Rebecca J Barthelmie

List of Publications by Year
in descending order

156 papers	8,419 citations	50244 46 h-index	51562 86 g-index
178 all docs	178 docs citations	178 times ranked	5513 citing authors

#	Article	IF	Citations
1	A review of measurement and modelling results of particle atmosphereâ€“surface exchange. Tellus, Series B: Chemical and Physical Meteorology, 2022, 60, 42.	0.8	138
2	Occurrence of Low-Level Jets over the Eastern U.S. Coastal Zone at Heights Relevant to Wind Energy. Energies, 2022, 15, 445.	1.6	13
3	Impact of Dietary Meat and Animal Products on GHG Footprints: The UK and the US. Climate, 2022, 10, 43.	1.2	21
4	Region-based convolutional neural network for wind turbine wake characterization from scanning lidars. Journal of Physics: Conference Series, 2022, 2265, 032077.	0.3	1
5	Extreme Wind and Waves in U.S. East Coast Offshore Wind Energy Lease Areas. Energies, 2021, 14, 1053.	1.6	15
6	Intense windstorms in the northeastern United States. Natural Hazards and Earth System Sciences, 2021, 21, 2001-2020.	1.5	7
7	WRF-simulated low-level jets over Iowa: characterization and sensitivity studies. Wind Energy Science, 2021, 6, 1015-1030.	1.2	12
8	Climate Change Mitigation Potential of Wind Energy. Climate, 2021, 9, 136.	1.2	29
9	Wind power production from very large offshore wind farms. Joule, 2021, 5, 2663-2686.	11.7	32
10	A global assessment of extreme wind speeds for wind energy applications. Nature Energy, 2021, 6, 268-276.	19.8	57
11	Region-Based Convolutional Neural Network for Wind Turbine Wake Characterization in Complex Terrain. Remote Sensing, 2021, 13, 4438.	1.8	4
12	Seismic Noise Induced by Wind Turbine Operation and Wind Gusts. Seismological Research Letters, 2020, 91, 427-437.	0.8	8
13	â€œWind Theftâ€•from Onshore Wind Turbine Arrays: Sensitivity to Wind Farm Parameterization and Resolution. Journal of Applied Meteorology and Climatology, 2020, 59, 153-174.	0.6	31
14	Climate change impacts on wind power generation. Nature Reviews Earth & Environment, 2020, 1, 627-643.	12.2	120
15	Power and Wind Shear Implications of Large Wind Turbine Scenarios in the US Central Plains. Energies, 2020, 13, 4269.	1.6	21
16	Sub-Regional Variability in Wind Turbine Blade Leading-Edge Erosion Potential. Journal of Physics: Conference Series, 2020, 1618, 032046.	0.3	2
17	WRF-Simulated Springtime Low-Level Jets over Iowa: Implications for Wind Energy. Journal of Physics: Conference Series, 2020, 1618, 062020.	0.3	5
18	Effects of hydrometeor droplet characteristics on wind turbine blade leading edge erosion: A numerical study. Journal of Physics: Conference Series, 2020, 1452, 012053.	0.3	1

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19	Assessing the stability of wind resource and operating conditions. Journal of Physics: Conference Series, 2020, 1452, 012084.	0.3	10
20	Sensitivity of Wind Turbine Array Downstream Effects to the Parameterization Used in WRF. Journal of Applied Meteorology and Climatology, 2020, 59, 333-361.	0.6	23
21	20% of US electricity from wind will have limited impacts on system efficiency and regional climate. Scientific Reports, 2020, 10, 541.	1.6	24
22	WRF Modeling of Deep Convection and Hail for Wind Power Applications. Journal of Applied Meteorology and Climatology, 2020, 59, 1717-1733.	0.6	7
23	Variability in Wind Energy Generation across the Contiguous United States. Journal of Applied Meteorology and Climatology, 2020, 59, 2021-2039.	0.6	15
24	Radar-derived precipitation climatology for wind turbine blade leading edge erosion. Wind Energy Science, 2020, 5, 331-347.	1.2	20
25	Wind Farm Wakes Simulated Using WRF. Journal of Physics: Conference Series, 2019, 1256, 012025.	0.3	14
26	Wind gust quantification using seismic measurements. Natural Hazards, 2019, 99, 355-377.	1.6	7
27	Automated wind turbine wake characterization in complex terrain. Atmospheric Measurement Techniques, 2019, 12, 3463-3484.	1.2	18
28	Impact of local meteorology on wake characteristics at PerdigÃ£o. Journal of Physics: Conference Series, 2019, 1256, 012007.	0.3	1
29	Characterizing wind gusts in complex terrain. Atmospheric Chemistry and Physics, 2019, 19, 3797-3819.	1.9	25
30	A new seismicâ€based monitoring approach for wind turbines. Wind Energy, 2019, 22, 473-486.	1.9	7
31	The PerdigÃ£o: Peering into Microscale Details of Mountain Winds. Bulletin of the American Meteorological Society, 2019, 100, 799-819.	1.7	93
32	The impact of wind direction yaw angle on cliff flows. Wind Energy, 2018, 21, 1254-1265.	1.9	8
33	Wind Gust Characterization at Wind Turbine Relevant Heights in Moderately Complex Terrain. Journal of Applied Meteorology and Climatology, 2018, 57, 1459-1476.	0.6	20
34	The Influence of Realâ€World Wind Turbine Deployments on Local to Mesoscale Climate. Journal of Geophysical Research D: Atmospheres, 2018, 123, 5804-5826.	1.2	22
35	Interannual variability of wind climates and wind turbine annual energy production. Wind Energy Science, 2018, 3, 651-665.	1.2	38
36	Investigation of gustâ€seismic relationships and applications to gust detection. Journal of Geophysical Research D: Atmospheres, 2017, 122, 140-151.	1.2	11

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37	Wind Gust Quantification Using Seismic Measurements. , 2017, , .		0
38	Use of Seismic Analyses for the Wind Energy Industry. , 2017, , .		0
39	Use of Seismic Analyses for the Wind Energy Industry. Journal of Solar Energy Engineering, Transactions of the ASME, 2017, 139, .	1.1	5
40	Cost performance and risk in the construction of offshore and onshore wind farms. Wind Energy, 2017, 20, 891-908.	1.9	36
41	A stochastic wind turbine wake model based on new metrics for wake characterization. Wind Energy, 2017, 20, 449-463.	1.9	13
42	Ultrafine particle number fluxes over and in a deciduous forest. Journal of Geophysical Research D: Atmospheres, 2017, 122, 405-422.	1.2	2
43	Effect of Wind Turbine Wakes on the Performance of a Real Case WRF-LES Simulation. Journal of Physics: Conference Series, 2017, 854, 012010.	0.3	2
44	Lidar arc scan uncertainty reduction through scanning geometry optimization. Atmospheric Measurement Techniques, 2016, 9, 1653-1669.	1.2	9
45	Errors in radial velocity variance from Doppler wind lidar. Atmospheric Measurement Techniques, 2016, 9, 4123-4139.	1.2	7
46	Wind Turbine Wake Characterization from Temporally Disjunct 3-D Measurements. Remote Sensing, 2016, 8, 939.	1.8	20
47	Defining wake characteristics from scanning and vertical full- scale lidar measurements. Journal of Physics: Conference Series, 2016, 753, 032034.	0.3	8
48	Contributions of the Stochastic Shape Wake Model to Predictions of Aerodynamic Loads and Power under Single Wake Conditions. Journal of Physics: Conference Series, 2016, 753, 082006.	0.3	1
49	Effects of an escarpment on flow parameters of relevance to wind turbines. Wind Energy, 2016, 19, 2271-2286.	1.9	27
50	The role of atmospheric stability/turbulence on wakes at the Egmond aan Zee offshore wind farm. Journal of Physics: Conference Series, 2015, 625, 012002.	0.3	12
51	Wind turbine wake detection with a single Doppler wind lidar. Journal of Physics: Conference Series, 2015, 625, 012017.	0.3	14
52	Satellite winds as a tool for offshore wind resource assessment: The Great Lakes Wind Atlas. Remote Sensing of Environment, 2015, 168, 349-359.	4.6	49
53	Wind Measurements from Arc Scans with Doppler Wind Lidar. Journal of Atmospheric and Oceanic Technology, 2015, 32, 2024-2040.	0.5	27
54	3D Wind and Turbulence Characteristics of the Atmospheric Boundary Layer. Bulletin of the American Meteorological Society, 2014, 95, 743-756.	1.7	30

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55	Intense and Extreme Wind Speeds Observed by Anemometer and Seismic Networks: An Eastern U.S. Case Study. Journal of Applied Meteorology and Climatology, 2014, 53, 2417-2429.	0.6	36
56	Hybrid downscaling of wind climates over the eastern USA. Environmental Research Letters, 2014, 9, 024013.	2.2	15
57	A new turbulence model for offshore wind turbine standards. Wind Energy, 2014, 17, 1587-1604.	1.9	13
58	Monitoring and Understanding Changes in Extremes: Extratropical Storms, Winds, and Waves. Bulletin of the American Meteorological Society, 2014, 95, 377-386.	1.7	94
59	Potential contribution of wind energy to climate change mitigation. Nature Climate Change, 2014, 4, 684-688.	8.1	74
60	Profiles of Wind and Turbulence in the Coastal Atmospheric Boundary Layer of Lake Erie. Journal of Physics: Conference Series, 2014, 524, 012117.	0.3	3
61	Particle nucleation in a forested environment. Atmospheric Pollution Research, 2014, 5, 805-810.	1.8	2
62	Assessing the vulnerability of wind energy to climate change and extreme events. Climatic Change, 2013, 121, 79-91.	1.7	48
63	Size-Resolved Particle Fluxes and Vertical Gradients over and in a Sparse Pine Forest. Aerosol Science and Technology, 2013, 47, 1248-1257.	1.5	14
64	Renewable Energy Resources â€“ Ocean Energy. , 2013, , 65-81.		7
65	An overview of data for wake model evaluation in the Virtual Wakes Laboratory. Applied Energy, 2013, 104, 834-844.	5.1	44
66	Meteorological Controls on Wind Turbine Wakes. Proceedings of the IEEE, 2013, 101, 1010-1019.	16.4	63
67	In situ observations of the influence of a large onshore wind farm on near-surface temperature, turbulence intensity and wind speed profiles. Environmental Research Letters, 2013, 8, 034006.	2.2	77
68	High-resolution projections of climate-related risks for the Midwestern USA. Climate Research, 2013, 56, 61-79.	0.4	67
69	Past and future wind climates over the contiguous USA based on the North American Regional Climate Change Assessment Program model suite. Journal of Geophysical Research, 2012, 117, .	3.3	42
70	Modeling wake effects in large wind farms in complex terrain: the problem, the methods and the issues. Wind Energy, 2012, 15, 161-182.	1.9	136
71	The impact of turbulence intensity and atmospheric stability on power deficits due to wind turbine wakes at Horns Rev wind farm. Wind Energy, 2012, 15, 183-196.	1.9	348
72	Analyses of possible changes in intense and extreme wind speeds over northern Europe under climate change scenarios. Climate Dynamics, 2012, 38, 189-208.	1.7	112

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73	Spatial and vertical extent of nucleation events in the Midwestern USA: insights from the Nucleation In ForesTs (NIFTy) experiment. Atmospheric Chemistry and Physics, 2011, 11, 1641-1657.	1.9	37
74	Meteorology and wind resource assessment for wind farm development. , 2011, , 3-e28.		2
75	Assessing climate change impacts on the near-term stability of the wind energy resource over the United States. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 8167-8171.	3.3	130
76	New particle formation in the Midwestern USA: Event characteristics, meteorological context and vertical profiles. Atmospheric Environment, 2010, 44, 4413-4425.	1.9	40
77	Climate change impacts on wind energy: A review. Renewable and Sustainable Energy Reviews, 2010, 14, 430-437.	8.2	378
78	Evaluation of wind farm efficiency and wind turbine wakes at the Nysted offshore wind farm. Wind Energy, 2010, 13, 573-586.	1.9	249
79	The influence of humidity fluxes on offshore wind speed profiles. Annales Geophysicae, 2010, 28, 1043-1052.	0.6	18
80	Quantifying the Impact of Wind Turbine Wakes on Power Output at Offshore Wind Farms. Journal of Atmospheric and Oceanic Technology, 2010, 27, 1302-1317.	0.5	311
81	Modelling and measuring flow and wind turbine wakes in large wind farms offshore. Wind Energy, 2009, 12, 431-444.	1.9	500
82	The making of a secondâ€generation wind farm efficiency model complex. Wind Energy, 2009, 12, 445-458.	1.9	53
83	Sizeâ€resolved fluxes of subâ€100â€nm particles over forests. Journal of Geophysical Research, 2009, 114, .	3.3	32
84	Wind speed trends over the contiguous United States. Journal of Geophysical Research, 2009, 114, .	3.3	289
85	Review of Methodologies for Offshore Wind Resource Assessment in European Seas. Surveys in Geophysics, 2008, 29, 471-497.	2.1	89
86	Carbon neutral Biggar: calculating the community carbon footprint and renewable energy options for footprint reduction. Sustainability Science, 2008, 3, 267-282.	2.5	30
87	Upward fluxes of particles over forests: when, where, why?. Tellus, Series B: Chemical and Physical Meteorology, 2008, 60, 372-380.	0.8	34
88	Modeling the impact of sea-spray on particle concentrations in a coastal city. Science of the Total Environment, 2008, 391, 132-142.	3.9	17
89	Particle fluxes above forests: Observations, methodological considerations and method comparisons. Environmental Pollution, 2008, 152, 667-678.	3.7	22
90	The economic benefit of short-term forecasting for wind energy in the UK electricity market. Energy Policy, 2008, 36, 1687-1696.	4.2	90

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91	Investigation and Validation of Wind Turbine Wake Models. Wind Engineering, 2008, 32, 459-475.	1.1	44
92	A review of measurement and modelling results of particle atmosphereâ€“surface exchange. Tellus, Series B: Chemical and Physical Meteorology, 2008, 60, .	0.8	18
93	Upward fluxes of particles over forests: when, where, why?. Tellus, Series B: Chemical and Physical Meteorology, 2008, 60, .	0.8	6
94	Historical evolution of wind climates in the USA. Journal of Physics: Conference Series, 2007, 75, 012065.	0.3	19
95	Offshore Coastal Wind Speed Gradients: Issues for the Design and Development of Large Offshore Windfarms. Wind Engineering, 2007, 31, 369-382.	1.1	42
96	Modelling and measurements of wakes in large wind farms. Journal of Physics: Conference Series, 2007, 75, 012049.	0.3	88
97	Particle fluxes over forests: Analyses of flux methods and functional dependencies. Journal of Geophysical Research, 2007, 112, .	3.3	50
98	Modelling and measurements of power losses and turbulence intensity in wind turbine wakes at Middelgrunden offshore wind farm. Wind Energy, 2007, 10, 517-528.	1.9	214
99	Comparison of Wake Model Simulations with Offshore Wind Turbine Wake Profiles Measured by Sodar. Journal of Atmospheric and Oceanic Technology, 2006, 23, 888-901.	0.5	263
100	Winds of change?: Projections of nearâ€surface winds under climate change scenarios. Geophysical Research Letters, 2006, 33, .	1.5	100
101	Inter-annual variability of wind indices across Europe. Wind Energy, 2006, 9, 27-38.	1.9	92
102	Analytical modelling of wind speed deficit in large offshore wind farms. Wind Energy, 2006, 9, 39-53.	1.9	602
103	Quantifying offshore wind resources from satellite wind maps: study area the North Sea. Wind Energy, 2006, 9, 63-74.	1.9	53
104	Challenges in Predicting Power Output from Offshore Wind Farms. Journal of Energy Engineering - ASCE, 2006, 132, 91-103.	1.0	14
105	The impact of non-stationarities in the climate system on the definition of â€˜a normal wind yearâ€™: a case study from the Baltic. International Journal of Climatology, 2005, 25, 735-752.	1.5	32
106	Potential climate change impact on wind energy resources in northern Europe: analyses using a regional climate model. Climate Dynamics, 2005, 25, 815-835.	1.7	163
107	Liquid and Chemical Fluxes in Precipitation, Throughfall and Stemflow: Observations from a Deciduous Forest and a Red Pine Plantation in the Midwestern U.S.A.. Water, Air, and Soil Pollution, 2005, 163, 203-227.	1.1	21
108	The influence of non-logarithmic wind speed profiles on potential power output at Danish offshore sites. Wind Energy, 2005, 8, 219-236.	1.9	92

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109	Offshore wind resource estimation from satellite SAR wind field maps. Wind Energy, 2005, 8, 403-419.	1.9	93
110	Ten Years of Meteorological Measurements for Offshore Wind Farms. Journal of Solar Energy Engineering, Transactions of the ASME, 2005, 127, 170-176.	1.1	61
111	Observations of ultra-fine particles above a deciduous forest in Denmark. Geophysical Research Letters, 2005, 32, .	1.5	5
112	Empirical downscaling of wind speed probability distributions. Journal of Geophysical Research, 2005, 110, .	3.3	101
113	Can Satellite Sampling of Offshore Wind Speeds Realistically Represent Wind Speed Distributions? Part II: Quantifying Uncertainties Associated with Distribution Fitting Methods. Journal of Applied Meteorology and Climatology, 2004, 43, 739-750.	1.7	60
114	The Influence of Thermal Effects on the Wind Speed Profile of the Coastal Marine Boundary Layer. Boundary-Layer Meteorology, 2004, 112, 587-617.	1.2	66
115	Importance of thermal effects and sea surface roughness for offshore wind resource assessment. Journal of Wind Engineering and Industrial Aerodynamics, 2004, 92, 959-988.	1.7	93
116	WindEng â€" Research Activity in an European Training Network. Wind Engineering, 2004, 28, 325-337.	1.1	1
117	Long-term trends in near-surface flow over the Baltic. International Journal of Climatology, 2003, 23, 271-289.	1.5	85
118	Estimating Wind Energy Potential Offshore in Mediterranean Areas. Wind Energy, 2003, 6, 23-34.	1.9	17
119	Offshore Wind Energy in Europe- A Review of the State-of-the-Art. Wind Energy, 2003, 6, 35-52.	1.9	156
120	Modelling of Offshore Wind Turbine Wakes with the Wind Farm Program FLaP. Wind Energy, 2003, 6, 87-104.	1.9	49
121	Can Satellite Sampling of Offshore Wind Speeds Realistically Represent Wind Speed Distributions?. Journal of Applied Meteorology and Climatology, 2003, 42, 83-94.	1.7	83
122	Offshore Wind Turbine Wakes Measured by Sodar. Journal of Atmospheric and Oceanic Technology, 2003, 20, 466-477.	0.5	84
123	Local Wind Climate within and Downwind of Large Offshore Wind Turbine Clusters. Wind Engineering, 2002, 26, 51-58.	1.1	6
124	Offshore windpower: a major new source of energy for Europe. International Journal of Environment and Sustainable Development, 2002, 1, 356.	0.2	11
125	HNO3 fluxes to a deciduous forest derived using gradient and REA methods. Atmospheric Environment, 2002, 36, 5993-5999.	1.9	40
126	Statistical analysis of flow characteristics in the coastal zone. Journal of Wind Engineering and Industrial Aerodynamics, 2002, 90, 201-221.	1.7	34

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127	Modeling Emissions and Chemistry of Monoterpenes for Regional Models. The IMA Volumes in Mathematics and Its Applications, 2002, , 309-332.	0.5	1
128	Large Off-Shore Windfarms: Linking Wake Models with Atmospheric Boundary Layer Models. Wind Engineering, 2001, 25, 307-316.	1.1	8
129	Nitrogen Deposition to and Cycling in a Deciduous Forest. Scientific World Journal, The, 2001, 1, 245-254.	0.8	11
130	Sodar Wind Velocity Measurements of Offshore Turbine Wakes. Wind Engineering, 2001, 25, 301-306.	1.1	9
131	Comparison of Wake Models with Data for Offshore Windfarms. Wind Engineering, 2001, 25, 271-280.	1.1	53
132	ENDOW: Improvement of Wake Models within Offshore Wind Farms. Wind Engineering, 2001, 25, 281-287.	1.1	15
133	A Review of the Economics of Offshore Wind Farms. Wind Engineering, 2001, 25, 203-213.	1.1	15
134	Evaluating the impact of wind induced roughness change and tidal range on extrapolation of offshore vertical wind speed profiles. Wind Energy, 2001, 4, 99-105.	1.9	19
135	Comparison of potential power production at on- and offshore sites. Wind Energy, 2001, 4, 173-181.	1.9	41
136	The Statistical Prediction Of Offshore Winds From Land-Based Data For Wind-Energy Applications. Boundary-Layer Meteorology, 2001, 101, 409-433.	1.2	5
137	Title is missing!. Water, Air and Soil Pollution, 2001, 1, 99-107.	0.8	12
138	Ammonia concentrations and fluxes over a forest in the midwestern USA. Atmospheric Environment, 2001, 35, 5645-5656.	1.9	65
139	ENDOW: Efficient Development of Offshore Windfarms. Wind Engineering, 2001, 25, 263-270.	1.1	9
140	Particle Dry Deposition to Water Surfaces: Processes and Consequences. Marine Pollution Bulletin, 2000, 41, 220-231.	2.3	45
141	REVEAL II: Seasonality and spatial variability of particle and visibility conditions in the Fraser Valley. Science of the Total Environment, 2000, 257, 95-110.	3.9	17
142	The effects of atmospheric stability on coastal wind climates. Meteorological Applications, 1999, 6, 39-47.	0.9	66
143	Speciated particle dry deposition to the sea surface: results from ASEPS â€™97. Atmospheric Environment, 1999, 33, 2045-2058.	1.9	27
144	Nitrogen dry deposition at an AmeriFlux site in a hardwood forest in the midwest. Geophysical Research Letters, 1999, 26, 691-694.	1.5	21

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145	A model mechanism to describe oxidation of monoterpenes leading to secondary organic aerosol: 1. Î±-pinene and Î²-pinene. Journal of Geophysical Research, 1999, 104, 23657-23699.	3.3	42
146	Implications of ammonia emissions for fine aerosol formation and visibility impairment. Atmospheric Environment, 1998, 32, 345-352.	1.9	76
147	Analysis of the effect of the coastal discontinuity on near-surface flow. Annales Geophysicae, 1998, 16, 882-888.	0.6	12
148	Secondary organic aerosols: formation potential and ambient data. Science of the Total Environment, 1997, 205, 167-178.	3.9	23
149	PM10 in Canada. Science of the Total Environment, 1996, 177, 57-71.	3.9	10
150	Observations and simulations of diurnal cycles of near-surface wind speeds over land and sea. Journal of Geophysical Research, 1996, 101, 21327-21337.	3.3	61
151	Comparison of surface meteorological measurements in TRACT database 4. Annales Geophysicae, 1996, 14, 574-583.	0.6	2
152	Estimation of sector roughness lengths and the effect on prediction of the vertical wind speed profile. Boundary-Layer Meteorology, 1993, 66, 19-47.	1.2	39
153	The meteorological control on the anthropogenic ion content of precipitation at three sites in the UK: The utility of lamb weather types. International Journal of Climatology, 1991, 11, 795-807.	1.5	24
154	The control by atmospheric pressure patterns of sulphate concentrations in precipitation at Eskdalemuir, Scotland. International Journal of Climatology, 1989, 9, 181-189.	1.5	10
155	Relationships between concentration and deposition of nitrate and sulphate in precipitation. Nature, 1987, 328, 787-789.	13.7	17
156	Acidity of Scottish rainfall influenced by climatic change. Nature, 1986, 322, 359-361.	13.7	36