Elie Bou-Zeid

List of Publications by Year
in descending order

138 papers	7,691 citations	50170 46 h-index	56606 83 g-index
152 all docs	152 docs citations	152 times ranked	5983 citing authors

#	Article	IF	Citations
1	The Detection, Genesis, and Modeling of Turbulence Intermittency in the Stable Atmospheric Surface Layer. Journals of the Atmospheric Sciences, 2022, 79, 1171-1190.	0.6	9
2	Direct partitioning of eddy-covariance water and carbon dioxide fluxes into ground and plant components. Agricultural and Forest Meteorology, 2022, 315, 108790.	1.9	17
3	Impact of advection on two-source energy balance (TSEB) canopy transpiration parameterization for vineyards in the California Central Valley. Irrigation Science, 2022, 40, 575-591.	1.3	11
4	Application of a remote-sensing three-source energy balance model to improve evapotranspiration partitioning in vineyards. Irrigation Science, 2022, 40, 593-608.	1.3	11
5	A Novel Deep Learning Approach to the Statistical Downscaling of Temperatures for Monitoring Climate Change. , 2022, , .		7
6	Population agglomeration is a harbinger of the spatial complexity of COVID-19. Chemical Engineering Journal, 2021, 420, 127702.	6.6	11
7	Collocating offshore wind and wave generators to reduce power output variability: A Multi-site analysis. Renewable Energy, 2021, 163, 1548-1559.	4.3	17
8	Baroclinicity and directional shear explain departures from the logarithmic wind profile. Quarterly Journal of the Royal Meteorological Society, 2021, 147, 443-464.	1.0	12
9	Global multi-model projections of local urban climates. Nature Climate Change, 2021, 11, 152-157.	8.1	149
10	A kernel-modulated SIR model for Covid-19 contagious spread from county to continent. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	13
11	Probability law of turbulent kinetic energy in the atmospheric surface layer. Physical Review Fluids, 2021, 6, .	1.0	2
12	Urban climate and resiliency: A synthesis report of state of the art and future research directions. Urban Climate, 2021, 38, 100858.	2.4	29
13	Short-term probabilistic forecasting of meso-scale near-surface urban temperature fields. Environmental Modelling and Software, 2021, 145, 105189.	1.9	6
14	Development and testing of a fully-coupled subsurface-land surface-atmosphere hydrometeorological model: High-resolution application in urban terrains. Urban Climate, 2021, 40, 100985.	2.4	6
15	The Hydrological Urban Heat Island: Determinants of Acute and Chronic Heat Stress in Urban Streams. Journal of the American Water Resources Association, 2021, 57, 941-955.	1.0	8
16	Intercomparison of Large-Eddy Simulations of the Antarctic Boundary Layer for Very Stable Stratification. Boundary-Layer Meteorology, 2020, 176, 369-400.	1.2	28
17	Non-stationary Boundary Layers. Boundary-Layer Meteorology, 2020, 177, 189-204.	1.2	18
18	Humans in the city: Representing outdoor thermal comfort in urban canopy models. Renewable and Sustainable Energy Reviews, 2020, 133, 110103.	8.2	18

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19	The Persistent Challenge of Surface Heterogeneity in Boundary-Layer Meteorology: A Review. Boundary-Layer Meteorology, 2020, 177, 227-245.	1.2	62
20	Inverse Cascade Evidenced by Information Entropy of Passive Scalars in Submerged Canopy Flows. Geophysical Research Letters, 2020, 47, e2020GL087486.	1.5	3
21	Revisiting the relation between momentum and scalar roughness lengths of urban surfaces. Quarterly Journal of the Royal Meteorological Society, 2020, 146, 3144-3164.	1.0	20
22	Plume or bubble? Mixed-convection flow regimes and city-scale circulations. Journal of Fluid Mechanics, 2020, 897, .	1.4	21
23	Seasonal hysteresis of surface urban heat islands. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 7082-7089.	3.3	66
24	An urban ecohydrological model to quantify the effect of vegetation on urban climate and hydrology (UT&C v1.0). Geoscientific Model Development, 2020, 13, 335-362.	1.3	79
25	The environmental neighborhoods of cities and their spatial extent. Environmental Research Letters, 2020, 15, 074034.	2.2	12
26	Data Availability Principles and Practice. Journals of the Atmospheric Sciences, 2020, 77, 3983-3984.	0.6	0
27	Developing Time-Variant Filter for Meso-Scale Surface Temperature Prediction. IABSE Symposium Report, 2020, , .	0.0	0
28	Physical Determinants and Reduced Models of the Rapid Cooling of Urban Surfaces During Rainfall. Journal of Advances in Modeling Earth Systems, 2019, 11, 1364-1380.	1.3	4
29	Designing sensor networks to resolve spatio-temporal urban temperature variations: fixed, mobile or hybrid?. Environmental Research Letters, 2019, 14, 074022.	2.2	21
30	Magnitude of urban heat islands largely explained by climate and population. Nature, 2019, 573, 55-60.	13.7	546
31	Contrasts between momentum and scalar transport over very rough surfaces. Journal of Fluid Mechanics, 2019, 880, 32-58.	1.4	37
32	Adaptive measures for mitigating urban heat islands: The potential of thermochromic materials to control roofing energy balance. Applied Energy, 2019, 247, 155-170.	5.1	65
33	Importance of Superemitter Natural Gas Well Pads in the Marcellus Shale. Environmental Science & Technology, 2019, 53, 4747-4754.	4.6	32
34	Scale dependence of the benefits and efficiency of green and cool roofs. Landscape and Urban Planning, 2019, 185, 127-140.	3.4	52
35	Critical flux Richardson number for Kolmogorov turbulence enabled by TKE transport. Quarterly Journal of the Royal Meteorological Society, 2019, 145, 1551-1558.	1.0	21
36	Hacking a soil water content reflectometer to measure liquid level. Flow Measurement and Instrumentation, 2019, 65, 174-179.	1.0	1

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37	Rate of decay of turbulent kinetic energy in abruptly stabilized Ekman boundary layers. Physical Review Fluids, 2019, 4, .	1.0	3
38	Should Cities Embrace Their Heat Islands as Shields from Extreme Cold?. Journal of Applied Meteorology and Climatology, 2018, 57, 1309-1320.	0.6	57
39	Scaling and Similarity of the Anisotropic Coherent Eddies in Near-Surface Atmospheric Turbulence. Journals of the Atmospheric Sciences, 2018, 75, 943-964.	0.6	28
40	Interactions between urban heat islands and heat waves. Environmental Research Letters, 2018, 13, 034003.	2.2	246
41	To what extent does high-resolution dynamical downscaling improve the representation of climatic extremes over an orographically complex terrain?. Theoretical and Applied Climatology, 2018, 134, 265-282.	1.3	7
42	What model resolution is required in climatological downscaling over complex terrain?. Atmospheric Research, 2018, 203, 68-82.	1.8	18
43	Quantifying uncertainties from mobile-laboratory-derived emissions of well pads using inverse Gaussian methods. Atmospheric Chemistry and Physics, 2018, 18, 15145-15168.	1.9	47
44	On the role of return to isotropy in wall-bounded turbulent flows with buoyancy. Journal of Fluid Mechanics, 2018, 856, 61-78.	1.4	30
45	Surface heat assessment for developed environments: Optimizing urban temperature monitoring. Building and Environment, 2018, 141, 143-154.	3.0	11
46	Increasing the Power Production of Vertical-Axis Wind-Turbine Farms Using Synergistic Clustering. Boundary-Layer Meteorology, 2018, 169, 275-296.	1.2	55
47	Signatures of Airâ€“Wave Interactions Over a Large Lake. Boundary-Layer Meteorology, 2018, 167, 445-468.	1.2	21
48	Modulation of Mean Wind and Turbulence in the Atmospheric Boundary Layer by Baroclinicity. Journals of the Atmospheric Sciences, 2018, 75, 3797-3821.	0.6	17
49	Shaping buildings to promote street ventilation: A large-eddy simulation study. Urban Climate, 2018, 26, 76-94.	2.4	37
50	Rapid Modification of Urban Land Surface Temperature During Rainfall. Water Resources Research, 2018, 54, 4245-4264.	1.7	13
51	Seasonal and Regional Patterns of Future Temperature Extremes: Highâ€Resolution Dynamic Downscaling Over a Complex Terrain. Journal of Geophysical Research D: Atmospheres, 2018, 123, 6669-6689.	1.2	10
52	Mean kinetic energy replenishment mechanisms in vertical-axis wind turbine farms. Physical Review Fluids, 2018, 3, .	1.0	6
53	High-resolution simulation of heatwave events in New York City. Theoretical and Applied Climatology, 2017, 128, 89-102.	1.3	64
54	The effect of stable thermal stratification on turbulent boundary layer statistics. Journal of Fluid Mechanics, 2017, 812, 1039-1075.	1.4	25

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55	Analytical Reduced Models for the Non-stationary Diabatic Atmospheric Boundary Layer. Boundary-Layer Meteorology, 2017, 164, 383-399.	1.2	15
56	On the Nature of the Transition Between Roll and Cellular Organization in the Convective Boundary Layer. Boundary-Layer Meteorology, 2017, 163, 41-68.	1.2	131
57	The influence of building geometry on street canyon air flow: Validation of large eddy simulations against wind tunnel experiments. Journal of Wind Engineering and Industrial Aerodynamics, 2017, 165, 115-130.	1.7	88
58	Mean and turbulence dynamics in unsteady Ekman boundary layers. Journal of Fluid Mechanics, 2017, 816, 209-242.	1.4	32
59	Future intensification of hydro-meteorological extremes: downscaling using the weather research and forecasting model. Climate Dynamics, 2017, 49, 3765-3785.	1.7	16
60	Surface heat assessment for developed environments: Probabilistic urban temperature modeling. Computers, Environment and Urban Systems, 2017, 66, 53-64.	3.3	14
61	Inertial gravity currents produced by fluid drainage from an edge. Journal of Fluid Mechanics, 2017, 827, 640-663.	1.4	14
62	A novel approach for unraveling the energy balance of water surfaces with a single depth temperature measurement. Limnology and Oceanography, 2017, 62, 89-103.	1.6	8
63	Simulation and wake analysis of a single vertical axis wind turbine. Wind Energy, 2017, 20, 713-730.	1.9	45
64	Heatwaves and urban heat islands: A comparative analysis of multiple cities. Journal of Geophysical Research D: Atmospheres, 2017, 122, 168-178.	1.2	136
65	On the variability of the Priestleyâ€Taylor coefficient over water bodies. Water Resources Research, 2016, 52, 150-163.	1.7	37
66	On the correlation of water vapor and CO₂: Application to flux partitioning of evapotranspiration. Water Resources Research, 2016, 52, 9452-9469.	1.7	20
67	Climate, not conflict, explains extreme Middle East dust storm. Environmental Research Letters, 2016, 11, 114013.	2.2	48
68	Realistic Representation of Trees in an Urban Canopy Model. Boundary-Layer Meteorology, 2016, 159, 193-220.	1.2	78
69	The Regional Water Cycle and Heavy Spring Rainfall in Iowa: Observational and Modeling Analyses from the IFloodS Campaign. Journal of Hydrometeorology, 2016, 17, 2763-2784.	0.7	6
70	Greenhouse gas mitigation benefits and cost-effectiveness of weatherization treatments for low-income, American, urban housing stocks. Energy and Buildings, 2016, 128, 911-920.	3.1	10
71	Quality and reliability of LES of convective scalar transfer at high Reynolds numbers. International Journal of Heat and Mass Transfer, 2016, 102, 959-970.	2.5	42
72	Roof cooling by direct evaporation from a porous layer. Energy and Buildings, 2016, 127, 521-528.	3.1	31

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73	The impact and treatment of the Gibbs phenomenon in immersed boundary method simulations of momentum and scalar transport. Journal of Computational Physics, 2016, 310, 237-251.	1.9	47
74	The Influence of Land Surface Heterogeneities on Heavy Convective Rainfall in the Baltimoreâ€“Washington Metropolitan Area. Monthly Weather Review, 2016, 144, 553-573.	0.5	40
75	Large-Eddy Simulations and Damped-Oscillator Models of the Unsteady Ekman Boundary Layer*. Journals of the Atmospheric Sciences, 2016, 73, 25-40.	0.6	24
76	ECCENTRIC Buildings: Evaporative Cooling in Constructed ENvelopes by Transmission and Retention Inside Casings of Buildings. Energy Procedia, 2015, 78, 1593-1598.	1.8	3
77	Bottlenecks in turbulent kinetic energy spectra predicted from structure function inflections using the Von KÃ¡rmÃ¡n-Howarth equation. Physical Review E, 2015, 92, 033009.	0.8	14
78	On the Climatology of Precipitable Water and Water Vapor Flux in the Mid-Atlantic Region of the United States. Journal of Hydrometeorology, 2015, 16, 70-87.	0.7	9
79	The joint influence of albedo and insulation on roof performance: A modeling study. Energy and Buildings, 2015, 102, 317-327.	3.1	19
80	Numerical simulation of flow over urban-like topographies and evaluation of turbulence temporal attributes. Journal of Turbulence, 2015, 16, 809-831.	0.5	40
81	The joint influence of albedo and insulation on roof performance: An observational study. Energy and Buildings, 2015, 93, 249-258.	3.1	36
82	ChallengingÂtheÂlargeÂeddy simulationÂtechniqueÂwith advancedÂaÂposterioriÂtests. Journal of Fluid Mechanics, 2015, 764, 1-4.	1.4	25
83	New York City Panel on Climate Change 2015 Report Chapter 6: Indicators and Monitoring. Annals of the New York Academy of Sciences, 2015, 1336, 89-106.	1.8	10
84	Turbulent Energy Spectra and Cospectra of Momentum and Heat Fluxes in the Stable Atmospheric Surface Layer. Boundary-Layer Meteorology, 2015, 157, 1-21.	1.2	31
85	Direct numerical simulations of turbulent Ekman layers with increasing static stability: modifications to the bulk structure and second-order statistics. Journal of Fluid Mechanics, 2014, 760, 494-539.	1.4	58
86	Two phenomenological constants explain similarity laws in stably stratified turbulence. Physical Review E, 2014, 89, 023007.	0.8	48
87	Publisher's Note: Two phenomenological constants explain similarity laws in stably stratified turbulence [Phys. Rev. E89, 023007 (2014)]. Physical Review E, 2014, 89, .	0.8	0
88	The effectiveness of cool and green roofs as urban heat island mitigation strategies. Environmental Research Letters, 2014, 9, 055002.	2.2	305
89	Influence of Subfacet Heterogeneity and Material Properties on the Urban Surface Energy Budget. Journal of Applied Meteorology and Climatology, 2014, 53, 2114-2129.	0.6	45
90	Quality and sensitivity of high-resolution numerical simulation of urban heat islands. Environmental Research Letters, 2014, 9, 055001.	2.2	105

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91	Comparing the effectiveness of weatherization treatments for low-income, American, urban housing stocks in different climates. Energy and Buildings, 2014, 69, 535-543.	3.1	22
92	To irrigate or not to irrigate: Analysis of green roof performance via a vertically-resolved hygrothermal model. Building and Environment, 2014, 73, 127-137.	3.0	59
93	Turbulent Transport of Momentum and Scalars Above an Urban Canopy. Boundary-Layer Meteorology, 2014, 150, 485-511.	1.2	60
94	Impact of Urbanization on Heavy Convective Precipitation under Strong Large-Scale Forcing: A Case Study over the Milwaukeeâ€“Lake Michigan Region. Journal of Hydrometeorology, 2014, 15, 261-278.	0.7	74
95	Very-Large-Scale Motions in the Atmospheric Boundary Layer Educed by Snapshot Proper Orthogonal Decomposition. Boundary-Layer Meteorology, 2014, 153, 355-387.	1.2	37
96	Contribution of impervious surfaces to urban evaporation. Water Resources Research, 2014, 50, 2889-2902.	1.7	86
97	Modeling and sensitivity analysis of transport and deposition of radionuclides from the Fukushima Dai-ichi accident. Atmospheric Chemistry and Physics, 2014, 14, 11065-11092.	1.9	20
98	A coupled energy transport and hydrological model for urban canopies evaluated using a wireless sensor network. Quarterly Journal of the Royal Meteorological Society, 2013, 139, 1643-1657.	1.0	172
99	Modeling Land Surface Processes and Heavy Rainfall in Urban Environments: Sensitivity to Urban Surface Representations. Journal of Hydrometeorology, 2013, 14, 1098-1118.	0.7	66
100	Mean scalar concentration profile in a sheared and thermally stratified atmospheric surface layer. Physical Review E, 2013, 87, 023004.	0.8	24
101	Hydrometeorological determinants of green roof performance via a vertically-resolved model for heat and water transport. Building and Environment, 2013, 60, 211-224.	3.0	91
102	Transition and Equilibration of Neutral Atmospheric Boundary Layer Flow in One-Way Nested Large-Eddy Simulations Using the Weather Research and Forecasting Model. Monthly Weather Review, 2013, 141, 918-940.	0.5	53
103	Turbulence and Vertical Fluxes in the Stable Atmospheric Boundary Layer. Part II: A Novel Mixing-Length Model. Journals of the Atmospheric Sciences, 2013, 70, 1528-1542.	0.6	24
104	Turbulence and Vertical Fluxes in the Stable Atmospheric Boundary Layer. Part I: A Large-Eddy Simulation Study. Journals of the Atmospheric Sciences, 2013, 70, 1513-1527.	0.6	72
105	Synergistic Interactions between Urban Heat Islands and Heat Waves: The Impact in Cities Is Larger than the Sum of Its Parts. Journal of Applied Meteorology and Climatology, 2013, 52, 2051-2064.	0.6	610
106	Evaluation of Turbulent Surface Flux Parameterizations over Tall Grass in a Beijing Suburb. Journal of Hydrometeorology, 2013, 14, 1620-1635.	0.7	5
107	Publisher's Note: Mean scalar concentration profile in a sheared and thermally stratified atmospheric surface layer [Phys. Rev. E87, 023004 (2013)]. Physical Review E, 2013, 87, .	0.8	0
108	Development and evaluation of a mosaic approach in the WRFâ€Noah framework. Journal of Geophysical Research D: Atmospheres, 2013, 118, 11,918.	1.2	106

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109	Mean velocity and temperature profiles in a sheared diabatic turbulent boundary layer. Physics of Fluids, 2012, 24, .	1.6	38
110	Moninâ€“Obukhov Similarity Functions for the Structure Parameters of Temperature and Humidity. Boundary-Layer Meteorology, 2012, 145, 45-67.	1.2	75
111	A novel approach for the estimation of soil ground heat flux. Agricultural and Forest Meteorology, 2012, 154-155, 214-221.	1.9	54
112	Implementation and Evaluation of Dynamic Subfilter-Scale Stress Models for Large-Eddy Simulation Using WRF*. Monthly Weather Review, 2012, 140, 266-284.	0.5	71
113	Nested Mesoscale Large-Eddy Simulations with WRF: Performance in Real Test Cases. Journal of Hydrometeorology, 2012, 13, 1421-1441.	0.7	150
114	What Is the Use of Elephant Hair?. PLoS ONE, 2012, 7, e47018.	1.1	19
115	Comment on â€œImpact of wave phase difference between soil surface heat flux and soil surface temperature on soil surface energy balance closureâ€•by Z. Gao, R. Horton, and H. P. Liu. Journal of Geophysical Research, 2011, 116, .	3.3	5
116	Evolution of superficial lake water temperature profile under diurnal radiative forcing. Water Resources Research, 2011, 47, .	1.7	44
117	Analyzing the Sensitivity of WRFâ€™s Single-Layer Urban Canopy Model to Parameter Uncertainty Using Advanced Monte Carlo Simulation. Journal of Applied Meteorology and Climatology, 2011, 50, 1795-1814.	0.6	84
118	A Spatially-Analytical Scheme for Surface Temperatures and Conductive Heat Fluxes in Urban Canopy Models. Boundary-Layer Meteorology, 2011, 138, 171-193.	1.2	70
119	Coherent Structures and the Dissimilarity of Turbulent Transport of Momentum and Scalars in the Unstable Atmospheric Surface Layer. Boundary-Layer Meteorology, 2011, 140, 243-262.	1.2	152
120	Field study of the dynamics and modelling of subgrid-scale turbulence in a stable atmospheric surface layer over a glacier. Journal of Fluid Mechanics, 2010, 665, 480-515.	1.4	58
121	The Effects of Building Representation and Clustering in Large-Eddy Simulations of Flows in Urban Canopies. Boundary-Layer Meteorology, 2009, 132, 415-436.	1.2	72
122	Estimation of urban sensible heat flux using a dense wireless network of observations. Environmental Fluid Mechanics, 2009, 9, 635-653.	0.7	47
123	Estimation of wet surface evaporation from sensible heat flux measurements. Water Resources Research, 2009, 45, .	1.7	29
124	Albedo effect on radiative errors in air temperature measurements. Water Resources Research, 2009, 45, .	1.7	82
125	Subgrid-Scale Dynamics of Water Vapour, Heat, and Momentum over a Lake. Boundary-Layer Meteorology, 2008, 128, 205-228.	1.2	40
126	Evaporation from three water bodies of different sizes and climates: Measurements and scaling analysis. Advances in Water Resources, 2008, 31, 160-172.	1.7	89

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127	Scale dependence of subgrid-scale model coefficients: An a priori study. Physics of Fluids, 2008, 20, 115106.	1.6	38
128	On the Parameterization of Surface Roughness at Regional Scales. Journals of the Atmospheric Sciences, 2007, 64, 216-227.	0.6	84
129	SNOHATS: Stratified atmospheric turbulence over snow surfaces. , 2007, , 520-522.		1
130	Atmospheric surface layer turbulence over water surfaces and sub-grid scale physics. Springer Proceedings in Physics, 2007, , 517-519.	0.1	1
131	A scale-dependent Lagrangian dynamic model for large eddy simulation of complex turbulent flows. Physics of Fluids, 2005, 17, 025105.	1.6	508
132	Parametric sensitivity analysis of leachate transport simulations at landfills. Waste Management, 2004, 24, 681-689.	3.7	27
133	Large-eddy simulation of neutral atmospheric boundary layer flow over heterogeneous surfaces: Blending height and effective surface roughness. Water Resources Research, 2004, 40, .	1.7	173
134	Landfill evolution and treatability assessment of highâ€strength leachate from msw with high organic and moisture content. International Journal of Environmental Studies, 2003, 60, 603-615.	0.7	14
135	Climate Change and Water Resources in Lebanon and the Middle East. Journal of Water Resources Planning and Management - ASCE, 2002, 128, 343-355.	1.3	86
136	Temporal variation of leachate quality from pre-sorted and baled municipal solid waste with high organic and moisture content. Waste Management, 2002, 22, 269-282.	3.7	215
137	Transportation GHG emissions in developing countries.. Transportation Research, Part D: Transport and Environment, 1999, 4, 251-264.	3.2	33
138	Evaluating different metrics from the thermal-based two-source energy balance model for monitoring grapevine water stress. Irrigation Science, 0, , .	1.3	4