced by anthropogenic and biomass burning emissions. Geophysical Research Letters, 2017, 44, 7472-7481.	4.0	11
72	Real-Time Identification of Equatorial Waves and Evaluation of Waves in Global Forecasts. Weather and Forecasting, 2021, 36, 171-193.	1.4	11

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73	The impact of targeted observations made during the Greenland Flow Distortion Experiment. Quarterly Journal of the Royal Meteorological Society, 2009, 135, 2012-2029.	2.7	10
74	Targeted observations of a polar low in the Norwegian Sea. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1688-1699.	2.7	10
75	Flying through extratropical cyclone Friedhelm. Weather, 2013, 68, 9-13.	0.7	10
76	The counterpropagating Rossby wave perspective on Kelvin Helmholtz instability as a limiting case of a Rayleigh shear layer with zero width. Physics of Fluids, 2006, 18, 018101.	4.0	9
77	Can a climate model reproduce extreme regional precipitation events over England and Wales?. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1466-1472.	2.7	9
78	Isolating the Effects of Moisture Entrainment on Convectively Coupled Equatorial Waves in an Aquaplanet GCM. Journals of the Atmospheric Sciences, 2018, 75, 3139-3157.	1.7	9
79	Research flight observations of a prefrontal gravity wave near the southwestern UK. Weather, 2010, 65, 293-297.	0.7	8
80	Predictability of Frontal Waves and Cyclones. Weather and Forecasting, 2015, 30, 1291-1302.	1.4	7
81	Does the Representation of Flow Structure and Turbulence at a Cold Front Converge on Multiscale Observations with Model Resolution?. Monthly Weather Review, 2017, 145, 4345-4363.	1.4	7
82	An Adiabatic Mechanism for the Reduction of Jet Meander Amplitude by Potential Vorticity Filamentation. Journals of the Atmospheric Sciences, 2018, 75, 4091-4106.	1.7	7
83	Characterising extratropical nearâ€tropopause analysis humidity biases and their radiative effects on temperature forecasts. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 3878-3898.	2.7	7
84	Spirals in Potential Vorticity. Part II: Stability. Journals of the Atmospheric Sciences, 1998, 55, 2067-2079.	1.7	6
85	Comments on â€œPiecewise Potential Vorticity Inversion: Elementary Testsâ€. Journals of the Atmospheric Sciences, 2008, 65, 3003-3008.	1.7	6
86	Quantification of chemical and physical processes influencing ozone during long-range transport using a trajectory ensemble. Atmospheric Chemistry and Physics, 2012, 12, 7015-7039.	4.9	6
87	Multidimensional method-of-lines transport for atmospheric flows over steep terrain using arbitrary meshes. Journal of Computational Physics, 2017, 344, 86-107.	3.8	6
88	The role of tropopause polar vortices in the intensification of summer Arctic cyclones. Weather and Climate Dynamics, 2021, 2, 1303-1324.	3.5	6
89	Weather patterns in Southeast Asia: Relationship with tropical variability and heavy precipitation. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 747-769.	2.7	6
90	Circulation conservation in the outflow of warm conveyor belts and consequences for Rossby wave evolution. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 3587-3610.	2.7	5

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91	Sensitivity of the surface orographic gravity wave drag to vertical wind shear over Antarctica. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 164-178.	2.7	4
92	Monsoonâ€Induced Zonal Asymmetries in Moisture Transport Cause Anomalous Pacific Precipitation Minus Evaporation. Geophysical Research Letters, 2020, 47, e2020GL088659.	4.0	4
93	The counter-propagating Rossby-wave perspective on baroclinic instability. I: Mathematical basis. Quarterly Journal of the Royal Meteorological Society, 2004, 130, 211-231.	2.7	4
94	The influence of PV inversion on polar-vortex dynamics and passive-tracer simulations in atmosphere-like regimes. Quarterly Journal of the Royal Meteorological Society, 2003, 129, 1191-1215.	2.7	3
95	The role of baroclinic waves in the initiation of tropical cyclones across the southern Indian Ocean. Atmospheric Science Letters, 2012, 13, 88-94.	1.9	3
96	The effect of a stable boundary layer on orographic gravityâ€wave drag. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 321-340.	2.7	2
97	Meteorological factors controlling low-level continental pollutant outflow across a coast. Atmospheric Chemistry and Physics, 2014, 14, 13295-13312.	4.9	1
98	Can 4Dâ€Var use dynamical information from targeted observations of a baroclinic structure?. Quarterly Journal of the Royal Meteorological Society, 2010, 136, 1396-1407.	2.7	0
99	Identifying Wave Processes Associated With Predictability Across Time Scales: An Empirical Normal Mode Approach. , 2019, , 65-90.		0
100	Diagnosing topographic forcing in an atmospheric dataset: The case of the North American Cordillera. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 314-326.	2.7	0