Xueli Yang | Curriculum Vitae

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Ph.D. Candidate
School of Sustainable Engineering & The Built Environment
Arizona State University | Ira A. Fulton Schools of Engineering
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Education

Aug. 2019 - Present Arizona State University, Tempe, AZ, USA
Ph.D. in Civil & Environmental Engineering
Direction: Urban Meteorology; Complex Systems; Causal Inference

Sept. 2016 - Sept. 2017 University of California, Riverside, USA
Joint-Master Student in Environmental Sciences

Sept. 2015 - Jun. 2018 China Agricultural University, Beijing, China
M.S. in Hydraulic Engineering

Sep. 2011 - Jun. 2015 Tianjin Agricultural University, Tianjin, China
B.A. in Hydrology and Water Resources Engineering

Research Experience

Aug. 2019 - Present Graduate Research Assistant, Arizona State University, Tempe, USA
Current research focuses on data-driven modeling of complex hydroclimate system.

Jan. 2016 - Sep. 2017 University of California, Riverside, Riverside, USA
Hydrus-2D model set up on simulation of soil water movement.

Jun. 2015 - Sep. 2015 Center for Agricultural Water Research in China, China Agricultural University, Beijing, China
Data collection, conduct field experiments, and data analysis.

Teaching Experience

Jan. 2022 - May. 2022 Graduate Teaching Assistant, CEE 598 Hydrometeorology
Arizona State University, Tempe, USA

Aug. 2022 - Dec. 2022 Graduate Teaching Assistant, CEE 341 Fluid Mechanics in Civil Engineering
Arizona State University, Tempe, USA

Research Interests

- Climate and urban meteorology: extreme heatwaves detection, quantify heat stress due to anthropogenic heat emission.
- Complex hydroclimate system: climate network analysis, early-warning signals, causal inference, extreme events prediction
- Climate variability: dynamics and prediction of climate variability
- Data analysis: data visualization, machine-learning, coding and programming (MATLAB, Python, R, LaTeX)

Conference Presentations

Yang, X., Wang, Z. H., Wang, C., & Lai, Y. C. Causal propagation of extreme heatwaves in the urban USA. *American Meteorological Society 103rd Annual Meeting 2023*

Yang, X., Wang, Z. H., Li, Q., & Lai, Y. C., Time evolution of cross-regional hydroclimatic causation in the U.S. *American Meteorological Society 103rd Annual Meeting 2023*

Yang, X., Wang, Z. H., & Wang, C. Detecting critical transitions in urban hydroclimate system in the contiguous United States. *American Meteorological Society 102nd Annual Meeting 2022*

Yang, X., Wang, Z. H., Li, Q., & Lai, Y. C., Quantifying variability and periodicity of cross-regional climatic causation in the U.S. *American Geophysical Union Fall Meeting 2022*

Yang, X., Wang, Z. H., Wang, C., & Lai, Y. C. Finding causal gateways of heatwave propagation among the U.S. cities. *American Geophysical Union Fall Meeting 2022*

Yang, X., Wang, Z.H., & Wang, C. Causal analysis of spatial patterns of urban heatwaves among the U.S. cities. *International Association for Urban Climate Virtual Poster Session 2022*

Yang, X., Wang, Z. H., & Wang, C. Data-driven prediction of urban hydrological transitions in the Contiguous United States. *American Geophysical Union Fall Meeting 2021*

Peer-reviewed Journal Publications

Yang, X., Wang, Z.H., Wang, C., & Lai, Y.C. (2023). Megacities act as causal pacemakers of extreme heatwaves (Under preparation).

Yang, X., Li, P., & Wang, Z.H. (2023). The impact of urban irrigation on the temperature-carbon feedback in U.S. cities. *Journal of Environmental Management* (In review).

Yang, X., Wang, Z.H., Li, Q., & Lai, Y.C. (2023). Time variability and periodicities of cross-regional hydroclimatic causation in the contiguous United States. *Quarterly Journal of the Royal Meteorological Society (In review).*

Yang, X., Wang, Z.H., Wang, C., & Lai, Y.C. (2023). Finding causal gateways of precipitation over the contiguous United States. *Geophysical Research Letters*, 50, e2022GL101942.

Yang, X., Wang, Z.H., Wang, C., & Lai, Y.C. (2022). Detecting the causal influence of thermal environments among climate regions in the United States. *Journal of Environmental Management*, 322, 116001.

Yang, X., Wang, Z. H., & Wang, C. (2022). Critical transitions in the hydrological system: early-warning signals and network analysis. *Hydrology and Earth System Sciences*, 26(7), 1845-1856.

Wang, Z. H., Wang, C., & **Yang, X**. (2021). Dynamic synchronization of extreme heat in complex climate networks in the contiguous United States. *Urban Climate*, 38, 100909.

Award

2012 - 2014 Merit Student
2014 National Encouragement Scholarship
2015 Outstanding Undergraduate Student
2016 - 2017 Joint-Master Program Scholarship from China Scholarship Council
2022 Engineering Grad Fellowship

Professional Service

Reviewer for Journals

Environmental Modeling and Software
Journal of Applied Meteorology and Climatology
Geophysical Research Letters