

CURRICULUM VITAE

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EDUCATION

- Ph.D. 1992.** Atmospheric Sciences. Department of Geological and Atmospheric Sciences, Iowa State University
Dissertation Title: *An Observational and Numerical Study of Sea/Land-Breeze Circulations in an Area of Complex Coastal Heating*
Advisor: Dr. Eugene S. Takle
- M.S. 1989.** Atmospheric Sciences, Department of Geological and Atmospheric Sciences, Iowa State University
Thesis Title: *A Three-Dimensional Numerical Simulation of the Mesoscale Flow Field over the Cape Canaveral Area in Florida*
Advisor: Dr. Eugene S. Takle
- M.S. 1985.** Atmospheric Physics, Institute of Atmospheric Physics, Chinese Academy of Sciences, Beijing, China
Thesis Title: *A Numerical Study of Pollutant Dispersion in a Stable Boundary Layer over Sloping Terrain*
Advisor: Dr. Mingyu Zhou
- B.S. 1982.** Major: Atmospheric Physics. Department of Atmospheric Sciences, Nanjing University, Nanjing, China.

EMPLOYMENT

- June 2006 – Present.** Department of Geography, Environment and Spatial Sciences, Michigan State University
 2011 – Present *Professor*
 2006 – 2011 *Associate Professor*
 Teach undergraduate and graduate courses, guide graduate students and postdocs, and conduct federally funded research on boundary layers and turbulence, mountain weather and climate, regional climate and climate change, air pollution, atmospheric transport and dispersion, and fire weather and smoke dispersion.
- January 2003 – May 2006.** *Associate professor*, Department of Earth and Atmospheric Sciences, University of Houston.
 Led the effort to establish a Ph.D. and M.S. degree program in Atmospheric Sciences and served as Graduate Director for the program, played a key role in the establishment of the Institute of Multi-Dimensional Air Quality Studies (IMAQS), taught undergraduate and graduate courses and advised graduate students and postdocs, and conducted federal- and state-sponsored research on air pollution, coastal meteorology, land-atmosphere interaction, and atmospheric processes over complex terrain.
- September 1992 – December 2002.** Atmospheric Sciences and Global Change Division, Department of Energy Pacific Northwest National Laboratory.
 1997 – 2002. *Senior Research Scientist*
 1994 – 1997. *Research Scientist*

1992 – 1994. *Post Doctoral Research Fellow*

Served as a PI and co-PI for various federally funded research projects on boundary-layer processes over complex terrain, atmospheric transport and dispersion, land-atmosphere interactions and regional climate simulations.

August 1987 – August 1992. *Research Assistant*, Department of Geological and Atmospheric Sciences, Iowa State University.

Conducted research on sea-breeze circulations, studied impact of climate change on Iowa and Midwest, and taught a senior-level lab course.

September 1985 – July 1987. *Assistant Professor*, Department of Atmospheric Sciences, Nanjing University. Nanjing, China.

Taught undergraduate and graduate courses and conducted research in fluid dynamics, boundary layers and turbulence, and air pollution meteorology.

RESEARCH

RESEARCH INTEREST

Atmospheric Sciences, with particular interest in

- Boundary layer and turbulence
- Land-atmosphere interactions
- Regional climate modeling
- Mesoscale modeling
- Atmospheric transport and dispersion
- Fire weather and smoke dispersion

RECENT CONTRACT AND GRANT ACTIVITIES

Zhong, S. Multi-scale analyses of wildland fire combustion processes in open-canopied forests using coupled and iteratively informed laboratory-, field-, and model-based approaches - Michigan State University. DOD Strategic Environmental Research and Development Program (SERDP), 2018-2021

Zhong, S. Investigating the role of meteorological process in the assessment of fire behavior and fire danger. *USDA Forest Service*, 2017 – 2022

Zhong, S. Investigating teleconnection between tropical Pacific sea-surface temperature anomalies and large wildfires in the U.S. *USDA Forest Service*, 2016 –2021

Zhong, S. Do fire-atmosphere interactions through a pine canopy mediate fire effects during point-ignition firing operations. *USDA Forest Service*, 2013 –2018

Zhong, S. and L. Luo: The impact of regional climate change on fire weather and fire behavior and the feedback of landuse change to regional climate system in regions of eastern United States. *USDA Forest Service*, 2012 – 2017

Zhong, S., Development of a canopy model suitable for predicting smoke dispersion from low-intensity forest fire. *USDA Forest Service*, 2011 – 2016.

Zhong, S.: Collaborative research: Persistent wintertime temperature inversions in the Salt Lake Basin. *National Science Foundation*. 2010-2014

Hyndman, D. W., S. P. Gasteyer, A. D. Kendall, N. J. Moore, **S. Zhong** and J. Zhou: Collaborative Research: WSC-Category 3 – Towards sustainability of the High Plains aquifer region: coupled landscape, atmosphere, and socioeconomic systems (CLASS). *National Science Foundation*. 2010 – 2015

Zhong, S.: An investigation of the differences between real time mesoscale analysis and observed meteorological conditions at RAWS stations in the northeast United States. *Interagency Joint Fire Science Program*. 2010-2013

- Pratt, S. E, O'Shea, B.W., Dougherty, D. P., **Zhong, S.**, Bass, S. A.: Collaborative research: From models and data to knowledge and understanding. *National Science Foundation, Cyber-enabled Discovery and Innovation Program*, 2009 –2015
- Winkler, J. Thornsbury, S., Tan, P.-N., Andresen, J. Black, J.R., Loveridge, S., **Zhong, S.** Zhao, J., Rothwell, N., and Iezzoni, A.: Towards an Integrated Framework for Climate Change Impact Assessments for International Market Systems with Long-Term Investments. *National Science Foundation, Dynamics of Coupled Natural and Human Systems Program*. 2009 - 2015.
- Zhong, S.** Adaptation of atmospheric dispersion models for predictions of smoke from low-intensity fires. *Interagency Joint Fire Science Program*, 2009 –2014.
- Winkler, J. and **Zhong, S.** Collaborative research: Toward an improved understanding of the characteristics, processes, and impacts of northerly and southerly low-level jets in the central United States. *National Science Foundation*, 2009 –2014
- Zhong, S.:** Collaborative research: The diurnal evolution of stable boundary layer in an enclosed basin. *National Science Foundation*. 2009-2012.
- Zhong, S.:** Collaborative research: Structure and evolution of diurnal cold air pools and seiches in small, closed Basins. *National Science Foundation*, 2005 –2009.
- Zhong, S.:** Collaborative research: Boundary-layer influences on mountain waves and rotors. *National Science Foundation*, 2005 –2010.
- Zhong S.:** Tools for estimating contributions of wildland and prescribed fires to air quality in the southern Sierra Nevada. *Interagency Joint Fire Science Program*, 2007 –2009.
- Zhong S.:** Development of local-scale dispersion models for the short-term prediction of smoke dispersion from prescribed and wildland fires. *USDA Forest Service*. 2007 –2012.
- Zhong, S., J. Winkler, and J. Andresen:** Impacts of land cover change on the climate system. *USDA Forest Service*, 2007 –2012.

PUBLICATIONS

Refereed Book Chapter

- Zhong, S.**, and F. K. Chow, 2013: Meso- and fine-scale numerical modeling over complex terrain: parameterizations and applications. In *Mountain Weather Research and Forecasting: Recent Progress and Current Challenges*. Chow, F.K., De Wekker, S.F.J., and Snyder, B.J. (eds.), 591-653. Berlin, Springer. 750 pp. ISBN 978-94-007-4097-6. DOI: 10.1007/978-94-007-4098-3_10
- Preisler, H. K., **S. Zhong**, A. Esperanza, L. Tarney, and J. Koracine: A statistical model for forecasting hourly ozone levels during fire season. *Developments in Environmental Science 8:* (S. V. Krupa Ed.): *Wildland Fires and Air Pollution* (Bytnerowicz, A., Arbaugh, M., Riubau, A., Andersen, C., Editors). Elsevier Publisher. 687 pp. 2009
- Zubin Abraham, Pang-Ning Tan, Perdinan, Julie Winkler, **Shiyuan Zhong**, and Malgorzata Liszewska, Position preserving multi-output prediction. *Machine Learning and Knowledge Discovery in Databases. Lecture Notes in Computer Science*, H. Blockeel et al. (Eds), Volume 8189, 2013, 320-335, Springer.

Encyclopedia Entry

- Zhong, S.** and R. Zaveri, Atmospheric Aerosol. Castree, N., et al. (eds.) n.d. Wiley-AAG *The International Encyclopedia of Geography : People, the Earth, Environment and Technology* (IEG) (ISBN 978-0-470-65963-2) P238-242
- Heilman, W. C. Clements, **S. Zhong**, K. Clark and X. Bian, Atmospheric Turbulence. *The Encyclopedia of Wildland Fires*

Refereed Articles Under Review

- Yu, L. and **S. Zhong***, 2018: Contributions from intrinsic low frequency climate variability to the accelerated decline in Arctic sea ice in recent decades. *Atmospheric Chemistry and Physics* (Under revision)
- Yu, L. and S. Zhong, 2018: Revisiting the linkages between the variability of atmospheric circulations and Arctic summer sea ice cover at multiple time scales. *Journal of Climate* (Submitted)
- Yu, L., **S. Zhong***, W. E. Heilman, and X. Bian, 2018: The interannual variability of wind energy resources across China and the relationship to large-scale circulation changes. *International Journal of Climatology* (Under revision)
- Joseph J. Charney, Michael T. Kiefer, Jovanka Nikolic, **Shiyuan Zhong**, Warren E. Heilman, Xindi Bian, John L. Hom, Kenneth L. Clark, Nicholas S. Skowronski, Michael R. Gallagher, Matthew Patterson, Yongqiang Liu, Christie Hawley, 2018: Assessing Forest Overstory Impacts on Smoke Concentrations using a Predictive Tool. *Atmospheric Chemistry and Physics* (Submitted)
- Arcand, S., L. Luo, S. Zhong, L. Pei, X. Bian and J. A. Winkler, 2018: The effects of irrigation on the Great Plains low level jet. *Atmospheric Sciences Letter* (Submitted)
- Kiefer, M.T., J. Charney, **S. Zhong**, W. Heilman, X. Bian, J. Hom, A Particle dispersion model evaluation of the ventilation index over complex terrain. *Journal of Applied Meteorology* (Submitted)
- Wang, X, S. Zhong, X. Bian and L. Yu, 2018: The impact of El Niño and La Niña on PM2.5 concentrations across China. *Atmospheric Chemistry and Physics* (Submitted)
- Heilman, W. E., X. Bian, K. L. Clark, and S. Zhong, 2018: Observations of turbulent heat and momentum fluxes during wildland fires in forested environments

Refereed Publications in Professional Journals

The first author is the corresponding author unless indicated by an asterisk

2018

- Yu, L. **S. Zhong***, W. E. Heilman and X. Bian, 2018: Trends in seasonal warm extremes across the contiguous United States: Contributions from natural climate variability. *Scientific Reports*, 8:3435, doi:10.1038/s41598-018-21817-9
- Kiefer, M. T., **S. Zhong**, W. E. Heilman, J. J. Charney, and X. Bian, 2018: A numerical study of atmospheric perturbations induced by heat from a wildland fire: sensitivity to vertical canopy structure and heat source strength. *Journal of Geophysical Research*, doi: 10.1002/2017JD027904
- Yu, L. and **S. Zhong**, 2018: Antarctic summer sea ice trends in the context of high latitude atmospheric circulation changes. *Journal of Climate* <https://doi.org/10.1175/JCLI-D-17-0739.1>
- Zhou, B. L. Yu, **S. Zhong***, and X. Bian, 2018: The spatiotemporal inhomogeneity of pollutant concentrations and its dependence on regional weather conditions in a coastal city of China, *Environmental Monitoring and Assessment*, 190:261. <https://doi.org/10.1007/s10661-018-6623-5>

2017

- Zhong, S.**, L. Yu., Y. Tang, J. Winkler, X. Bian, and W. E. Heilman, 2017: The impact of climate change on frost-free season length over the contiguous United States as projected by the NARCCAP model ensembles. *Climate Research*, 72(1), 53-72, doi:10.3354/cr01450 (Impact Factor 1.7)

- Yu, L. M. Zhou, **S. Zhong**, D. H. Lenschow, B. Li, 2017: Possible connections of the opposite trends in Arctic and Antarctic sea-ice cover. *Scientific Report* 7, 45804, (2017) doi:10.1038/srep45804 (Impact Factor: 4.3)
- Tang, Y., W. A. Winkler*, **S. Zhong***, X. Bian, D. Doubler, Y. Lejiang, and C. Walters, 2017: Future changes in the climatology of the Great Plains low-level jets derived from fine resolution multi-model simulations. *Scientific Reports*, 7, 5029, doi:10.1038/s41598-017-05135-0 (Impact Factor: 4.3)
- Yu, L. **S. Zhong***, W. E. Heilman and X. Bian, 2017: A comparison of the effects of El Niño and El Niño Modoki on sub-daily extreme precipitation across the contiguous United States, *Journal of Geophysical Research*, 122, 7401-4715, doi:10.1002/2017JD026683 (Impact factor: 3.5)
- Yu, L. W. E. Warren, **S. Zhong**, and X. Bian, 2017: Relationships of the symmetric and asymmetric components of ENSO to U.S. extreme precipitation. *Atmospheric Sciences Letters*, 18:466-474. (Impact Factor: 1.5)

2016

- Yu, L. **S. Zhong***, X. Bian, and W. E. Heilman, 2016: Climatology and trend of wind power resources in China and its surrounding regions: a revisit using Climate Forecast System Reanalysis data. *International Journal of Climatology*, 36, 2173-2188, doi:10.1002/joc.4485
- Tang, Y., **S. Zhong***, J. A. Winkler, and C. Walter, 2016: Evaluation of southerly the low-level jet climatology in the central United States as simulated by NARCCAP regional climate models. *International Journal of Climatology*. DOI:10.1002/joc.4636
- Pei, L., N. Moore; **S. Zhong**; A. D. Kendall; Z. Gao; D. W. Hyndman, 2016: Effects of irrigation on summer precipitation over the United States. *Journal of Climate*, DOI:http://dx.doi.org/10.1175/JCLI-D-15-0337.1
- Yu, L., **S. Zhong**, J. A. Winkler, D. Doubler, and C. K. Walters, The interannual variability of southerly low-level jets in North America, *International Journal of Climatology*, DOI:10.1002/joc.4708
- Yu, L., **S. Zhong**, W. E. Heilman, X. Bian, 2016: The effect of two types of El Niño on the southerly low-level jets in North America. *Earth and Space Science*, DOI: 10.1002/2016EA000164
- Yu, L., **S. Zhong**, L. Pei, X. Bian, and W. H. Heilman, Contribution of large-scale circulation anomalies to changes in extreme precipitation frequency in the United States. *Environmental Research Letter*, 11(4), 04 4003, doi: 10.1088/1748-9326/11/4/04 4003
- Kiefer, M.T., W. E. Heilman, **S. Zhong**, J. J. Charney, and X. Bian, 2016: A study of the influence of forest gaps on fire-atmosphere interactions. *Atmospheric Chemistry and Physics*, 16, 8499-8509, doi:10.5194/acp-16-8499-2016
- Yu, L., **S. Zhong***, and X. Bian, 2016: Multi-day cold air pools in the western United States as derived from NARR. *International Journal of Climatology*
- Wang, Y. X. Xu, H. Liu, Y. Li, Z. Hu, X. Gao, Y. Mao, J. Sun, D. Lenschow, **S. Zhong**, M. Zhou, X. Bian, and P. Zhao, 2016: Analysis of land surface parameters and turbulence characteristics over the Tibetan Plateau and surrounding region. *Journal of Geophysical Research: Atmospheres*, 121, 9540-9560. DOI: 10.1002/2016JD025401

2015

- Kiefer, M. T. and **S. Zhong**, 2015: The role of forest canopy and valley geometry in the evolution of cold air pools. *J. Geophysical Research: Atmospheres*. 120(17): 8693-8711.doi:10.1002/2014JD022998
- Katurji, M., J. Nikolic, **S. Zhong**, S. Pratt, L. Yu, and W. E. Heilman, 2015: Application of a statistical emulator to fire emission modeling, *Environmental Modeling and Software*. 73, 254-259. doi: 10.1016/j.envsoft.2015.08.016
- Reeves, H., Conrick, R. and **S. Zhong**, 2015: The dependence of QPF on the choice of boundary layer parameterization for lake-effect snow storms. *Journal of Applied Meteorology and Climatology*, 54, No. 6. 1177-1190

- Tang, Y., **S. Zhong***, L. Luo, X. Bian, W. E. Heilman, and J. Winkler, 2015: The potential impact of regional climate change on fire weather in the United States. *Annals of the Association of American Geographers*, 105:1, 1-21, DOI: <http://dx.doi.org/10.1080/00045608.2014.968892>)
- Yu, L. **S. Zhong***, X. Bian and W. E. Heilman, 2015: Temporal and spatial variability of wind resources in the United States as derived from the Climate Forecast System Reanalysis. *Journal of Climate*, DOI: <http://dx.doi.org/10.1175/JCLI-D-14-00322.1>
- Kiefer, M. T., W. E. Heilman, **S. Zhong**, J. J. Charney, and X. Bian, 2015: Mean and turbulent flow downstream of a low-intensity fire: Influence of canopy and background atmospheric conditions. *Journal of Applied Meteorology and Climatology*, 54, 42-57. DOI: <http://dx.doi.org/10.1175/JAMC-D-14-0058.1>
- Geng, F., X. Mao, M. Zhou, **S. Zhong** and D. Lenschow, 2015: Multi-year ozone concentration and its spectra in Shanghai, China. *Science of the Total Environment*, 521, 135-143. <http://dx.doi.org/10.1016/j.scitotenv.2015.03.082>
- Doubler, D. J. Winkler, X. Bian, C. Walters and **S. Zhong**, 2015: A NARR-derived climatology of southerly and northerly low-level jets over North America and coastal environs. *Journal of Applied Meteorology and Climatology*, 54: 1596-1619
- Heilman, W. E., Y. Tang, L. Luo, **S. Zhong**, J. A. Winkler, and X. Bian, Potential climate change impacts on fire weather in the United States. *Fire Management Today*, 74:22-27.

2014

- Pei, L. N. Moore, **S. Zhong***, L. Luo, D. Hyndman, W. Heilman, and Z. Gao, 2014: WRF model sensitivity to land surface scheme and cumulus parameterization under short-term climate extremes over the southern Great Plains of the United States. *Journal of Climate*, 27, 7703-7724
- Kiefer, M. T., **S. Zhong**, W. E. Heilman, J. J. Charney, and X. Bian, and N. S. Skowronski, 2014: Multiscale simulation of a prescribed fire event in the New Jersey Pine Barrens using ARPS-CANOPY. *Journal of Applied Meteorology and Climatology*, 53, No. 4. 793-812
- Lu, W. and **S. Zhong***, 2014: A numerical study of a persistent cold air pool episode observed in the Salt Lake Valley, Utah. *Journal of Geophysical Research*, 119, 1733-1752. doi:10.1002/2013JD020410
- Yu, L., **S. Zhong***, X. Bian, W. E. Heilman, and J. Andresen, 2014: Temporal and spatial variability of frost-free seasons in the Great Lakes region of the United States. *International Journal of Climatology*, 34, 3499-3514, doi: 10.1002/joc.3923
- Abraham, Z., P. Tan, Perdinan, J. Wikler, **S. Zhong**, and M. Liszewska, 2014: Contour regression: a distribution regularized regression framework for climate modeling. *Statistical Analysis and Data Mining*, 7, 273-281. DOI: 10.1002/sam.11222
- Walters, C., J. Winkler, S. Husseini, R. Keeling, J. Nicolic, and **S. Zhong**, 2014: Low-level jets in the North American Regional Reanalysis (NARR): A comparison with rawinsonde observations. *Journal of Applied Meteorology and Climatology*, 53, 2093-2113.

2013

- Katurji, M., **S. Zhong**, M. T. Kiefer, and P. Zawar-Reza, 2013: A numerical study of terrain-induced perturbations to flows within and in the wake of a small basin. *Journal of Geophysical Research*, 118, 1-12, doi: 10.1002/jgrd.50519. (3.174)
- Kiefer, M. T., **S. Zhong**, W. E. Heilman, J. J. Charney, and X. Bian, 2013: Evaluation of an ARPS-based canopy flow modeling system for use in future operational smoke prediction efforts, *Journal of Geophysics Research*, 118, 6175-6188, doi:10.1002/jgrd.50491 (3.174)
- Katurji, M., P. Zawar-Reza, and S. Zhong, 2013: Surface layer response to topographic solar shading in Antarctica's dry valleys. *Journal of Geophysical Research*, 118, 12,332-12,344, doi:10.1002/2013JD020530 (3.174)
- Zawar-Reza, Peyman, Marwan Katurji, Iman Soltanzadeh, Tanja Dallafior, Shiyuan Zhong, Daniel Steinhoff, Bryan Storey, S. Craig Cary, 2013: Pseudovertical Temperature Profiles Give Insight into Winter Evolution of the Atmospheric Boundary Layer over the McMurdo Dry Valleys of

- Antarctica. *Journal of Applied Meteorology and Climatology*, **52**, 1664–1669.
doi:<http://dx.doi.org/10.1175/JAMC-D-13-034.1> (2.39)
- Luo, L., Y. Tang, **S. Zhong**, W. E. Heilman, and X. Bian, 2013: Will future climate favor large wildfires in the Western United States, *Journal of Applied Meteorology and Climatology*, **52**, 2410-2417. doi:10.1175/JAMC-D-12-0317.1 (2.39)
- Kiefer, M. T. and **S. Zhong**, 2013: The effect of sidewall forest canopies on the formation of cold air pools: A numerical study. *Journal of Geophysical Research*, **118**, 5965-5978. doi:10.1002/jgrd.50509 (3.174)
- Yu, L., **S. Zhong***, X. Bian, W. E. Warren, and J. J. Charney, 2013: The interannual variability of the Haines Index over North America. *Journal of Applied Meteorology and Climatology* **52**, 2396-2409, doi:10.1175/JAMC-D-13-068.1 (2.39)
- Yu, L., Z. Zhang, M. Zhou, **S. Zhong**, D. H. Lenschow, B. Li, X. Wang, S. Li, 2013: Trends in latent and sensible heat fluxes over the oceans surrounding the Arctic Ocean. *Journal of Applied Remote Sensing*, **7** (1), 073531, doi: 10.1117/1.JRS.7.073531 (1.13)
- Abraham, Z., P. Tang, Perdinan, J. Wikler, **S. Zhong**, and M. Liszewska, 2013: Distribution regularized regression framework for climate modeling. *Proceedings of the SIAM International Conference on Data Mining (SDM-2013)*. ISBN: 978-1-61197-262-7
DOI: <http://dx.doi.org/10.1137/1.9781611972832.37>
- Simpson, C., M. Katurji, M.T. Kiefer, **S. Zhong**, J. Charney, W. H. Heilman, and X. Bian, Atmosphere-fire simulation of the effects of low-level jets on pyro-convective plume dynamics. In Piantadosi, J., Anderssen, R.S. and Boland J. (eds) MODSIM2013, 20th International Congress on Modelling and Simulation. Modelling and Simulation Society of Australia and New Zealand, December 2013, pp. 270–276. ISBN: 978-0-9872143-3-1.
- 2012**
- Zhong, S.**, X. Li, X. Bian, W. E. Heilman, L-R. Leung, and W. Gustafson, 2012: Evaluation of regional climate simulations over the Great Lakes region driven by three global data sets. *Journal of Great Lakes Research*, **38**, 212-225, doi:10.1016/j.jglr.2012.03.012
- Fu, P.J., **S. Zhong**, J. Huang, 2012: An observational study of aerosol and turbulence properties during dust storms in Northwest China, *Journal of Geophysical Research*, **117**, D09202, doi:10.1029/2011JD016696
- Katurji, M. and **S. Zhong**, 2012: The influence of topography and ambient stability on the characteristics of cold-air pools: a numerical investigation. *Journal of Applied Meteorology and Climatology*, **51**, 1740-1749. doi: <http://dx.doi.org/10.1175/JAMC-D-11-0169.1>
- Lu, W. **S. Zhong***, J. J. Charney, X. Bian, and S. Liu, 2012: WRF simulation over complex terrain during a southern California wildfire event. *Journal of Geophysical Research*, **117**, D05125, doi:10.1029/2011JD017004
- Cisneros, R., D. Schweizer, **S. Zhong**, K. Hammond, M. A. Perez, Q. Guo, S. Traina, A. Bytnerowicz, and D. H. Bennett, 2012: Analyzing the effects of the 2002 McNally fire on air quality in the San Joaquin Valley and Southern Sierra Nevada, California. *International Journal of Wildland Fire*, **12**(8) 1065-1075. doi: 10.1071/WF11025
- Yu, L., Z. Zhang, M. Zhou, **S. Zhong**, D. H. Lenschow, B. Li, X. Wang, S. Li, H. Wu, B. Sun, 2012: Trends in latent and sensible heat fluxes over the Southern Ocean. *Atmospheric and Climate Sciences*, **2**(2), 159-173. doi: 10.4236/acs.2012.22017
- Alabi, O. S., X. Wu, J. M. Harter, M. Shadke, L. Pinto, H. Petersen, S. Bass, M. Kiefer, S. Zhong and C. Healey, R. Taylor II, 2012: Comparative visualization of ensembles using ensemble surface slicing. *Proceedings of SPIE, Virtualization and Data Analysis 2012*, 82940U, doi:10.1117/12.908288.
- 2011**
- Kiefer, M. T. and **S. Zhong**, 2011: An idealized modeling study of nocturnal cooling processes inside a small enclosed basin. *Journal of Geophysical Research* **116**, D20127, doi:10.1029/2011JD016119

- Katurji, M., **S. Zhong**, and P. Zawar-Reza, 2011: Long-range transport of terrain-induced turbulence from high-resolution numerical simulations, *Atmospheric Chemistry and Physics*, 11, 11793-11805, doi:10.5194/acpd-11-9797-2011
- Lu, W, J. J. Charney*, **S. Zhong**, and X. Bian, 2011: A 28-year Haines Index climatology for North America. *International Journal of Wildland Fire* 20(1) 91-103 doi: 10.1071/WF08196
- Yu, L., Z. Zhang, M. Zhou, **S. Zhong**, D. H. Lenschow, Z. Gao, H. Wu, N. Li, and B. Sun, 2011: Interpretation of recent trends in Antarctic sea ice concentration. *Journal of Applied Remote Sensing*, 5(1), 053557, DOI: 10.1117/1.3643691
- Yu, L. J., Z. Zhang, M. Zhou, **S. Zhong**, B. Sun, H. Hsu, Z. Gao, H. Wu, and J. Ban, 2011: The intraseasonal variability of winter semester surface temperature in Antarctica. *Polar Research*, **30**, 6039, DOI: 10.3402/polar.v30i0.6039
- Yu, L., Z. Zhang, M. Zhou, **S. Zhong**, D. Lenschow, H. Hsu, H. Wu, and B. Sun, 2011: Influence of Antarctic oscillation, the Pacific South American modes and the El Nino-Southern Oscillation on the Antarctic surface temperature and pressure variations. *Antarctic Science*, 1-18. doi:10.1017/S095410201100054X
- Yu, L., Z. Zhang, **S. Zhong**, M. Zhou, Z. Gao, H. Wu, and B. Sun, 2011: An intercomparison of six latent and sensible heat flux products over the Southern Ocean. *Polar Research*, 30, 10167, DOI: 10.3402/polar.v30i0.10167
- Winkler, J., G.S. Guentchev, Perdinan, P. Tan, **S. Zhong**, M. Liszewska, Z. Abraham, T. Niedźwiedz, and Z. Ustrnul, 2011: Climate scenario development and applications for local/ergional climate change impact assessments: an overview for the non-climate scientist. Part I. Scenario development using downscaling methods. *Geography Compass*, 5/6, 275-300. doi:10.1111/j.1749-8198.2011.00425.x
- Zhong, S.**, X. Xu, X. Bian, and W. Lu, Climatology of persistent deep stable layers in Utah's Salt Lake Valley, U.S. *Advances in Science and Research*, 6, 59-62, doi:10.5194/asr-6-59-2011.
- Doyle, J.D., S. Gaberšek, Q. Jiang, L. Bernardet, J. M. Brown, A. Dörnbrack, E. Filaus, V. Grubišić, D. Kirshbaum, O. Knoth, S. Koch, I. M. Stiperski, S. Vosper, **S. Zhong**, 2011: An intercomparison of T-REX mountain wave simulations and implications for mesoscale predictability. *Monthly Weather Review*, 139, 2811-2831.
- 2010**
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- Whiteman, C. D., **S. Zhong**, X. Bian, W. J. Shaw, J. M. Hubbe, and J. Mittelstadt, 2000: Wintertime cold air pools in the Columbia Basin. *9th Conference on Mountain Meteorology*, 7-11 Aug., Aspen, CO.
- Doran, J. C., and **S. Zhong**, 1999: Effects of surface heterogeneity of the CART site on the potential for deep convection. *9th Atmospheric Radiation Measurement Science Team Meeting*, 22-26, March, San Antonio, TX.
- Zhong, S.**, and J.C. Doran, 1999: An investigation of changes in the potential for development of deep convection caused by boundary layer perturbations resulting from surface heterogeneity. *13th Symposium on Boundary Layers and Turbulence*, 10-15 Jan., Dallas, TX.
- Zhong, S.**, C. D. Whiteman, X. Bian, J. D. Fast, and J. C. Doran, 1999: Boundary layer evolution and regional thermally driven circulations in the Mexico basin and over the surrounding Mexico Plateau. *13th Symposium on Boundary Layers and Turbulence*, 10-15 Jan., Dallas, TX.
- Doran, C. D., and **S. Zhong**, 1998: Use of ARM data to evaluate the significance of mesoscale fluxes for climate modeling. *8th Atmospheric Radiation Measurement Science Team Meeting*, 23-17 March, Tucson, AZ.
- Zhong, S.**, and J. C. Doran, 1998: Thermally driven winds into the Mexico City Basin through a mountain gap. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
- Fast, J. D., and **S. Zhong**, 1998: Recirculation patterns within the Mexico City Basin. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
- Whiteman, C. D., X. Bian, and **S. Zhong**, 1998: Evolution of the cold air pools in the Colorado Plateau Basin. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
- Whiteman, C. D., X. Bian, and **S. Zhong**, 1998: Analyses and numerical investigations of the mean characteristics of the Mexico Basin atmosphere. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
- Whiteman, C. D., X. Bian, and **S. Zhong**, 1998: Regional winds and atmospheric heat budget in the Mexico Basin. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
- De Wekker, S. F. J., J. D. Fast, C. D. Whiteman, and **S. Zhong**, 1998: Development and characteristics of the plain-to-basin winds. *8th Conference on Mountain Meteorology*, 3-7 Aug., Flagstaff, AZ.
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- Zhong, S.**, and J. C. Doran, 1997: Boundary-layer perturbation induced by spatially varying surface fluxes: An observational and numerical study. *12th Symposium on Boundary Layer and Turbulence*, 28 July - 1 Aug., Vancouver, BC, Canada.

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- Doran, J. C., J. C. Barnard, G. J. Collatz, D. Cook, R. Hart, J. M. Hubbe, J. C. Liljegren, W. J. Shaw, and **S. Zhong**, 1997: Characterization of the atmospheric state: lower boundary conditions. *7th Atmospheric Radiation Measurement Science Team Meeting*, 3-7 March, San Antonio, TX.
- Zhong, S.**, and J. C. Doran, 1997: Boundary layer cloud properties and surface flux distribution over the AMR SGP CART site. *7th Atmospheric Radiation Measurement Science Team Meeting*, 3-7 March, San Antonio, TX.
- Doran, J.C., J. M. Liljegren, **S. Zhong**. 1996: Spatially-varying surface fluxes at the Southern Great Plains CART site and their effects on boundary-layer properties. *7th Symposium on Global Change Studies*, 28 Jan.-2 Feb., Atlanta, GA.
- Doran, J. C., **S. Zhong**, and J. M. Hubbe, 1996: Surface flux inhomogeneities at the Southern Great Plains Cloud and Radiation Testbed site and their effects on cloud formation. *6th Atmospheric Radiation Measurement Science Team Meeting*, 3-7 March, San Antonio, TX.
- Liljegren, J. C., J. C. Doran, J. M. Hubbe, W. J. Shaw, and **S. Zhong**, G. J. Collatz, R. D. Cook. R. L. Hart, 1996: Modeling the surface energy balance and soil moisture at the Atmospheric Radiation Measurement Cloud and Radiation Testbed in the US Southern Great Plains. *6th Atmospheric Radiation Measurement Science Team Meeting*, 3-7 March, San Antonio, TX.
- Whiteman, C. D., X. Bian, **S. Zhong**, and J. Liljegren, 1996: Moisture transport by the low-level jet in the Southern Great Plains. *2nd International Conference on Global Energy and Water Cycle*, 17-21 June, Washington, D.C.
- Doran, J. C., **S. Zhong**, C. M. Berkowitz, 1996: Boundary-layer processes responsible for the formation of anomalous ozone profiles over the North Atlantic. *9th Joint Conference on the Applications of Air Pollution Meteorology with the Air and Waste Management Association*, 28 Jan. - 2 Feb., Atlanta, GA.
- Fast, J. D., **S. Zhong**, and C. D. Whiteman, 1996: Numerical simulations of the nocturnal boundary layer evolution within a canyonland Basin. *7th Conference on Mesoscale Processes*, 9-13 Sept., Reading, UK.
- Liljegren, J. C., J. C. Doran, J. M. Hubbe, W. J. Shaw, **S. Zhong**, G. J. Collatz, D. R. Cook, and R. L. Hart, 1996: Modeling the surface evapotranspiration over the U. S. Southern Great Plains. *2nd International Scientific Conference on the Global Energy and Water Cycle*, 17-21 June, Washington, D. C.
- Zhong, S.**, and C. D. Whiteman, 1995: A numerical study of atmospheric heat budget term over idealized valley topography. *5th Conference on Mountain Meteorology*, 17-21 July, Breckenridge, CO.
- Shaw, W. J., and **S. Zhong**, 1995: Measurement of horizontal temperature gradient in the atmospheric boundary layer using a five-beam 915 MHz wind profiler radar. *9th Symposium on Measurements and Instrumentation*, 27-31 March, Charlotte, NC.

- Zhong, S.** J. D. Fast, X. Bian, S. A. Stage, and C. D. Whiteman, 1995: A case study of the Great Plains low-level jet using wind profiler network data and a high resolution mesoscale model. *5th Atmospheric Radiation Measurement Science Team Meeting*, 20-23 March, San Diego, CA.
- Bian, X., **S. Zhong***, C.D. Whiteman, and S. A. Stage, 1995: An analytical study of the effects of the low-level jet on moisture convergence and vertical motion fields at the Southern Great Plains Cloud and Radiation Testbed Site. *5th Atmospheric Radiation Measurement Science Team Meeting*, 20-23 March, San Diego, CA.
- Doran, J.C., Q. Hu, J. M. Hubbe, J.C. Liljegren, W. J. Shaw, **S. Zhong**, and G.J. Collatz, 1995: Heterogeneous surface fluxes and their effects on the Southern Great Plains (SPG) Cloud and Radiation Testbed (CART) site. *5th Atmospheric Radiation Measurement Science Team Meeting*, 20-23 March, San Diego, CA.
- Zhong, S.** and J. C. Doran, 1994: An experimental and numerical study of boundary layer structure over areas of inhomogeneous sensible heat fluxes. *21st Conference on Agriculture and Forest Meteorology*, 7-11 March, San Diego, CA.
- Zhong, S.** and J. C. Doran, 1994: An experimental and numerical study of modifications of mixed-layer structure by inhomogeneous surface fluxes and secondary circulations. *6th Conference on Mesoscale Processes*, 18-22 July, Portland, OR.
- Zhong, S.**, W. J. Shaw., and J. M. Hubbe, 1994: An evaluation of 915-MHz radar wind profiler /RASS by tower and sodar measurements. *3rd International Symposium on Tropospheric Profiling: Needs and Technologies*, 30 Aug.-2 Sept., Hamburg, Germany.
- W. J. Shaw and **S. Zhong**, 1994: On the measurement of momentum flux profiles using a five-beam 915-MHz wind profiler. *3rd International Symposium on Tropospheric Profiling: Needs and Technologies*, 30 Aug. - 2 Sept., Hamburg, Germany.
- Zhong, S.** and J. C. Doran, 1994: An evaluation of RAMS radiation schemes by field measurements. *2nd RAMS User's Workshop*, 15-17 Feb., Fort Collins, CO.
- Bian, X., E. S. Takle, and **S. Zhong**, 1992: A theoretical study of the flux-profile relationship: Extension of the KEYS equation to the tower layer. *10th Symposium on Turbulence and Diffusion*, 28 Sept.- 2 Oct., Portland, OR.
- Zhong, S.** and E. S. Takle, 1992: An observational study of thermally induced circulations in an area of complex coastal heating. *5th Conference on Mesoscale Processes*, 5-10 Jan., Atlanta, GA.
- Zhong, S.**, J. M. Leone, Jr., and E. S. Takle, 1990: A three dimensional numerical simulations of mesoscale flow over the KSC/CC area of Florida. *4th Conference on Mesoscale Processes*, 25-29 June, Boulder, CO.

Conference Presentations (179)

(The first author was the presenter unless indicated by an asterisk)

2018

- Kiefer, M. T., J. J. Charney, J. Nikolic, S. Zhong, W. E. Heilman, X. Bian, J. L. Hom, K. L. Clark, N. S. Skowronski, M. R. Gallagher, M. Patterson, Y. Liu, C. Hawley, 2018: Smoke Dispersion Modeling: A Brief Review and Example of Real-World Application. NAFSE Igniting Exchange: Bridging the Gap between Science and Management, Portland, ME, 30 Jan – 1 Feb 2018.
- Stageberg, M., J. J. Charney, S. Zhong, S. E. Arcand, M. Kulseth, M.T. Kiefer, and W. E. Heilman, 2018: Simulating meteorological conditions in forest gaps using a coupled fire-atmosphere model. The 17th American Meteorological Society Annual Student Conference, Local Meteorology and Fire Weather. 6-7 Jan. 2018, Austin, TX.

- Kiefer, M. T., J. J. Charney, S. Zhong, W. E. Heilman, X. Bian, J. L. Hom, M. Patterson, 2018: A Dispersion Model Assessment of the Ventilation Index in Complex Terrain. The 12th Fire and Forest Meteorology Symposium, 14-18 May, Boise, ID
- Charney, J. J. S. Arcand, S. Zhong, W. E. Heilman, M. Kiefer, M. Kulseth and M. Stageberg, 2018, Simulating the effects of forest gaps on fire-induced perturbations during a wildland fire. The 12th Fire and Forest Meteorology Symposium, 14-18 May, Boise, ID
- Kulseth, M., J. J. Charney, A. Srock and S. Zhong, 2018: An Intercomparison of the Hot Dry Windy Index values using multiple meteorological datasets. The 12th Fire and Forest Meteorology Symposium, 14-18 May, Boise, ID
- Zhong, S. M. T. Kiefer, J. J. Charney, W. E. Heilman, X. Bian, J. L. Hom, M. Patterson, 2018: The impact of complex terrain on atmospheric dispersion. The 18th on Mountain Meteorology, 25-29 June, Santa Fe, New Mexico.

2017

- Arcand, S., L. Luo and S. Zhong, 2017: The effects of realistic irrigation on the Great Plains low-level jets. 2017 AGU Fall Meeting, San Francisco, 10-15 December, 2017
- Tang, Ying, J. A. Winkler, S. Zhong, X. Bian, D. Doubler, L. Yu, and C. K. Walters, 2017: The Great Plains low-level jet in the mid-21st century. AAG Annual Meeting, Boston, MA, Apr 2017.
- Stageberg, M., J. J. Charney, A. F. Srock, and S. Zhong, 2017. Simulating the Atmospheric Response to a Wildland Fire using a Cloud-Resolving Model. 2017 Modeling Research in the Cloud Workshop, Boulder, CO (5/31-6/2/2017), Poster.

2016

- Nikolic, J., M. T. Kiefer, S. Zhong, W. E. Heilman, J. J. Charney and X. Bian, 2016: A numerical study of the effects of a forest canopy on the transport and dispersion of smoke plumes from low-intensity prescribed burns. 2nd International Smoke Symposium, 14-17 November, Long Beach, CA.
- Charney, J. J., M. T. Kiefer, J. Nikolic, S. Zhong, W. E. Heilman, and J. L. Hom. 2016. The suitability of the ventilation index for assessing smoke dispersion in complex terrain: A numerical study. 2nd International Smoke Symposium, Long Beach, CA (11/14-17/2016), Oral. Published Abstract.
- Arcand, S., L. Luo and S. Zhong, 2016: Effects of irrigation on the Great Plains low-level jets. AAG Annual Meeting of the West and East Lakes Division, 13-16, October, Marquette, MI (First price poster presentation by a graduate student)
- Kiefer, M.T., S. Zhong, W. E. Heilman, J. Charney and X. Bian, The influence of forest canopy characteristics on fire-perturbed atmospheric boundary layer. 22th Symposium on Boundary Layer and Turbulence. 20-24, June, Salt Lake City, Utah
- Kiefer, M. T., S. Zhong*, W. E. Heilman and J. Hom, Modeling meteorological conditions above a grassfire on a steep slope. 17th Symposium on Mountain Meteorology, 27 June – 1 July, Burlington, VT.
- Zhong, S., L. Yu, X. Bian and W. E. Heilman, The possible teleconnections between the two types of El Nino and the low-level jets in North America. 20-24, June, Salt Lake City, Utah, 22th Symposium on Boundary Layer and Turbulence. 20-24, June, Salt Lake City, Utah
- Kiefer, M.T., W. E. Heilman, S. Zhong, J. Charney and X. Bian, A study of the influence of vertical canopy structure on fire-atmosphere interactions. 5th International Fire Behavior and Fuels Conference, April 11-15, 2016, Portland, OR.

Kiefer, M.T., W. E. Heilman, S. Zhong, J. Charney and X. Bian, Simulation of a prescribed fire event in the Jones Ecological Research Center, 5th International Fire Behavior and Fuels Conference, April 11-15, 2016, Portland, OR.

Nikolic, J., M. T. Kiefer, S. Zhong, W. E. Heilman, and X. Bian, 2016: The effect of forest gaps on the transport and dispersion of smoke plumes from low-intensity forest fires. 5th International Fire Behavior and Fuels Conference, April 11-15, 2016, Portland, OR.

2015

Doubler, D., J. A. Winkler*, X. Bian, S. Zhong, and C. K. Walters, 2015: A NARR-derived climatology of southerly and northerly low-level jets over North America and coastal environs, 27th Conference on Climate Variability and Change, American Meteorological Society, January 5-9, 2015, Phoenix, Arizona

Katurji, M. J. Nikolic, S. Zhong*, and W. E. Heilman, 2015: Modeling fire emissions: A sensitivity study using an advanced statistical emulator. 11th Symposium on Fire and Forest Meteorology. American Meteorological Society, May 04-07, 2015, Minneapolis, MN.

Bian, X., W. E. Heilman, S. Zhong, J. J. Charney, and M. T. Kiefer, 2015: An evaluation of a turbulent kinetic energy based fire-weather index during large wildfire events in the western United States. 11th Symposium on Fire and Forest Meteorology. American Meteorological Society, May 04-07, 2015, Minneapolis, MN.

Kiefer, M. T., W. E. Heilman, S. Zhong, J. Zhong, J.J. Charney, X. Bian, M. Dickinson, and K. Kavanagh, Towards a better understanding of the overstory tree mortality: a study of fire-atmosphere interactions inside a forest canopy. 11th Symposium on Fire and Forest Meteorology. American Meteorological Society, May 04-07, 2015, Minneapolis, MN.

Tang, Y., S. Zhong, W. A. Winkler, and C. Walters, 2015: Evaluation of southerly low-level jet climatology over Great Plains produced by regional climate models. AAG Annual Meeting, April 21-15, 2015, Chicago, IL.

Kiefer, M. T., W. Heilman, S. Zhong, J. Charney, and X. Bian, 2015: A study of the influence of forest canopy characteristics in fire-atmosphere interactions. Meteorology and Climate: Modeling for Air Quality. Sept. 16-18, 2015, Davis, California.

Nikolic, J., M. T. Kiefer, S. Zhong, W. Heilman, J. Charney, and X. Bian, 2015: The effect of a forest canopy on the transport and dispersion smoke plumes from low-intensity prescribed burns: A numerical study with a coupled model. Meteorology and Climate: Modeling for Air Quality. Sept. 16-18, 2015, Davis, California.

Pei, L. N. Moore, S. Zhong, A. Kandall, and D. Hyndman, 2015: How does irrigation modulate regional climate under wet and dry conditions. AGU FALL MEETING, December 14-18, San Francisco, CA.

Heilman, W. E., L. Pei, Y. Tang, X. Bian, S. Zhong, L. Luo, L. Yu, 2015: Assessment of regional climate change and land-cover change impacts on fire weather in the United States. AGU FALL MEETING, December 14-18, San Francisco, CA.

2014

Yu, L. S. Zhong, and X. Bian, 2014: Climate variability of persistent deep inversions in the Intermountain West of the United States. 16th Conference on Mountain Meteorology, American Meteorological Society, August 2014, San Diego, California

Kiefer, M. T. and S. Zhong, 2014: Simulations of cold-air pool formation inside forest-covered valleys: a sensitivity study. 16th Conference on Mountain Meteorology, American Meteorological Society, August 17-22, 2014, San Diego, California

Reeves, H. D. and S. Zhong, 2014: Sensitivity of lake-effect snow forecasts to the choice of boundary layer parameterization. 16th Conference on Mountain Meteorology, American Meteorological Society, August 17-22, 2014, San Diego, California

Kiefer, M. T., S. Zhong, W. E. Heilman, X. Bian, J. J. Charney, J. L. Hom, M. Patterson, K. L. Clark, M. Gallagher, and N.S. Skowronsk, 2014: Mean and turbulent flows in and above forest canopy

during a prescribed burn event in the New Jersey Pine Barrens. *21th Symposium on Boundary Layer and Turbulence*, American Meteorological Society, June, 2014, Leeds, UK.

Kiefer, M. T. and S. Zhong, 2014: The impacts of sidewall canopy cover on the formation of temperature inversions in an idealized valley. *21th Symposium on Boundary Layer and Turbulence*, American Meteorological Society, June 9-13, 2014, Leeds, UK.

2013

Bian, X. W. E. Heilman, **S. Zhong**, M. Kiefer, J. J. Charney, J. L. Hom, K. L. Clark, N. Skowronski, M. Gallagher, and M. Patterson, 2013: Observational and theoretical investigations of turbulent structures generated by low-Intensity prescribed fires in forested environments. *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Warren E. Heilman, X. Bian, C. B. Clements, D. Seto, M. T. Kiefer, S. Zhong, and K. L. Clark, 2013: Effects of forest overstory vegetation on near-surface atmospheric turbulence during surface fire events. *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Tang, Y., L. Luo, **S. Zhong**, X. Bian, and W. E. Heilman, 2013: The impact of climate change on fire weather over North America as projected by multiple regional climate models in NARCCAP. *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Kiefer, M. T., W. E. Heilman, **S. Zhong**, J. J. Charney, and X. Bian, 2013: Analysis of the Sensitivity of Mean and Turbulent Flow to a Simulated Low-Intensity Fire, *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Kiefer, M. T., W. E. Heilman, **S. Zhong**, J. L. Hom, and M. Patterson, 2013: Numerical Simulation of the Meteorological Conditions Above a Grassfire on a Slope, *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky. *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Yu, L. **S. Zhong**, X. Bian, W. E. Heilman, and J. J. Charney, 2013: The interannual variability of the Haines Index over North America and its relationship to indicators of large-scale circulation anomalies. *Tenth Symposium on Fire and Forest Meteorology*. 14-18, October, Bowling Green, Kentucky.

Bian, X., S. Lai, **S. Zhong**, W. E. Heilman, and J. J. Charney, 2013: Validation of the WRF-FIRE model using observation data from a prescribed burn experiment. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Heilman, W. E., **S. Zhong**, M. T. Kiefer, K. Forbus, C. Stegail, J. J. Charney, X. Bian, K. Clark, N. S. Skowronski, M. Gallagher, M. Patterson, and Y. Liu, 2013: Fire-atmosphere interactions during low-intensity prescribed fires in the New Jersey Pine Barrens. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Kiefer, M. T., S. Zhong, W. E. Heilman, J. J. Charney, X. Bian, J. L. Hom, K. L. Clark, N. S. Skowronski, M. Gallagher, and M. Patterson, 2013: Simulating prescribed burn events in the New Jersey Pine Barrens using ARPS-CANOPY. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Kiefer, M. T., S. Zhong, W. E. Heilman, J. J. Charney, X. Bian, 2013: An investigation of the sensitivity of wind and temperature in the lower atmosphere to canopy and fire properties. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Srock, A., **S. Zhong**, and J. J. Charney, 2013: Where the wind doesn't blow: a climatology of air stagnation in the United States. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Srock, A., **S. Zhong**, M.T. Kiefer, J. J. Charney, and X. Bian, 2013: Comparison of the RAWS and RTMA datasets to help analyze surface characteristics. *Fourth Fire Behavior and Fuels Conference*, 18-22 February, Raleigh, North Carolina.

Tang, Y. L. Luo, S. Zhong, X. Bian, and W. Heilman. 2013: The impact of regional climate change on fire weather in the United States. Joint Annual Meeting, East Lake Division, AAG. 25-16 October, Toledo, OH.

Nikolic, J. S. Zhong, C. Walters, and J. Winkler, An observational and numerical case study of the northern low-level jet over the Great Plains of the United States. Joint Annual Meeting, East Lake Division, AAG. 25-16 October, Toledo, OH.

2012

Zhong, S. and W. Lu, 2012: Boundary layer evolution during a cold pool episode in a mountain valley – a case study. *20th Symposium on Boundary Layers and Turbulence*, 9-13 July, Boston, MA.

Zhong, S., and W. Lu, 2012: Simulating winter season cold pools using the WRF model. *21st Conference on Numerical Weather Prediction*. 29 May – 1 June, Montreal, Canada.

Kiefer, M. T., W. E. Heilman, **S. Zhong**, J. J. Charney, and X. Bian, 2012: On the sensitivity of wind and temperature in the PBL and roughness sub-layer to canopy and fire properties. *20th Symposium on Boundary Layer and Turbulence*, 9-13 July, Boston, MA

Kiefer, M. T., **S. Zhong**, W. E. Heilman, J. J. Charney, and X. Bian, 2012: Assessment of wind and temperature in the roughness sub-layer using ARPS-CANOPY. *20th Symposium on Boundary Layer and Turbulence*, 9-13 July, Boston, MA

Katurji, M., **S. Zhong**, and M. T. Kiefer, 2012: A numerical study of turbulence structure inside a small basin. *20th Symposium on Boundary Layer and Turbulence*, 9-13 July, Boston, MA

Kiefer, M. T. and **S. Zhong**, 2012: A numerical study of the impact of vegetation cover on cold-air pool formation in an idealized valley. *15th Conference on Mountain Meteorology*. 20-24 August, Steamboat Spring, CO.

Lu, W. and **S. Zhong**, 2012: WRF simulation on a cold pool in Salt Lake valley during the PCAPS field campaign. *15th Conference on Mountain Meteorology*. 20-24 August, Steamboat Spring, CO.

Winkler, J., Z., Abraham, M. Liszewska, Perdinan, P. Tan and **S. Zhong**, 2012: Climate Scenario Development using Hybrid Downscaling: An Application to NARCCAP and ENSEMBLES simulations, *Association of American Geographers Annual Meeting*, February, New York City, NY.

Walters, C., S. Hussein, J. Winkler, Z. J. Nikolic, and **S. Zhong**, 2012: Identifying Low-Level Jets from the North American Regional Reanalysis: A Comparison with Rawinsonde. *Association of American Geographers Annual Meeting*, February, New York City, NY.

Lu, L., Y. Tang, **S. Zhong**, and W. Heilman, 2012: The impact of regional climate change on fire weather in the United States. *Association of American Geographers Annual Meeting*, February, New York City, NY.

Tan, P.-N., Z. Abraham, J. A. Winkler, Perdinan, M. Liszewska, and **S. Zhong**, 2012: Application of regional climate model simulations in agricultural impact assessments: evaluation of bias and bias correction methods. *32nd International Geographical Congress*, 26-30 August, Cologne Germany.

Winkler, J. A., J. Andresen, J.R. Black, G. Bujdoso, F.-M. Chmielewski, P. Hilsendegen, A. Lezzoni, D. Kirschke, Robert Kurlus, M. Liszewska, S. Loveridge, T. Niedzwiedz, D. Nizalov, N. Rothwell, P.-N. Tan, S. Thornsbury, Z. Ustrnul, H. von Witzke, M. Woods, C. Zavalloni, J. Zhao, **S. Zhong**, 2012: Climate change impact assessments for international market systems: an example for specialty crop. *32nd International Geographical Congress*, 26-30 August, Cologne, Germany.

Liszewska, M., K. Konca-Kedzierska, J. Winkler, P.-N. Tang, Z. Abraham, Perdinan, **S. Zhong**, and E. Smialecka, 2012: Analysis of climate change in selected regions with tart cherries orchards in central Europe and Michigan (USA) based on regional climate model simulations. *32nd International Geographical Congress*, 26-30 August, Cologne, Germany.

2011

Bian, X., W. E. Heilman, J. J. Charney, J. L. Horm, K. L. Clark, N. Skowronski, M. Gallagher, M. Patterson, **S. Zhong**, M. T. Kiefer, and R. P. Shadbolt, 2011: Observations of atmospheric canopy layer turbulence generated by a low-intensity prescribed fire. *Ninth Symposium on Fire and Forest Meteorology*. October 17-20, Palm Spring, CA.

Bian, X., M. Katurji, **S. Zhong**, W. E. Heilman, and J. J. Charney, 2011: A numerical study of high frequency velocity and temperature perturbations induced by a low-intensity prescribed fire. *Ninth Symposium on Fire and Forest Meteorology*. October 17-20, Palm Spring, CA.

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