John Methven

List of Publications by Year in descending order

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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	The contrast between Atlantic and Pacific surface water fluxes. Tellus, Series A: Dynamic Meteorology and Oceanography, 2022, 69, 1330454.	1.7	17
2	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
3	The intricacies of identifying equatorial waves. Quarterly Journal of the Royal Meteorological Society, 2022, 148, 2814-2852.	2.7	12
4	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
5	Real-Time Identification of Equatorial Waves and Evaluation of Waves in Global Forecasts. Weather and Forecasting, 2021, 36, 171-193.	1.4	11
6	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
7	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
8	The role of tropopause polar vortices in the intensification of summer Arctic cyclones. Weather and Climate Dynamics, 2021, 2, 1303-1324.	3.5	6
9	Is the subtropical jet shifting poleward?. Climate Dynamics, 2020, 54, 1741-1759.	3.8	28
10	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
11	Linking extreme precipitation in Southeast Asia to equatorial waves. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 665-684.	2.7	43
12	Linking rapid forecast error growth to diabatic processes. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 3548-3569.	2.7	14
13	Monsoonâ€Induced Zonal Asymmetries in Moisture Transport Cause Anomalous Pacific Precipitation Minus Evaporation. Geophysical Research Letters, 2020, 47, e2020GL088659.	4.0	4
14	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
15	Observation of Jet Stream Winds during NAWDEX and Characterization of Systematic Meteorological Analysis Errors. Monthly Weather Review, 2020, 148, 2889-2907.	1.4	15
16	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
17	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
18	Identifying Wave Processes Associated With Predictability Across Time Scales: An Empirical Normal Mode Approach. , 2019, , 65-90.		0

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19	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
20	The North Atlantic Waveguide and Downstream Impact Experiment. Bulletin of the American Meteorological Society, 2018, 99, 1607-1637.	3.3	105
21	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
22	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
23	Blocking and its Response to Climate Change. Current Climate Change Reports, 2018, 4, 287-300.	8.6	273
24	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
25	Physical Factors Influencing Regional Precipitation Variability Attributed Using an Airmass Trajectory Method. Journal of Climate, 2017, 30, 7359-7378.	3.2	12
26	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
27	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
28	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
29	Processes Maintaining Tropopause Sharpness in Numerical Models. Journal of Geophysical Research D: Atmospheres, 2017, 122, 9611-9627.	3.3	22
30	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
31	Variability and trends in England and Wales precipitation. International Journal of Climatology, 2016, 36, 2823-2836.	3.5	14
32	The TIGGE Project and Its Achievements. Bulletin of the American Meteorological Society, 2016, 97, 49-67.	3.3	171
33	Rossby wave propagation on potential vorticity fronts with finite width. Journal of Fluid Mechanics, 2016, 794, 775-797.	3.4	22
34	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
35	Diabatic Processes and the Evolution of Two Contrasting Summer Extratropical Cyclones. Monthly Weather Review, 2016, 144, 3251-3276.	1.4	20
36	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

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37	Potential vorticity in warm conveyor belt outflow. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 1065-1071.	2.7	34
38	The slowly evolving background state of the atmosphere. Quarterly Journal of the Royal Meteorological Society, 2015, 141, 2237-2258.	2.7	18
39	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
40	Predictability of Frontal Waves and Cyclones. Weather and Forecasting, 2015, 30, 1291-1302.	1.4	7
41	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
42	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
43	Systematic model forecast error in Rossby wave structure. Geophysical Research Letters, 2014, 41, 2979-2987.	4.0	69
44	Distinguishing the Cold Conveyor Belt and Sting Jet Airstreams in an Intense Extratropical Cyclone. Monthly Weather Review, 2014, 142, 2571-2595.	1.4	41
45	The dichotomous structure of the warm conveyor belt. Quarterly Journal of the Royal Meteorological Society, 2014, 140, 1809-1824.	2.7	45
46	Meteorological factors controlling low-level continental pollutant outflow across a coast. Atmospheric Chemistry and Physics, 2014, 14, 13295-13312.	4.9	1
47	Diabatic processes modifying potential vorticity in a North Atlantic cyclone. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 1270-1282.	2.7	100
48	Flying through extratropical cyclone Friedhelm. Weather, 2013, 68, 9-13.	0.7	10
49	Implications of the North Atlantic Oscillation for a UKâ€“Norway Renewable power system. Energy Policy, 2013, 62, 1420-1427.	8.8	45
50	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
51	Flowâ€dependent predictability of the North Atlantic jet. Geophysical Research Letters, 2013, 40, 2411-2416.	4.0	22
52	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
53	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
54	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

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55	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
56	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
57	Targeted observations of a polar low in the Norwegian Sea. Quarterly Journal of the Royal Meteorological Society, 2011, 137, 1688-1699.	2.7	10
58	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
59	Forecast Impact of Targeted Observations: Sensitivity to Observation Error and Proximity to Steep Orography. Monthly Weather Review, 2011, 139, 69-78.	1.4	11
60	Peroxy radical partitioning during the AMMA radical intercomparison exercise. Atmospheric Chemistry and Physics, 2010, 10, 10621-10638.	4.9	24
61	Reactive Halogens in the Marine Boundary Layer (RHaMBLe): the tropical North Atlantic experiments. Atmospheric Chemistry and Physics, 2010, 10, 1031-1055.	4.9	66
62	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
63	Research flight observations of a prefrontal gravity wave near the southwestern UK. Weather, 2010, 65, 293-297.	0.7	8
64	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
65	Baroclinic Waves with Parameterized Effects of Moisture Interpreted Using Rossby Wave Components. Journals of the Atmospheric Sciences, 2010, 67, 2766-2784.	1.7	26
66	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
67	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
68	Largeâ€scale context for the UK floods in summer 2007. Weather, 2008, 63, 280-288.	0.7	64
69	Comments on â€œPiecewise Potential Vorticity Inversion: Elementary Testsâ€. Journals of the Atmospheric Sciences, 2008, 65, 3003-3008.	1.7	6
70	Lagrangian analysis of low altitude anthropogenic plume processing across the North Atlantic. Atmospheric Chemistry and Physics, 2008, 8, 7737-7754.	4.9	48
71	Origins of Dry Air in the Tropics and Subtropics. Journal of Climate, 2007, 20, 2745-2759.	3.2	42
72	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

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73	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
74	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
75	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
76	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
77	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
78	Boundary layer structure and decoupling from synoptic scale flow during NAMBLEX. Atmospheric Chemistry and Physics, 2006, 6, 433-445.	4.9	33
79	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
80	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
81	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
82	Comparison and visualisation of high-resolution transport modelling with aircraft measurements. Atmospheric Science Letters, 2005, 6, 164-170.	1.9	26
83	Relating optimal growth to counterpropagating Rossby waves in shear instability. Physics of Fluids, 2005, 17, 064107.	4.0	59
84	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
85	Numerical modeling study of boundary-layer ventilation by a cold front over Europe. Journal of Geophysical Research, 2005, 110, .	3.3	14
86	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
87	Factors contributing to the summer 2003 European heatwave. Weather, 2004, 59, 217-223.	0.7	454
88	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
89	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
90	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

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91	Rapid uplift of nonmethane hydrocarbons in a cold front over central Europe. Journal of Geophysical Research, 2003, 108, .	3.3	36
92	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
93	Estimating relationships between air mass origin and chemical composition. Journal of Geophysical Research, 2001, 106, 5005-5019.	3.3	34
94	Transport in the Low-Latitude Tropopause Zone Diagnosed Using Particle Trajectories. Journals of the Atmospheric Sciences, 2001, 58, 173-192.	1.7	19
95	The use of trajectory cluster analysis to interpret trace gas measurements at Mace Head, Ireland. Atmospheric Environment, 2000, 34, 3651-3663.	4.1	149
96	Evaluation of a Lagrangian box model using field measurements from EASE (Eastern Atlantic Summer) Tj ETQq0 0 0 rgBT /Overlock 10 Tf	4.1	57
97	The Advection of High-Resolution Tracers by Low-Resolution Winds. Journals of the Atmospheric Sciences, 1999, 56, 3262-3285.	1.7	40
98	A Planetary-Scale to Mesoscale Perspective of the Life Cycles of Extratropical Cyclones: The Bridge between Theory and Observations. , 1999, , 139-185.		52
99	Spirals in Potential Vorticity. Part II: Stability. Journals of the Atmospheric Sciences, 1998, 55, 2067-2079.	1.7	6
100	Spirals in Potential Vorticity. Part I: Measures of Structure. Journals of the Atmospheric Sciences, 1998, 55, 2053-2066.	1.7	24