

## Zhaocheng Wang

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### Education

- 2023 **Ph.D.**, Civil, Environmental and Sustainable Engineering, Arizona State University  
Thesis: *Innovations in Detecting and Modeling Dryland Hydrologic Changes*
- 2020 **M.S.E.**, Civil, Environmental and Sustainable Engineering, Arizona State University
- 2017 **B.Eng.**, Water Science and Engineering, Hunan University, China

### Academic Appointment

2020.08 - 2020.12 Graduate Teaching Assistant, Arizona State University

### Research Interest

My primary research interest is to understand hydrological processes in natural and urban environments and their interactions with ecological and climatic systems using observations and modeling tools.

### Publications

1. Vivoni, E. R., Kindler, M., **Wang, Z.**, and Pérez-Ruiz, E. R. (2020). Abiotic Mechanisms Drive Enhanced Evaporative Losses under Urban Oasis Conditions. *Geophysical Research Letters*, e2020GL090123.
2. **Wang, Z.**, Vivoni, E.R., Bohn, T.J., and Wang, Z-H. (2021). A Multiyear Assessment of Irrigation Cooling Capacity in Agricultural and Urban Settings of Central Arizona. *Journal of the American Water Resources Association*. <https://doi.org/10.1111/1752-1688.12920>
3. Kindler, M., Vivoni, E.R, Perez-Ruiz, E.R., and **Wang, Z.** 2022. Water Conservation Potential of Modified Turf Grass Irrigation in Urban Parks of Phoenix, Arizona. *Ecohydrology*, e2399.
4. **Wang, Z.**, and Vivoni, E.R. 2022. Individualized and Combined Effects of Future Urban Growth and Climate Change on Irrigation Water Use in Central Arizona. *Journal of the American Water Resources Association*. 58(3): 370-387.
5. **Wang, Z.**, and Vivoni, E.R. 2022. Detecting Streamflow in Dryland Rivers using CubeSats. *Geophysical Research Letters*. 49(15): e2022GL098729.
6. **Wang, Z.**, and Vivoni, E.R. 2022. Mapping Flash Flood Hazards in Arid Regions using CubeSats. *Remote Sensing*. 14(17): 4218.
7. Xiao, M., Mascaro, G., **Wang, Z.**, Whitney, K.M., and Vivoni, E.R. 2022. On the Value of Satellite Remote Sensing to Reduce Uncertainties in Regional Simulations of the Colorado River. *Hydrology and Earth System Sciences*. 26(21): 5627 – 5646.
8. Whitney, K.M., Vivoni, E.R., Bohn, T.J., **Wang, Z.**, Xiao, M., Mascaro, G., Mahmoud, M.I., Cullom, C., and White, D.D. 2023. Spatial Attribution of Declining Colorado River Streamflow under Future Warming. *Journal of Hydrology*. 617(C): 129125.
9. Whitney, K.M., Vivoni, E.R., **Wang, Z.**, White, D.D., Quay, R., Mahmoud, M.I., and Templeton, N.P. 2023. A Stakeholder Engaged Approach to Anticipating Forest Disturbance Impacts in the Colorado River Basin under Climate Change. *Journal of Water Resources Planning and Management*. (In Press).
10. Wang, Z., Xiao, M., Mascaro, G., Wang, Z., Whitney, K.M., and Vivoni, E.R. 2023. Sensitivity of Rain-snow Partition in Simulating Hydrologic Responses of the Colorado River to Future Warming. *Water Resources Research*. (In Preparation).

## **Honors & Awards**

Fellow, Babbitt Center Dissertation Fellowship Program, Lincoln Institute, 2022

Recipient, Quentin Mees Research Award, Arizona Water Association, 2021

Recipient, Graduate Grant, Central Arizona–Phoenix Long-Term Ecological Research (CAP-LTER), ASU, 2019

Recipient, Pilot Project Fund, Urban Climate Research Center, ASU, 2019

## **Research Projects**

Transformational Solutions for Urban Water Sustainability Transitions in the Colorado River Basin

**National Science Foundation**

*Aug 2017 - Aug 2020*

Averting Drought Shortages in the Colorado River: Transitioning Long-Range, Data-Infused Scenario Modeling to Operations of the Central Arizona Project

**NASA Water Resources Applications Program**

*Sep 2019 - Apr 2023*

Determining Streamflow Duration from Remotely-Sensed Imagery in the Hassayampa River

**Arizona Department of Environmental Quality**

*Sep 2020 - Jun 2021*

Determining Streamflow Regimes from Commercial Smallsat Data in Arid and Semiarid Regions

**NASA Commercial SmallSat Program**

*May 2021 - Nov 2022*

Monitoring Cropland Response to Water Shortage using Remote Sensing Observations on a Cloud-Computing Platform

**Lincoln Institute's Babbitt Center**

*Aug 2022 - April 2023*