

Jan Kleissl

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**Education**

PhD. Johns Hopkins University, Department of Geography and Environmental Engineering, Baltimore, MD, 2004, Advisors: Marc B. Parlange, Charles Meneveau,

M.Sc. University of Stuttgart, Stuttgart, Germany, 2001, Water Resources Engineering and Management, Advisor: Prof. Dr.-Ing. Habil. Dr. rer. nat. A. Bardossy

Dipl. Ing. ('Diplom Ingenieur' = graduate engineer), University of Stuttgart, Stuttgart, Germany, 2000, Environmental Engineering (Umweltschutztechnik), Advisor: Prof. Dr. h.c. Dr.-Ing. Helmut Kobus, PhD.

Employment and Appointments

UCSD Center for Energy Research, Associate Director (2014-2019); **Director** (2019 – now)

UCSD Study-Abroad Program, Co-Director (2020-now)

Assistant (2006 – 2012), **Associate** (2012 – 2016), **Full Professor**, 2016 – now. University of California, San Diego, Dept. of Mechanical and Aerospace Engineering,

Postdoctoral Fellow, Michigan Technological University, Advisor: Richard Honrath, 2004 – 2005, Field-experimental and numerical study of upslope and downslope flow for source attribution of ground-based trace-gas measurements.

Postdoctoral Fellow, New Mexico Tech, Advisor: Jan Hendrickx, 2006, Use of satellite imagery with scintillometer measurements to estimate evapotranspiration

Awards and Fellowships

- 2021 Charles Greeley Abbot Award, American Solar Energy Society
- 2020 Fellow of the American Solar Energy Society
- 2019 Jacobs School of Engineering Faculty of the Year
- 2014 Negin Nazarian Best Student Presentation, 11th Symposium on the Urban Environment
- 2013 Best paper award in "Solar Energy" (Reference #44)
- 2009 NSF CAREER Award
- 2008 Trendsetters award by Public Works Magazine
- 2008 Hellman Fellow for tenure-track faculty of great promise
- 2008 UCSD Sustainability Award
- 2004 UCAR Award for Outstanding Publication (Reference #3)
- Student Paper Award: 15th Symposium on Boundary Layers and Turbulence, American Meteorological Society, Wageningen, The Netherlands, July 2002

Grants (active in large font)

- J. Kleissl and J. Hendrickx, *Validation and improvement of remote sensing ET algorithms in mountainous regions*, USGS National Institute of Water Resources (NIWR), 2006-2008, \$149,589
- J. Kleissl (PI) and P.F. Linden, *Decision-Making using real-time observations for environmental sustainability (DEMROES)*, UCSD Facilities Management and Environment & Sustainability Initiative, 2007-2008, \$46,200
- J. Kleissl (PI), *Coupling Between Skin Temperature and Evapotranspiration*, National Science Foundation, 2007-2008, \$48,000
- M., P.F. Linden, and J. Kleissl (co-PI), *Personal perception of air pollution in the urban environment*, Set2 UK University consortium, 2008, \$40,000
- J. Kleissl (PI) and N. Lieven, *Optimizing sustainable resource use in minigrids using wireless sensor networks and decision algorithms*, Set2 UK University consortium, 2008, \$40,000
- J. Kleissl (PI) and C. Watts, *Testing models for Evapotranspiration using Large Aperture Scintillometers*, University of California Mexico-US program, 2008-2009, \$25,000

- Delson, J. Kleissl (co-PI) et al., *Microprocessor Upgrade for Mechanical and Environmental Engineering Courses*, UCSD, 2008, \$7,500
- J. Kleissl, *Radiative Modeling of Urban Heat Islands Using Wireless Sensor Network Data*, Hellman Foundation, 2008-2009, \$59,643
- Joseph Ford, Farrokh Najmabadi, J. Kleissl (co-PI), *California Solar Energy Collaborative*, \$305,000, California Energy Commission, 2009-2012
- Hal Slater, J. Kleissl (Investigator), *Geothermal Water Heater*, California Energy Commission Energy Innovations Small Grant, \$95,000, 12/2011 – 9/2012
- J. Kleissl, *Solar Forecasting for Energy Storage Applications*, Sanyo Electric Corporation, \$749,000, 2010-2013
- J. Kleissl, *Total Sky Imager Testing for Solar Forecasting at Semptra Generation 48 MW PV Plant*, National Renewable Energy Laboratory, \$128,820, 2011-2012
- J. Kleissl, *CAREER: Green Engineering of Urban Areas*, **National Science Foundation**, \$407,449, 2009-2014
- Washom, B., J. Kleissl (co-PI), *Improved Modeling Tools Development for High Penetration Solar*, **Department of Energy**, \$2,402,069, 2009-2013
- J. Kleissl, *Improving Economics of Solar Power Through Resource Analysis, Forecasting, and Dynamic System Modeling*, **California Public Utilities Commission Solar Initiative**, \$548,148, 2011-2013
- J. Kleissl, *Improving remote sensing algorithms for evapotranspiration using Large Aperture Scintillometry*, **NASA**, \$349,916, 2010-2013
- J. Kleissl (PI), B. Washom, *Smart-grid research and demonstration*, **California Energy Commission**, \$2,858,000, 7/2011 – 3/2015
- Enernex, J. Kleissl (co-PI), *Utility Scale Renewable Energy*, **California Energy Commission**, \$442,136, 8/2011 – 3/2014
- AWS Truepower, J. Kleissl (Investigator), *Utility Scale Renewable Energy*, **California Energy Commission**, \$450,000, 8/2011 – 3/2014
- J. Kleissl, *California Solar Energy Collaborative*, \$144,994, **California Energy Commission**, 7/2012-6/2014
- J. Kleissl, *High-fidelity solar forecasting demonstration for grid-integration*, **California Public Utilities Commission Solar Initiative**, \$1,548,148, 2012-2014
- Sonia Martinez, J. Kleissl (co-PI), *Optimal sizing and control of distributed storage devices in grid-connected photovoltaic systems*, **National Science Foundation**, \$449,720, 2013-2015
- J. Kleissl, *Energy-Efficient Refrigerator*, **US Department of Energy** (subcontract through Lawrence Berkeley National Laboratory), \$40,000, 9/2013 - 6/2014.
- M. Bratton, J. Kleissl (co-PI), *Sustaining Interest in Science, Technology, Engineering, and Research in Society*, **National Science Foundation**, \$800,000, 2013 – 2017.
- J. Kleissl, *Cloud Speed Sensor*, **California Energy Commission**, \$95,000, 10/2013 – 9/2014 PI (100%)
- J. Kleissl (PI), Carlos Coimbra, *Systemwide solar and net load forecasting*, **San Diego Gas & Electric**, \$80,000, 4/2014 – 12/2014.
- J. Kleissl (PI), Carlos Coimbra, Raymond de Callafon, Bill Torre, *Comprehensive Grid-Integration of Solar Power for SDG&E*, **California Public Utilities Commission Solar Initiative**, \$1,057,050, 2014 - 2016
- J. Kleissl, *Solar Forecasting and Storage Control to Mitigate Large Ramps*, **California Public Utilities Commission Solar Initiative**, \$95,000, 2014-2015.
- J. Kleissl (PI), Byron Washom, *Solar forecast based optimization of distributed energy resources in the LA basin and UC San Diego microgrid*, **California Energy Commission**, \$1,000,000, 2015-2018.
- J. Kleissl (co-PI), *Cool Walls*, **California Energy Commission** subcontract through Lawrence Berkeley National Lab, \$115,543 (UCSD share), 2015-2018.
- J. Kleissl (PI), *Developing a Comprehensive, SystemWide Forecast to Support High-Penetration Solar*, **California Energy Commission** subcontract through Clean Power Research., \$99,000 (UCSD Share), 2017-2020
- J. Kleissl (PI), Byron Washom, *Intelligent Electric Vehicle Integration: INVENT*, **California Energy Commission** subcontract through Nuvve Corp., \$1,211,808 (UCSD Share), 2017-2021.
- J. Kleissl (PI), *SemperGRID: Phase II Scale-Up and Business Case Demonstration of Advanced Microgrid Deployment at Marine Corps Air Station Miramar*, \$5,000,000, **California Energy Commission**, 2018 - 2023
- J. Kleissl (site PI), *The Port of San Diego Microgrid*, \$367,000 (UCSD share), **California Energy Commission**, 2018 – 2023
- J. Kleissl (PI), Sonia Martinez, Jorge Cortes, Raymond de Callafon, Rajesh Gupta, *Distributed Energy Resources Connect (DERConnect)*, **National Science Foundation**, \$39,467,000, 2020-2025.

- J. Kleissl (PI), *Smart Plug Load Controls Integrated with Building Energy Management Systems*, California Energy Commission, \$1,028,125, 2021-2025.

Editorial Activities

Deputy Editor, Journal of Renewable and Sustainable Energy (2019 - now)
 Subject Editor in Chief for Solar Resources and Energy Meteorology – Solar Energy (2014 – 2018)
 Associate Editor – Urban Climate (2013-2015)
 Book Editor: [Solar Resource Assessment and Forecasting](#), Elsevier, 2013

Books

Dazhi Yang and Jan Kleissl, *Solar Irradiance and Photovoltaic Power Forecasting*, CRC Press, 2023

Publications – accepted in peer-reviewed journals

1. **Kleissl, J.**, C. Meneveau, and M.B. Parlange, 'On the magnitude and variability of subgrid-scale eddy-diffusion coefficients in the atmospheric boundary layer,' *J. Atmospheric Sciences*, 60, 2372-2388, 2003
2. **Kleissl, J.**, M.B. Parlange, and C. Meneveau, 'Field experimental study of dynamic Smagorinsky models in the atmospheric surface layer,' *J. Atmos. Sci.*, 61, 2296-2307, 2004
3. Horst, T.W., **J. Kleissl**, D.H. Lenschow, C. Meneveau, C.-H. Moeng, M.B. Parlange, P.P. Sullivan, and J.C. Weil, 'Field observations to obtain spatially-filtered turbulence fields from transverse arrays of sonic anemometers in the atmospheric surface layer,' *J. Atmos. Sci.*, 61, 1566-1581, 2004
4. Pahlow, M, **J. Kleissl**, M.B. Parlange, J.M. Ondov, and D. Harrison, 'Atmospheric boundary layer dynamics as observed during a haze event due to forest fire smoke,' *Boundary Layer Meteorology*, 114 (1), 53-70, 2005
5. A. Sapkota, J. M. Symons, **J. Kleissl**, L. Wang, M.B. Parlange, J. Ondov, P.A. Eggleston, T.J. Buckley, 'Impact of the 2002 forest fires on PM air quality in Baltimore City,' *Environmental Science and Technology*, 39 (1): 24-32, 2005
6. R.E. Honrath, R.C. Owen, M. Val Martin, J.S. Reid, K. Lapina, P. Fialho, M.P. Dziobak, **J. Kleissl**, D.L. Westphal, 'Regional and hemispheric impacts of anthropogenic and biomass burning emissions on summertime CO and O₃ in the North Atlantic lower free troposphere,' *J. Geophysical Res.–Atmospheres*, 109, D24310, 2005
7. **Kleissl, J.**, V. Kumar, M.B. Parlange, and C. Meneveau, 'Numerical study of dynamic Smagorinsky models in Large Eddy Simulation of the atmospheric boundary layer: Validation in stable and unstable conditions,' *Water Resources Research*, 42 (6), W06D10, 2006
8. Kumar, V., **J. Kleissl**, M.B. Parlange, and C. Meneveau, 'Large-Eddy Simulation of the diurnal cycle of the turbulent Atmospheric Boundary Layer: Atmospheric stability and scaling issues,' *Water Resources Res.*, 42(6), W06D09, 2006
9. **Kleissl, J.**, R.E. Honrath, D.V. Henriques, 'Analysis and application of Sheppard's airflow model to predict mechanical orographic lifting and the occurrence of mountain clouds,' *J. Applied Meteorology*, 45(10), pp. 1376–1387, 2006
10. Park, S.S., **J. Kleissl**, D. Harrison, N.P. Nair, V. Kumar, J. Ondov, 'Investigation of PM_{2.5} Episodes Using Semi-Continuous instruments at the Baltimore Supersite,' *Aerosol Sci. Tech.*, 40 (10): 845-860, 2006
11. **Kleissl, J.**, R.E. Honrath, M.P. Dziobak, D. Tanner, M. Val-Martin, R.C. Owen, D. Helmig, 'The occurrence of upslope flows at the Pico mountaintop atmospheric observatory: a case study of orographic flows on small, volcanic islands,' *J. of Geophysical Research – Atmospheres*, 112, D10S35, doi:10.1029/2006JD007565, 2007
12. Van Hout, R., W. Zhu, L. Luznik, J. Katz, **J. Kleissl**, M.B. Parlange: PIV measurements in the atmospheric boundary layer within and above a mature corn canopy. Part A: statistics and small scale isotropy,' *J. Atmos. Sci.*, 64(8), 2805-2824, 2007
13. **Kleissl, J.**, J. Gomez, S.-H. Hong, J.M.H. Hendrickx, T. Rahn, W.L. Defoor, 'Large Aperture Scintillometer Intercomparison Study', *Bound.-Layer Meteorol.*, 128(1), 133-150, 2008
14. **Kleissl, J.**, S.-H. Hong, J.M.H. Hendrickx, 'New Mexico Scintillometer Network in Support of Remote Sensing, and Hydrologic and Meteorological Models', *Bull. Amer. Meteorol. Society*, 90(2): 207-218, 2009
15. **Kleissl, J.**, C. Watts, J. Conrod, S. Naif, 'Large Aperture Scintillometer Intercomparison Study - continued', *Boundary Layer Meteorology*, 130: 437–443, 2009

16. Zeweldi, D.A., M. Gebremichael, J. Wang, T. Sammis, **J. Kleissl** and D. Miller, Intercomparison of Sensible Heat Flux from Large Aperture Scintillometer and Eddy Covariance methods: Field Experiment over a Homogeneous Semiarid Region, *Boundary-Layer Meteorol.*, DOI: 10.1007/s10546-009-9460-9, 2010
17. Yaghoobian N, **Kleissl J**, Krayenhoff ES, 'Modeling The Thermal Effects of Artificial Turf on the Urban Environment', *J. Applied Meteorology and Climatology*, 49(3), 332–345, 2010
18. Lave M, **Kleissl J**, 'Solar Intermittency of Four Sites Across the State of Colorado', *Renewable Energy*, 35:2867-2873, 2010
19. Nottrott A, **Kleissl J**, Validation of the SUNY NSRDB global horizontal irradiance in California, *Solar Energy*, 84:1816–1827, 2010
20. Garai A, **Kleissl J**, Llewellyn-Smith SG, Estimation of biomass heat storage using thermal infrared imagery: Application to a walnut orchard, *Boundary-Layer Meteorology*, 137:333–342, 2010
21. Lave M, **Kleissl J**, Optimum fixed orientations and benefits of tracking for capturing solar radiation in the continental United States, *Renewable Energy*, 36:1145-1152, 2011
22. **Kleissl J**, O.K. Hartogensis, J.D. Gomez, Test of scintillometer saturation correction methods using field experimental data, *Boundary-Layer Meteorology*, DOI 10.1007/s10546-010-9540-x, 2010
23. E.G. Patton, T.W. Horst, P.P. Sullivan, D.H. Lenschow, S.P. Oncley, W.O.J. Brown, S.P. Burns, A.B. Guenther, A. Held, T. Karl, S.D. Mayor, L.V. Rizzo, S.M. Spuler, J. Sun, A.A. Turnipseed, E.J. Allwine, S.L. Edburg, B.K. Lamb, R. Avissar, R.J. Calhoun, **J. Kleissl**, The Canopy Horizontal Array Turbulence Study (CHATS), *Bulletin of the American Meteorological Society*, 593-611, May 2011
24. Dominguez A., **Kleissl J**, Luvall JC, Rickman DL, Development of a High-resolution Urban Thermal Sharpener (HUTS), *Remote Sensing of Environment*, 115(7):1772-1780, 2011
25. Nikolopoulou M, **Kleissl J**, Linden PF, Pedestrians' perception of environmental stimuli through field surveys: focus on particulate pollution, *Science of the Total Environment*, 409(13), 2493-2502, 2011
26. A. Nottrott, S. Onomura, M. Kanda, A. Inagaki and **J. Kleissl**, Convective heat transfer regime on leeward building walls in an urban environment, *International Journal of Heat and Mass Transfer*, 54(15):3128-3138, 2011
27. Mathiesen P, **Kleissl J**, Evaluation of numerical weather prediction for intra-day hourly solar irradiance forecasting in the CONUS, *Solar Energy*, 85(5): 967-977, 2011
28. Dominguez A, **Kleissl J**, Luvall JC, Effects of Solar Photovoltaic Panels on Roof Heat Transfer, *Solar Energy*, doi:10.1016/j.solener.2011.06.010, 85(9): 2244-2255, 2011
29. Lave, M., **J. Kleissl**, Arias-Castro, E., High-frequency fluctuations in clear-sky index, *Solar Energy*, doi:10.1016/j.solener.2011.06.031, 2011
30. Garai, A, **Kleissl J**, Air and surface temperature coupling in the convective atmospheric boundary layer, *J. Atmospheric Sciences*, doi: 10.1175/JAS-D-11-057.
31. Luoma, J, **J Kleissl**, K Murray, Optimum inverter sizing considering cloud enhancement, *Solar Energy*, 86(1):421-429.
32. Chow CW, Urquhart B, **Kleissl J**, Lave M, Dominguez A, Shields J, Washom B, Intra-hour forecasting with a total sky imager at the UC San Diego solar energy testbed, *Solar Energy*, doi:10.1016/j.solener.2011.08.025, 85(11), 2881-2893, 2011.
33. Sun, L., Nottrott, A., **J Kleissl**, Effect of hilly urban morphology on dispersion characteristics in the urban boundary layer, *Buildings and Environment*, 48:195-205, 2012.
34. Yaghoobian, N., **J Kleissl**, An Indoor-Outdoor Building Energy Simulator to Study Urban Modification effects on Building Energy Use – Model Description and Validation, *Energy and Buildings*, 54: 407-417, 2012, <http://dx.doi.org/10.1016/j.enbuild.2012.07.019>
35. Yaghoobian, N., **J Kleissl**, Effect of Reflective Pavements on Building Energy Use, *J. Urban Climate*, <http://dx.doi.org/10.1016/j.uclim.2012.09.002>
36. Lave M, **J Kleissl**, J Stein, A Wavelet-based Variability Model (WVM) for Solar PV Powerplants, *IEEE Transactions on Sustainable Energy*, 10.1109/TSTE.2012.2205716, 4(2), 501-509, 2012.
37. M Jamaly, JL Bosch, **J Kleissl**, Aggregate Ramp Rates of Distributed Photovoltaic Systems in San Diego County, *IEEE Transactions on Sustainable Energy*, 99, 2012, [10.1109/TSTE.2012.2201966](http://dx.doi.org/10.1109/TSTE.2012.2201966)
38. Mathiesen, P, J Brown, **J Kleissl**, Regime-Based California NWP Probabilistic Irradiance Forecasts, *IEEE Transactions on Sustainable Energy*, 99, 2012 [10.1109/TSTE.2012.2200704](http://dx.doi.org/10.1109/TSTE.2012.2200704).
39. Ru, Y, **J Kleissl**, S Martinez, Storage Size Determination for Grid-Connected Photovoltaic Systems, *IEEE Transactions on Sustainable Energy*, 99, 2012 [10.1109/TSTE.2012.2199339](http://dx.doi.org/10.1109/TSTE.2012.2199339)

40. Hoff, T. E., Perez, R., Kleissl, J., Renne, D. and Stein, J. (2012), Reporting of irradiance modeling relative prediction errors. *Prog. Photovolt: Res. Appl.* doi: 10.1002/pip.2225
41. Ghonima, M, **J Kleissl**, A Method for Cloud Classification Based on Ground Based Sky Imagery, *Atmospheric Measurement Technology*, 5, 2881-2892, 2012.
42. Luoma, J, P.Mathiesen, **J Kleissl**, Determination of forecast value considering energy pricing in California, *Applied Energy*, 125: 230-237, 2014.
43. Nottrott, A, **J Kleissl**, Energy dispatch schedule optimization and cost benefit analysis for grid-connected, photovoltaic-battery storage systems, *Renewable Energy*, 55:230-240, 2013.
44. Bosch JL, Y Zheng, **J Kleissl**, Deriving cloud velocity from an array of solar radiation measurements, *Solar Energy*, 87: 196-203, 2013, 10.1016/j.solener.2012.10.020.
45. Carrasco-Benavides M, S. Ortega-Farías, LO Lagos, **J Kleissl**, L Morales, C Poblete-Echeverría, RG Allen, Crop coefficients and actual evapotranspiration for a drip-irrigated Merlot vineyard using multispectral satellite images, *Irrigation Science*, DOI: 10.1007/s00271-012-0379-4, 2012
46. Garai A, **J Kleissl**, Surface temperature and surface layer turbulence in a convective boundary layer, *Boundary-Layer Meteorology*, <http://dx.doi.org/10.1007/s10546-013-9803-4>, 148(1): 51-72, 2013.
47. Mathiesen, P, C Collier, **J Kleissl**, A high-resolution, cloud-assimilating numerical weather prediction model for solar irradiance forecasting, *Solar Energy*, 92:47-61, 10.1016/j.solener.2013.02.018., 2013.
48. Lave, M, **J Kleissl**, Cloud Speed Impact on Solar Variability Scaling - Application to the Wavelet Variability Model, *Solar Energy*, 91:11-21, 10.1016/j.solener.2013.01.023., 2013.
49. Bosch JL, **Kleissl J**, Cloud motion vectors from a network of ground sensors in a solar power plant, *Solar Energy*, 95:13-20, 10.1016/j.solener.2013.05.027, 2013.
50. Mejia F, **J Kleissl**, Soiling Losses for Solar Photovoltaic Systems in California, *Solar Energy*, 95:357-363, 2013.
51. Garai A, **J Kleissl**, Interaction between coherent structures and surface temperature and its effect on ground heat flux in an unstably stratified boundary layer, *J. Turbulence*, 14(8):1-23, 2013.
52. Fung, V., JL Bosch, S Roberts, **J Kleissl**, Cloud Shadow Speed Sensor, *Atmospheric Measurement Techniques Discussions* 6(5), 2013.
53. Ery Arias Castro, **J Kleissl**, M Lave, Jason Schweinsberg, Ruth Williams, A Poisson model for anisotropic solar ramp rate correlations, *Solar Energy*, 101:192-202, 2014, <http://dx.doi.org/10.1016/j.solener.2013.12.028>.
54. Nottrott A, **J Kleissl**, R Keeling, Modeling passive scalar dispersion in the atmospheric boundary layer with WRF large eddy simulation, *Atmospheric Environment*, 82:172-182, 2014.
55. Yang, H, B Kurtz, A Nguyen, B Urquhart, CW Chow, M Ghonima, **J Kleissl**, Solar irradiance forecasting using a ground-based sky imager developed at UC San Diego, *Solar Energy*, 103: 502-524, 2014.
56. Hanna, R., **Kleissl, J.**, Nottrott, A., & Ferry, M. (2014). Energy dispatch schedule optimization for demand charge reduction using a photovoltaic-battery storage system with solar forecasting. *Solar Energy*, 103, 269-287.
57. Dung (Andu) Nguyen, **J Kleissl**, Stereographic methods for cloud base height determination using two sky imagers, *Solar Energy*, 2014, 107:495-509, <http://dx.doi.org/10.1016/j.solener.2014.05.005>
58. Urquhart, B., Kurtz, B., Dahlin, E., Ghonima, M., Shields, J. E., and **J Kleissl.**: Development of a sky imaging system for short-term solar power forecasting, *Atmos. Meas. Tech. Discuss.*, 7, 4859-4907, doi:10.5194/amtd-7-4859-2014, 2014.
59. Lipperheide, M., JL Bosch, **J Kleissl**, Embedded nowcasting method using cloud speed persistence for a photovoltaic power plant, doi:10.1016/j.solener.2014.11.013, 112: 232–238, 2015.
60. Yaghoobian, N., **J Kleissl**, An improved three-dimensional simulation of the diurnally-varying street canyon flow, *Boundary-Layer Meteorology* 153.2 (2014): 251-276.
61. Garai, A., S Sarkar and **J Kleissl**, Flow and heat transfer in a convectively unstable turbulent channel flow with solid-wall heat conduction, *Journal of Fluid Mechanics* 757 (2014): 57-81.
62. Ru, Y., **Kleissl, J.**, & Martinez, S. (2014). Exact sizing of battery capacity for photovoltaic systems. *European Journal of Control*, 20(1), 24-37.
63. Hong, S. H., Hendrickx, J. M. H., **Kleissl, J.**, Allen, R. G., Bastiaanssen, W. G. M., Scott, R. L., & Steinwand, A. L. (2014). Evaluation of an extreme-condition-inverse calibration remote sensing model for mapping energy balance fluxes in arid riparian areas. *Hydrology and Earth System Sciences Discussions*, 11(12), 13479-13539.

64. Chow, CW, S. Belongie, **J Kleissl**, Cloud Motion and Stability Estimation for Intra-hour Solar Forecasting, *Solar Energy* 115 (2015): 645-655.
65. Zhong, X., & **Kleissl, J.** (2015). Clear sky irradiances using REST2 and MODIS. *Solar Energy*, 116, 144-164.
66. Carrasco-Benavides, M., Ortega-Farías, S., Lagos, L. O., **Kleissl, J.**, Morales-Salinas, L., & Kilic, A. (2014). Parameterization of the Satellite-Based Model (METRIC) for the Estimation of Instantaneous Surface Energy Balance Components over a Drip-Irrigated Vineyard. *Remote Sensing*, 6(11), 11342-11371.
67. Ghonima, M. S., Norris, J. R., Heus, T., & **Kleissl, J.** (2015). Reconciling and Validating the Cloud Thickness and Liquid Water Path Tendencies Proposed by R. Wood and JJ van der Dussen et al. *Journal of the Atmospheric Sciences*, 72(5), 2033-2040.
68. Chu, Y., Urquhart, B., Gohari, S. M., Pedro, H. T., **Kleissl, J.**, & Coimbra, C. F. (2015). Short-term reforecasting of power output from a 48 MWe solar PV plant. *Solar Energy*, 112, 68-77.
69. Nazarian, N., & **Kleissl, J.** (2015). CFD simulation of an idealized urban environment: Thermal effects of geometrical characteristics and surface materials. *Urban Climate*, 12, 141-159.
70. Nazarian, N., and **J. Kleissl**. "Realistic solar heating in urban areas: Air exchange and street-canyon ventilation." *Building and Environment* 95 (2016): 75-93.
71. Nguyen, A., Velay, M., Schoene, J., Zheglov, V., Kurtz, B., Murray, K., Torre, B. and **Kleissl, J.**, 2016. High PV penetration impacts on five local distribution networks using high resolution solar resource assessment with sky imager and quasi-steady state distribution system simulations. *Solar Energy*, 132, 221-235.
72. Urquhart, B., Kurtz, B., and **J Kleissl**: Sky camera geometric calibration using solar observations, *Atmospheric Measurement Techniques*, 9(9) 4279-4294.
73. Felipe A Mejia, Ben Kurtz, Keenan Murray, Laura Hinkelman, Manajit Sengupta, Yu Xie, **J Kleissl**, 'Coupling sky images with three-dimensional radiative transfer models: a new method to estimate cloud optical depth', *Atmospheric Measurement Techniques Discussions* 8, 11285-11321, doi:10.5194/amtd-8-11285-2015, 2015.
74. Ghonima, M.S., T. Heus, J.R. Norris, and **J. Kleissl**, Factors controlling Stratocumulus cloud lifetime over the coast, *J. Atmospheric Sciences*, 73(8), 2961-2983, 2016.
75. Perez, R, M. David, T. Hoff, P. Lauret, S. Kivalov, **J. Kleissl**, P. Lauret, M. Perez, 2016, Spatial and temporal intermittency of solar energy, *Foundation and Trends in Renewable Energy*, 1 (1), 1-44.
76. Melville, W. K., Lenain, L., Cayan, D. R., Kahru, M., **Kleissl, J.**, Linden, P., & Statom, N. M. (2016). The Modular Aerial Sensing System. *Journal of Atmospheric and Oceanic Technology*, (2016).
77. Wang, Guang, B. Kurtz, and **J. Kleissl**. "Cloud base height from sky imager and cloud speed sensor." *Solar Energy* 131 (2016): 208-221.
78. Yang, Handa, and **J. Kleissl**. "Preprocessing WRF initial conditions for coastal stratocumulus forecasting." *Solar Energy* 133 (2016): 180-193.
79. Zhong, Xiaohui, José A. Ruiz-Arias, and **J. Kleissl**. "Dissecting surface clear sky irradiance bias in numerical weather prediction: Application and corrections to the New Goddard Shortwave Scheme." *Solar Energy* 132 (2016): 103-113.
80. Pecenak, Z, F Mejia, A Evan, J Kleissl, Simulating irradiance enhancement dependence on cloud optical depth and solar zenith angle, *Solar Energy*, 136, 675-681, 2016.
81. Kurtz, B, J Kleissl, Measuring diffuse, direct and global irradiance from a sky imager, *Solar Energy*, 141, 311-322, 2017.
82. Habib AH, VR Disfani, J Kleissl, RA de Callafon, Optimal switchable load sizing and scheduling for stand-alone renewable energy systems, *Solar Energy* 144, 707-720, 2017.
83. Nazarian N, J Fan, T Sin, L Norford, J Kleissl, Predicting outdoor thermal comfort in urban environments: A 3D numerical model for standard effective temperature, *Urban Climate*, 2017.
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Teaching Experience

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- Applied Boundary Layer Meteorology, S2005, Michigan Technol. Univ.
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Professional Affiliations (current or past)

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