

Bing Pu

Department of Geography and Atmospheric Science
University of Kansas,
1475 Jayhawk Boulevard,
Lawrence, KS 66045
bpu@ku.edu

EDUCATION

Ph.D., Atmospheric Science, Cornell University, 2011

M.S., Meteorology, Peking University, 2007

B.S., Information Management & Information System, Nanjing Institute of Meteorology*, 2004

EMPLOYMENT

- Assistant Professor, Department of Geography and Atmospheric Science, University of Kansas, 2019–present
- Associate Research Scholar, Atmospheric and Oceanic Sciences, Princeton University/NOAA Geophysical Fluid Dynamics Laboratory, 2015–2018
- Postdoctoral Fellow, Research Engineering/Scientist Associate II, Jackson School of Geosciences, the University of Texas at Austin, 2011–2015

HONORS AND AWARDS

Editor's Award, American Meteorological Society, 2024

Cornell Fellowship, Cornell University, 2007

Honor of Excellent Student, Peking University, China, 2005

Honor of Excellent Graduate, Nanjing Institute of Meteorology, China, 2004

First-Class Scholarship, 2001-2003, Honor of Excellent Student, 2000-2004, Nanjing Institute of Meteorology, China

RESEARCH INTERESTS

Dust variability, dust-climate interactions, regional climate change, climate modeling, climate dynamics, land-atmosphere interactions

PUBLICATIONS

(* denotes graduate student)

Published:

1. Tindan, J. O. *, Q. Jin, B. Pu, 2023: Understanding day-night differences in dust activities over the dust belt of North Africa, the Middle East, and Asia. *Atmos. Chem. Phys.*, 23, 5435–5466, <https://doi.org/10.5194/acp-23-5435-2023>.
2. Pu, B., Q. Jin, P. Ginoux, and Y. Yu, 2022: Compound heat wave, drought, and dust events in California, *Journal of Climate*, <https://doi.org/10.1175/JCLI-D-21-0889.1>.
3. Pu, B., and Q. Jin, 2021: A record-breaking trans-Atlantic African dust plume associated with atmospheric circulation extremes in June 2020, *Bulletin of the American Meteorological Society*, <https://doi.org/10.1175/BAMS-D-21-0014.1>

* Now Nanjing University of Information Science & Technology

4. Hu, Z., Q. Jin, Y. Ma, **B. Pu**, Z. Ji, Y. Wang, and W. Dong, 2021: Temporal evolution of aerosols and their extreme events in polluted Asian regions during Terra's 20-year observations, *Remote Sensing of Environment*, <https://doi.org/10.1016/j.rse.2021.112541>.
5. Q. Jin, J. Wei, W. K.M. Lau, **B. Pu**, and C. Wang, 2021: Interactions of Asian mineral dust with Indian summer monsoon: recent advances and challenges, *Earth-Science Reviews*, <https://doi.org/10.1016/j.earscirev.2021.103562>.
6. Zong, Q., R. Mao, D.-Y. Gong, C. Wu, **B. Pu**, X. Feng, and Y. Sun, 2021: Changes in dust activity in spring over East Asia under a global warming scenario, *Asia-Pacific Journal of Atmospheric Sciences*, <https://doi.org/10.1007/s13143-021-00224-7>.
7. **Pu, B.**, P. Ginoux, and Coauthors, 2020: Retrieving the global distribution of the threshold of wind erosion from satellite data and implementing it into the Geophysical Fluid Dynamics Laboratory land–atmosphere model (GFDL AM4.0/LM4.0). *Atmos. Chem. Phys.* , **20**, 55-81.
8. **Pu, B.**, P. Ginoux, S. B. Kapnick, X. Yang, 2019: Seasonal prediction potential for springtime dustiness in the United States. *Geophysical Research Letters*, **46**, 9163-9173, <https://doi.org/10.1029/2019GL083703>.
9. **Pu, B.**, and P. Ginoux, 2018b: How reliable are CMIP5 models in simulating dust optical depth? *Atmospheric Chemistry and Physics*, **18**, 12491-12510, <https://doi.org/10.5194/acp-18-12491-2018>.
10. **Pu, B.**, and P. Ginoux, 2018a: Climatic factors contributing to long-term variations in surface fine dust concentration in the United States, *Atmospheric Chemistry and Physics*, **18**, 4201-4215, <https://doi.org/10.5194/acp-18-4201-2018>.
11. Jin, Q., J. Wei, **B. Pu**, Z.-L. Yang, and S. P. Parajuli, 2018: High summertime aerosol loadings over the Arabian Sea and their transport pathways. *Journal of Geophysical Research: Atmospheres*, **123**, 10,568–10,590. <https://doi.org/10.1029/2018JD028588>.
12. **Pu, B.**, and P. Ginoux, 2017: Projection of American dustiness in the late 21st century due to climate change. *Scientific Reports*, **7**:5553, doi:10.1038/s41598-017-05431-9.
13. **Pu, B.**, and P. Ginoux, 2016: The impact of the Pacific Decadal Oscillation on springtime dust activity in Syria. *Atmospheric Chemistry and Physics*, **16**, 13431-13448, doi:10.5194/acp-16-13431-2016.
14. **Pu, B.**, R. E. Dickinson, and R. Fu, 2016b: Dynamical connection between Great Plains low-level winds and variability of central Gulf States precipitation. *Journal of Geophysical research-atmospheres*, **121**, 3421–3434, doi:10.1002/2015JD024045.
15. Fernando, D.N., K. Mo, R. Fu, **B. Pu**, A. Bowerman, B.R. Scanlon, R. S. Solis, L. Yin, R. E. Mace, J. R. Mioduszewski, T. Ren, and K. Zhang, 2016: What caused the spring intensification and winter demise of the 2011 drought over Texas? *Climate Dynamics*, doi:10.1007/s00382-016-3014-x.
16. **Pu, B.**, R. Fu, R. E. Dickinson, and D. N. Fernando, 2016a: Why do summer droughts in the southern Great Plains occur in some La Niña years but not others? *Journal of Geophysical Research-Atmospheres*, **121**, 1120–1137, doi:10.1002/2015JD023508.
17. Jin, Q., J. Wei, Z.-L. Yang, **B. Pu**, and J. Huang, 2015: Consistent response of Indian summer monsoon to Middle East dust in observations and simulations. *Atmospheric Chemistry and Physics*, **15**, 9897-9915, doi:10.5194/acp-15-9897-2015.
18. Fernando, D.N., R. Fu, R. S. Soils, R. E. Mace, Y. Sun, B. Yang, and **B. Pu**, 2015: Early warning of summer drought over Texas and the south central United States: spring conditions as a harbinger of summer drought. Technical Note15-02, Texas Water Development Board, available at: http://www.twdb.texas.gov/publications/reports/technical_notes/doc/TechnicalNote15-02.pdf.
19. **Pu, B.**, and R. E. Dickinson, 2014a: Diurnal spatial variability of Great Plains summer precipitation related to the dynamics of the low-level jet. *Journal of the Atmospheric Sciences*, **71**, 1807-1817.

20. **Pu, B.**, and R. E. Dickinson, 2014b: Hydrological changes in the climate system from leaf responses to increasing CO₂. *Climate Dynamics*, doi:10.1007/s00382-013-1781-1.
21. **Pu, B.**, and R. E. Dickinson, 2012: Examining vegetation feedbacks on global warming in the Community Earth System Model. *Journal of Geophysical Research–Atmospheres*, 117, D20110, doi:10.1029/2012JD017623.
22. **Pu, B.**, E. K. Vizy, and K. H. Cook, 2012: Warm season response over North America to a shutdown of the Atlantic meridional overturning circulation and CO₂ increases. *Journal of Climate*, 25, 6701-6720.
23. **Pu, B.**, and K. H. Cook, 2012: Role of the West African westerly jet in Sahel precipitation variations on interannual and decadal time scales. *Journal of Climate*, 25, 2880-2896.
24. **Pu, B.**, and K. H. Cook, 2010: Dynamics of the West African westerly jet. *Journal of Climate*, 23, 6263-6276.
25. **Pu, B.**, S. Wang, and J. Zhu, 2008: An East Asian teleconnection mode in association with summer precipitation in Eastern China. *Advances in Climate Change Research (in Chinese)*, 4 (1), 17-20.
26. **Pu, B.**, S. Wang, and J. Zhu, 2007b: Spatial pattern of seasonal precipitation over Eastern China. *Acta Scientiarum Naturalium Universitatis Pekinensis (in Chinese)*, 43 (5), 620-629.
27. **Pu, B.**, X. Wen, S. Wang, and J. Zhu, 2007a: Diagnostic and modeling study of two basic modes of surface air temperature and their variations in China. *Advances in Earth Science (in Chinese)*, 22 (5), 456-467.

TEACHING EXPERIENCE

- Spring 2024, ATMO 220, University of Kansas, Lawrence, KS
- Spring 2023, ATMO 220, University of Kansas, Lawrence, KS
- Fall 2022, ATMO/GEOG 321, ATMO 697, 606/607, University of Kansas, Lawrence, KS
- Spring 2022, ATMO 220, University of Kansas, Lawrence, KS
- Fall 2021, ATMO/GEOG 321, ATMO 697, 606/607, University of Kansas, Lawrence, KS
- Spring 2021, ATMO 634, University of Kansas, Lawrence, KS
- Fall 2020, ATMO/GEOG 321, 697, University of Kansas, Lawrence, KS
- Fall 2019, ATMO 220, 697, 606/607, University of Kansas, Lawrence, KS
- Spring 2019, ATMO 697, 606/607, University of Kansas, Lawrence, KS
- Apr. 2014 and Apr. 2015, Guest lecturer for “Spatio-Temporal Correlation Pattern and Visualization of Geoscience Data” GEO 391/371C, Jackson School of Geosciences, the University of Texas at Austin, Austin, TX
- Oct. 2014 and Jan. 2012, Guest lecturer for “Physical Climatology” GEO 387H, Jackson School of Geosciences, the University of Texas at Austin, Austin, TX
- Apr. 2013, Guest lecturer for “Climate System Physics” GEO 387/347P, Jackson School of Geosciences, the University of Texas at Austin, Austin, TX
- Fall 2009, Teaching assistant for “Climate Change Dynamics: Present and Future”, Jackson School of Geosciences, the University of Texas at Austin, Austin, TX
- Sep. 2006- Jan. 2007, Teaching assistant for “Introduction to Computing”, School of Physics, Peking University, Beijing, China

COMMUNITY SERVICE

- Reviewer for *Advances in Atmospheric Sciences, Aerosol and Air Quality Research, Agricultural and Forest Meteorology, Aerosol Science and Technology, Atmosphere, Atmospheric Measurement Techniques, Atmospheric Chemistry and Physics, Climate Dynamics, Environmental Science & Technology, Frontiers in Environmental Science, Geophysical Research Letters, International Journal of Applied Geospatial Research, Journal of Advances in Modeling Earth Systems, Journal of Applied Meteorology and Climatology, Journal of the Atmospheric Sciences, Journal of Climate, Journal of Geophysical Research-Atmospheres, Journal of Hydrometeorology, Remote Sensing of Environment, Science of the Total Environment, Scientific Reports, , Theoretical And Applied Climatology, Water Resource Research, Weather and Forecasting.*
- Session convener, Outstanding Student Presentation Award (OSPA) liaison, and session co-chair, “Dust in a changing climate: from small-scale insights to large-scale understanding”, American Geophysical Union fall meeting, 2018, 2022
- Session convener, OSPA liaison, and session co-chair, “Remote Sensing of Atmospheric Dust and Ash: Techniques and Applications”, American Geophysical Union fall meeting, 2019
- Session convener and session co-chair, “Advances in observational and modeling studies of role of mineral dust in the Earth system”, Symposium on Aerosol–Cloud–Climate Interactions, American Meteorological Society annual meeting, 2020–2024
- Session co-chair, “Emerging Science from Earth System Models and CMIP6”, American Meteorological Society annual meeting, 2021
- Program co-chair, the 36th Conference on Climate Variability and Change, American Meteorological Society annual meeting, 2023
- Committee member on Climate Variability and Change, American Meteorological Society, 2019-present
- Associate editor for the *Journal of Climate*, 2019-present

SCIENCE OUTREACH

- March 2023: *Celebrating Women in Science* event, KU Natural History Museum, Lawrence, KS
- March 2022: *Celebrating Women in Science* event, KU Natural History Museum, Lawrence, KS
- March 2017: 11th annual science fair at Monmouth Junction Elementary School (grades K through 5), Monmouth Junction, NJ
- May 2017: New Jersey Ocean Fun Day, Island Beach State Park, NJ

PROFESSIONAL MEMBERSHIP

- Member of the American Geophysical Union
- Member of the American Meteorological Society