Larry Berg

List of Publications by Year
in descending order

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120 papers	3,310 citations	117453 34 h-index	197535 49 g-index
160 all docs	160 docs citations	160 times ranked	4263 citing authors

#	Article	IF	Citations
1	Characterization of submicron particles influenced by mixed biogenic and anthropogenic emissions using high-resolution aerosol mass spectrometry: results from CARES. Atmospheric Chemistry and Physics, 2012, 12, 8131-8156.	1.9	146
2	A Modeling Study of Irrigation Effects on Surface Fluxes and Landâ€“Airâ€“Cloud Interactions in the Southern Great Plains. Journal of Hydrometeorology, 2013, 14, 700-721.	0.7	139
3	Urban pollution greatly enhances formation of natural aerosols over the Amazon rainforest. Nature Communications, 2019, 10, 1046.	5.8	131
4	Overview of the 2010 Carbonaceous Aerosols and Radiative Effects Study (CARES). Atmospheric Chemistry and Physics, 2012, 12, 7647-7687.	1.9	94
5	Improving Wind Energy Forecasting through Numerical Weather Prediction Model Development. Bulletin of the American Meteorological Society, 2019, 100, 2201-2220.	1.7	87
6	The Wind Forecast Improvement Project (WFIP): A Publicâ€“Private Partnership Addressing Wind Energy Forecast Needs. Bulletin of the American Meteorological Society, 2015, 96, 1699-1718.	1.7	85
7	Airborne Multiwavelength High Spectral Resolution Lidar (HSRL-2) observations during TCAP 2012: vertical profiles of optical and microphysical properties of a smoke/urban haze plume over the northeastern coast of the US. Atmospheric Measurement Techniques, 2014, 7, 3487-3496.	1.2	79
8	Temporal Variability of Fair-Weather Cumulus Statistics at the ACRF SGP Site. Journal of Climate, 2008, 21, 3344-3358.	1.2	76
9	Simultaneous polarimeter retrievals of microphysical aerosol and ocean color parameters from the â€œMAPPâ€•algorithm with comparison to high-spectral-resolution lidar aerosol and ocean products. Applied Optics, 2018, 57, 2394.	0.9	73
10	Comparison of mixed layer heights from airborne high spectral resolution lidar, ground-based measurements, and the WRF-Chem model during CalNex and CARES. Atmospheric Chemistry and Physics, 2014, 14, 5547-5560.	1.9	70
11	Transport and mixing patterns over Central California during the carbonaceous aerosol and radiative effects study (CARES). Atmospheric Chemistry and Physics, 2012, 12, 1759-1783.	1.9	67
12	Sensitivity of MM5-Simulated Boundary Layer Characteristics to Turbulence Parameterizations. Journal of Applied Meteorology and Climatology, 2005, 44, 1467-1483.	1.7	65
13	CAUSES: Attribution of Surface Radiation Biases in NWP and Climate Models near the U.S. Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2018, 123, 3612-3644.	1.2	62
14	CAUSES: On the Role of Surface Energy Budget Errors to the Warm Surface Air Temperature Error Over the Central United States. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2888-2909.	1.2	60
15	Evaluation of WRF-Predicted Near-Hub-Height Winds and Ramp Events over a Pacific Northwest Site with Complex Terrain. Journal of Applied Meteorology and Climatology, 2013, 52, 1753-1763.	0.6	56
16	Aerosol transport and wet scavenging in deep convective clouds: A case study and model evaluation using a multiple passive tracer analysis approach. Journal of Geophysical Research D: Atmospheres, 2015, 120, 8448-8468.	1.2	56
17	Sensitivity of Turbine-Height Wind Speeds to Parameters in Planetary Boundary-Layer and Surface-Layer Schemes in the Weather Research and Forecasting Model. Boundary-Layer Meteorology, 2017, 162, 117-142.	1.2	56
18	The Second Wind Forecast Improvement Project (WFIP2): Observational Field Campaign. Bulletin of the American Meteorological Society, 2019, 100, 1701-1723.	1.7	55

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19	Introduction to CAUSES: Description of Weather and Climate Models and Their Nearâ€Surface Temperature Errors in 5Âday Hindcasts Near the Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2018, 123, 2655-2683.	1.2	53
20	On Bridging A Modeling Scale Gap: Mesoscale to Microscale Coupling for Wind Energy. Bulletin of the American Meteorological Society, 2019, 100, 2533-2550.	1.7	53
21	Evaluation of a Modified Scheme for Shallow Convection: Implementation of CuP and Case Studies. Monthly Weather Review, 2013, 141, 134-147.	0.5	52
22	Water vapor turbulence profiles in stationary continental convective mixed layers. Journal of Geophysical Research D: Atmospheres, 2014, 119, 11,151.	1.2	52
23	Surface summertime radiative forcing by shallow cumuli at the Atmospheric Radiation Measurement Southern Great Plains site. Journal of Geophysical Research, 2011, 116, .	3.3	50
24	Comparison of Measured and Numerically Simulated Turbulence Statistics in a Convective Boundary Layer Over Complex Terrain. Boundary-Layer Meteorology, 2017, 163, 69-89.	1.2	49
25	Regionally refined test bed in E3SM atmosphere model version 1 (EAMv1) and applications for high-resolution modeling. Geoscientific Model Development, 2019, 12, 2679-2706.	1.3	49
26	Roles of wind shear at different vertical levels: Cloud system organization and properties. Journal of Geophysical Research D: Atmospheres, 2015, 120, 6551-6574.	1.2	48
27	The Low-Level Jet over the Southern Great Plains Determined from Observations and Reanalyses and Its Impact on Moisture Transport. Journal of Climate, 2015, 28, 6682-6706.	1.2	45
28	Year-Long Vertical Velocity Statistics Derived from Doppler Lidar Data for the Continental Convective Boundary Layer. Journal of Applied Meteorology and Climatology, 2017, 56, 2441-2454.	0.6	45
29	The Second Wind Forecast Improvement Project (WFIP2): General Overview. Bulletin of the American Meteorological Society, 2019, 100, 1687-1699.	1.7	45
30	Overview of the HI-SCALE Field Campaign: A New Perspective on Shallow Convective Clouds. Bulletin of the American Meteorological Society, 2019, 100, 821-840.	1.7	44
31	Observations of the first aerosol indirect effect in shallow cumuli. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	43
32	Impact of natural and anthropogenic aerosols on stratocumulus and precipitation in the Southeast Pacific: a regional modelling study using WRF-Chem. Atmospheric Chemistry and Physics, 2012, 12, 8777-8796.	1.9	43
33	A new WRF-Chem treatment for studying regional-scale impacts of cloud processes on aerosol and trace gases in parameterized cumuli. Geoscientific Model Development, 2015, 8, 409-429.	1.3	38
34	Evaluation of the Impact of Horizontal Grid Spacing in Terra Incognita on Coupled Mesoscaleâ€“Microscale Simulations Using the WRF Framework. Monthly Weather Review, 2019, 147, 1007-1027.	0.5	35
35	The Explicit-Cloud Parameterized-Pollutant hybrid approach for aerosolâ€“cloud interactions in multiscale modeling framework models: tracer transport results. Environmental Research Letters, 2008, 3, 025005.	2.2	34
36	Turbineâ€scale wind field measurements using dualâ€Doppler lidar. Wind Energy, 2015, 18, 219-235.	1.9	34

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37	Sensitivity of biogenic volatile organic compounds to land surface parameterizations and vegetation distributions in California. Geoscientific Model Development, 2016, 9, 1959-1976.	1.3	34
38	Irrigation Impact on Water and Energy Cycle During Dry Years Over the United States Using Convectionâ€Permitting WRF and a Dynamical Recycling Model. Journal of Geophysical Research D: Atmospheres, 2019, 124, 11220-11241.	1.2	34
39	Parameterization of Joint Frequency Distributions of Potential Temperature and Water Vapor Mixing Ratio in the Daytime Convective Boundary Layer. Journals of the Atmospheric Sciences, 2004, 61, 813-828.	0.6	33
40	Overview of the Cumulus Humilis Aerosol Processing Study. Bulletin of the American Meteorological Society, 2009, 90, 1653-1668.	1.7	33
41	The Twoâ€Column Aerosol Project: Phase Iâ€”Overview and impact of elevated aerosol layers on aerosol optical depth. Journal of Geophysical Research D: Atmospheres, 2016, 121, 336-361.	1.2	33
42	Modeling aerosols and their interactions with shallow cumuli during the 2007 CHAPS field study. Journal of Geophysical Research D: Atmospheres, 2013, 118, 1343-1360.	1.2	30
43	Improvements to the WRF-Chem 3.5.1 model for quasi-hemispheric simulations of aerosols and ozone in the Arctic. Geoscientific Model Development, 2017, 10, 3661-3677.	1.3	26
44	On the estimation of boundary layer heights: a machine learning approach. Atmospheric Measurement Techniques, 2021, 14, 4403-4424.	1.2	26
45	Hyperspectral aerosol optical depths from TCAP flights. Journal of Geophysical Research D: Atmospheres, 2013, 118, 12,180.	1.2	25
46	A Simple Parameterization Coupling the Convective Daytime Boundary Layer and Fair-Weather Cumuli. Journals of the Atmospheric Sciences, 2005, 62, 1976-1988.	0.6	24
47	Cross-polar transport and scavenging of Siberian aerosols containing black carbon during the 2012 ACCESS summer campaign. Atmospheric Chemistry and Physics, 2017, 17, 10969-10995.	1.9	24
48	Neglecting irrigation contributes to the simulated summertime warm-and-dry bias in the central United States. Npj Climate and Atmospheric Science, 2020, 3, .	2.6	24
49	Retrieval of aerosol optical depth in vicinity of broken clouds from reflectance ratios: Sensitivity study. Journal of Quantitative Spectroscopy and Radiative Transfer, 2009, 110, 1677-1689.	1.1	23
50	Spatial and temporal variability of turbulence dissipation rate in complex terrain. Atmospheric Chemistry and Physics, 2019, 19, 4367-4382.	1.9	23
51	Parametric and Structural Sensitivities of Turbineâ€Height Wind Speeds in the Boundary Layer Parameterizations in the Weather Research and Forecasting Model. Journal of Geophysical Research D: Atmospheres, 2019, 124, 5951-5969.	1.2	23
52	Elevated aerosol layers modify the O2â€“O2 absorption measured by ground-based MAX-DOAS. Journal of Quantitative Spectroscopy and Radiative Transfer, 2016, 176, 34-49.	1.1	22
53	The Impact of Variable Landâ€Atmosphere Coupling on Convective Cloud Populations Observed During the 2016 HIâ€SCALE Field Campaign. Journal of Advances in Modeling Earth Systems, 2019, 11, 2629-2654.	1.3	22
54	Large-eddy simulation sensitivities to variations of configuration and forcing parameters in canonical boundary-layer flows for wind energy applications. Wind Energy Science, 2018, 3, 589-613.	1.2	22

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55	Do diurnal aerosol changes affect daily average radiative forcing?. Geophysical Research Letters, 2013, 40, 3265-3269.	1.5	21
56	Simultaneous retrieval of effective refractive index and density from size distribution and light-scattering data: weakly absorbing aerosol. Atmospheric Measurement Techniques, 2014, 7, 3247-3261.	1.2	21
57	The influence of fog and airmass history on aerosol optical, physical and chemical properties at Pt. Reyes National Seashore. Atmospheric Environment, 2011, 45, 2559-2568.	1.9	19
58	Sensitivity of Turbine-Height Wind Speeds to Parameters in the Planetary Boundary-Layer Parametrization Used in the Weather Research and Forecasting Model: Extension to Wintertime Conditions. Boundary-Layer Meteorology, 2019, 170, 507-518.	1.2	19
59	Impact of model improvements on 80â€‰m wind speeds during the second Wind Forecast Improvement Project (WFIP2). Geoscientific Model Development, 2019, 12, 4803-4821.	1.3	18
60	The Impact of Surface Heterogeneities and Landâ€Atmosphere Interactions on Shallow Clouds Over ARM SGP Site. Journal of Advances in Modeling Earth Systems, 2018, 10, 1220-1244.	1.3	17
61	Better calibration of cloud parameterizations and subgrid effects increases the fidelity of the E3SM Atmosphere Model version 1. Geoscientific Model Development, 2022, 15, 2881-2916.	1.3	17
62	Boundary Layer Experiment 1996 (BLX96). Bulletin of the American Meteorological Society, 1997, 78, 1149-1158.	1.7	16
63	Airborne Aerosol in Situ Measurements during TCAP: A Closure Study of Total Scattering. Atmosphere, 2015, 6, 1069-1101.	1.0	16
64	Assessing Impacts of PBL and Surface Layer Schemes in Simulating the Surfaceâ€“Atmosphere Interactions and Precipitation over the Tropical Ocean Using Observations from AMIE/DYNAMO. Journal of Climate, 2016, 29, 8191-8210.	1.2	16
65	Investigation of boundary-layer wind predictions during nocturnal low-level jet events using the Weather Research and Forecasting model. Wind Energy, 2016, 19, 739-762.	1.9	15
66	Model representations of aerosol layers transported from North America over the Atlantic Ocean during the Twoâ€Column Aerosol Project. Journal of Geophysical Research D: Atmospheres, 2016, 121, 9814-9848.	1.2	15
67	Accuracy of Point and Line Measures of Boundary Layer Cloud Amount. Journal of Applied Meteorology and Climatology, 2002, 41, 640-650.	1.7	14
68	Shortwave spectral radiative forcing of cumulus clouds from surface observations. Geophysical Research Letters, 2011, 38, n/a-n/a.	1.5	14
69	Ground-Based Remote Retrievals of Cumulus Entrainment Rates. Journal of Atmospheric and Oceanic Technology, 2013, 30, 1460-1471.	0.5	14
70	Mountain waves can impact wind power generation. Wind Energy Science, 2021, 6, 45-60.	1.2	14
71	Smoke from 2020 United States wildfires responsible for substantial solar energy forecast errors. Environmental Research Letters, 2022, 17, 034010.	2.2	14
72	Data assimilation impact of in situ and remote sensing meteorological observations on wind power forecasts during the first W ind F orecast I mprovement P roject (WFIP). Wind Energy, 2019, 22, 932-944.	1.9	13

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73	Spatiotemporal Variability of Turbulence Kinetic Energy Budgets in the Convective Boundary Layer over Both Simple and Complex Terrain. Journal of Applied Meteorology and Climatology, 2017, 56, 3285-3302.	0.6	12
74	Assessing the sensitivity of land-atmosphere coupling strength to boundary and surface layer parameters in the WRF model over Amazon. Atmospheric Research, 2020, 234, 104738.	1.8	11
75	Retrieval of aerosol optical depth in vicinity of broken clouds from reflectance ratios: case study. Atmospheric Measurement Techniques, 2010, 3, 1333-1349.	1.2	10
76	Surface Properties and Interactions: Coupling the Land and Atmosphere within the ARM Program. Meteorological Monographs, 2016, 57, 23.1-23.17.	5.0	10
77	Long-Term Retrievals of Cloud Type and Fair-Weather Shallow Cumulus Events at the ARM SGP Site. Journal of Atmospheric and Oceanic Technology, 2019, 36, 2031-2043.	0.5	9
78	Improving prediction of surface solar irradiance variability by integrating observed cloud characteristics and machine learning. Solar Energy, 2021, 225, 275-285.	2.9	9
79	Evaluating the WFIP2 updates to the HRRR model using scanning Doppler lidar measurements in the complex terrain of the Columbia River Basin. Journal of Renewable and Sustainable Energy, 2020, 12, .	0.8	8
80	Impact of Lateral Flow on Surface Water and Energy Budgets Over the Southern Great Plainsâ€"A Modeling Study. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033659.	1.2	8
81	The CU 2-D-MAX-DOAS instrument â€“ Part 2: Raman scattering probability measurements and retrieval of aerosol optical properties. Atmospheric Measurement Techniques, 2016, 9, 3893-3910.	1.2	8
82	Moist Process Biases in Simulations of the Maddenâ€"Julian Oscillation Episodes Observed during the AMIE/DYNAMO Field Campaign. Journal of Climate, 2016, 29, 1091-1107.	1.2	7
83	Understanding irrigation impacts on low-level jets over the Great Plains. Climate Dynamics, 2020, 55, 925-943.	1.7	7
84	Sky cover from MFRSR observations. Atmospheric Measurement Techniques, 2011, 4, 1463-1470.	1.2	6
85	Semantic catalog of things, services, and data to support a wind data management facility. Information Systems Frontiers, 2016, 18, 679-691.	4.1	6
86	Large Contribution of Coarse Mode to Aerosol Microphysical and Optical Properties: Evidence from Ground-Based Observations of a Transpacific Dust Outbreak at a High-Elevation North American Site. Journals of the Atmospheric Sciences, 2017, 74, 1431-1443.	0.6	6
87	Cloud Area Distributions of Shallow Cumuli: A New Method for Ground-Based Images. Atmosphere, 2018, 9, 258.	1.0	6
88	Time Evolution and Diurnal Variability of the Parametric Sensitivity of Turbineâ€Height Winds in the MYNNâ€EDMF Parameterization. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD034000.	1.2	6
89	Sensitivity of solar irradiance to model parameters in cloud and aerosol treatments of WRF-solar. Solar Energy, 2022, 233, 446-460.	2.9	6
90	Fineâ€Scale Variability of Observed and Simulated Surface Albedo Over the Southern Great Plains. Journal of Geophysical Research D: Atmospheres, 2020, 125, e2019JD030559.	1.2	5

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91	Quantifying physical parameterization uncertainties associated with land-atmosphere interactions in the WRF model over Amazon. Atmospheric Research, 2021, 262, 105761.	1.8	5
92	Local-thermal-gradient and large-scale-circulation impacts on turbine-height wind speed forecasting over the Columbia River Basin. Wind Energy Science, 2022, 7, 37-51.	1.2	5
93	Evaluation of Single-Doppler Radar Wind Retrievals in Flat and Complex Terrain. Journal of Applied Meteorology and Climatology, 2014, 53, 1920-1931.	0.6	4
94	Wind Ramp Events Validation in NWP Forecast Models during the Second Wind Forecast Improvement Project (WFIP2) Using the Ramp Tool and Metric (RT&M). Weather and Forecasting, 2020, 35, 2407-2421.	0.5	4
95	Temporal variability of aerosol properties during TCAP: impact on radiative forcing. , 2013, , .		3
96	A Linked Fusion of Things, Services, and Data to Support a Collaborative Data Management Facility. , 2013, , .		3
97	Simulated Dust Transport in the Convective Boundary Layer. Journal of Geophysical Research D: Atmospheres, 2021, 126, e2020JD033429.	1.2	3
98	Validation of wind resource and energy production simulations for small wind turbines in the United States. Wind Energy Science, 2022, 7, 659-676.	1.2	3
99	Calibration of cloud and aerosol related parameters for solar irradiance forecasts in WRF-solar. Solar Energy, 2022, 241, 1-12.	2.9	3
100	Longâ€term Statistics of Continental Cumuli: Does Aerosol Trigger Cumulus Variability?. , 2009, , .		2
101	A Closure Study of Total Scattering Using Airborne In Situ Measurements from the Winter Phase of TCAP. Atmosphere, 2018, 9, 228.	1.0	2
102	Large-eddy simulations of idealized atmospheric boundary layers using Nalu-Wind. Journal of Physics: Conference Series, 2020, 1452, 012078.	0.3	2
103	Quantifying the Impacts of Land Surface Modeling on Hub-Height Wind Speed under Different Soil Conditions. Monthly Weather Review, 2021, , .	0.5	2
104	Aerosol retrievals under partly cloudy conditions: challenges and perspectives. NATO Science for Peace and Security Series C: Environmental Security, 2011, , 205-232.	0.1	2
105	Estimation of Aerosol Columnar Size Distribution from Spectral Extinction Data in Coastal and Maritime Environment. Atmosphere, 2021, 12, 1412.	1.0	2
106	Macrophysical properties of continental shallow cumuli: diurnal evolution. , 2019, , .		2
107	Determining Spatial Scales of Soil Moistureâ€"Cloud Coupling Pathways Using Semiâ€idealized Simulations. Journal of Geophysical Research D: Atmospheres, 2022, 127, e2021JD035282.	1.2	2
108	Three-dimensional effects and shortwave cloud radiative forcing associated with shallow cumuli over the central North America. , 2009, , .		1

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109	Aerosol Total Volume Estimation From Wavelengthâ€•and Sizeâ€Resolved Scattering Coefficient Data: A New Method. Earth and Space Science, 2020, 7, e2019EA000863.	1.1	1
110	Characterization of turbulence under different stability conditions using lidar scanning data. Journal of Physics: Conference Series, 2020, 1452, 012085.	0.3	1
111	Shallow cumuli cover and its uncertainties from ground-based lidarâ€“radar data and sky images. Atmospheric Measurement Techniques, 2020, 13, 2099-2117.	1.2	1
112	A New Retrieval of Aerosol Optical Depth under Partly Cloudy Conditions with Multiâ€Spectral Measurements of Reflectance. , 2009, , .		0
113	The 3D radiative effects of clouds in aerosol retrieval: Can we remove them?. , 2009, , .		0
114	Retrieval of intensive aerosol properties from MFRSR observations: partly cloudy cases. Proceedings of SPIE, 2010, , .	0.8	0
115	Multi-summer climatology of cumuli at SGP site: vertical structure. Proceedings of SPIE, 2011, , .	0.8	0
116	Multi-year satellite and surface observations of AOD in support of two-column aerosol project (TCAP) field campaign. , 2012, , .		0
117	New Shortwave Array Spectroradiometer-Hemispheric (SAS-He): hyperspectral design and initial applications. , 2016, , .		0
118	Markovian approach and its applications in a cloudy atmosphere. , 2013, , 69-107.		0
119	Macrophysical properties of continental cumulus clouds from active and passive remote sensing. , 2017, , .		0
120	Shallow cumulus macrophysical properties at midcontinental US site: integrated multiyear active and passive observations. , 2018, , .		0