

SUI, XINXIN

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<https://sui-xinxin.github.io/>

EDUCATION

Ph.D.	Civil & Environmental Engineering	University of Texas at Austin, U.S.	2021 – 2025
M.S.	Civil Engineering & Geosciences	Delft University of Technology, Netherlands	2017 – 2019
B.E.	Environment & Natural Resource	Jilin University, China	2013 – 2017

APPOINTMENTS & RESEARCH EXPERIENCE

ASP Fellow	Urban Hydroclimate ³	NCAR	2026 Aug –
Postdoc	CIROH: AI/ML & Snow Modeling ¹	Colorado School of Mines	2025 – 2026
NASA FINESST	Urban Precipitation Anomalies ^{5,6,7,9}	UT Austin	2021 – 2025
Research Asst.	Satellite Precipitation Evaluation ¹⁰	Peking University, China	2020
Visiting Scholar	Hydrological Simulation & Water Management ⁸	NUS, Singapore	2019
Summer Intern	Urban Water Management ¹⁹	TU Delft & Arcadis, Netherlands	2018
UG Research	Water resources & Groundwater ¹⁸	Jilin University, China	2015 – 2017

PUBLICATIONS

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LEAD AUTHOR

- 1) Sui, X., Wood, A., Tang, G., Pulling, R. & He, C. (2026). Non-stationary snowpack dynamics drive uneven ski resort risk in the western US *In Preparation*
- 2) Sui, X., Singh, M., Zhao, L., AghaKouchak, A. & Yang, Z. (2026). Scale-Dependent Causality in Urban Climate Anomalies *In Preparation*
- 3) Sui, X., Lalonde, M., Chakraborty, TC., Pryor, S., Leung, R., Wang, C., He, C., Li, Z., Cho, E., Eisma, J., Cheng, Y., Debbage, N., Torelló-Sentelles, H., Fung, K., Villarini, G., Zhao, L., Qian, Y., Zhang, W., Hu, C., Shepherd, M., Tan, J. & Huffman, G. (2026). Observational urban precipitation assessments: Overview, challenges, and future directions. *Bulletin of the American Meteorological Society Under Revision*
- 4) Sui, X., Chakraborty, TC. & Yang, Z (2026). Three-Dimensional Building Morphology Influences Satellite-Derived Evapotranspiration Estimates. *Environmental Research Letters Under Revision*
- 5) Sui, X., Nielsen-Gammon, J., Yang, Z.L. & Niyogi, D. (2026). Divergent urban storm response to convective, frontal and tropical systems. *Nature*, pp.1-7.
- 6) Sui, X., Yang, Z. & Niyogi, D. (2025). Diurnal urban rainfall anomalies across different landscapes. *Science Advances*, 11(33), p.eads5046.
- 7) Sui, X., Yang, Z., Shepherd, M. & Niyogi, D. (2024). Global Scale Assessment of Urban Precipitation Anomalies. *Proceedings of the National Academy of Sciences*, 121, no. 38: e2311496121.
- 8) Sui, X., & van de Ven, F.H. (2023). The influence of Low Impact Development (LID) on basin runoff in a half-urbanized catchment: A case study in San Antonio, Texas. *Journal of Hydrology*, 616, p.128793.
- 9) Sui, X., Li, Z., Tang G., Yang Z. & Niyogi, D. (2022). Disentangling error structures of precipitation datasets using decision trees. *Remote Sensing of Environment*, 280, p.113185. doi:10.1016/j.rse.2022.113185
- 10) Sui, X., Li, Z., Ma, Z., Xu, J., Zhu, S. & Liu, H. (2020). Ground Validation and Error Sources Identification for GPM IMERG Product over the Southeast Coastal Regions of China. *Remote Sensing*, 12(24), 4154. doi:10.3390/rs12244154

CO-AUTHOR

- 11) Hu, C., Sui, X., Niyogi, D., Dawson, C. & Yang, Z. (2026) Divergent trends in post-landfall decay of strong and weak tropical cyclones. *Nature Communications*.
- 12) Willis, S., Xu, Y., Sui, X., Hu, L., Kim, Y. & Brown, R (2026) Enhanced Solar Radiation Diffusion in the Urban Environment: A Case Study Over Houston, Texas. *Urban Climate* 68 (2026): 103033.

- 13) Hu, C., Tam, C.Y., **Sui, X.**, Cheung, K.K., Li, Y. & Yang, Z.L. (2026) Urbanization and Local-scale storm characteristics dominate spatially divergent tropical cyclone rainfall trends in South China. *npj Natural Hazards*, 3(1), p.25.
- 14) Li, Z., Tiwari, A., **Sui, X.**, Garrison, J., Marks, F. & Niyogi, D. (2023). Studying Brown Ocean Re-Intensification of Hurricane Florence Using CYGNSS and SMAP Soil Moisture Data and a Numerical Weather Model. *Geophysical Research Letters*, 50(19), p.e2023GL105102.
- 15) Gai, Y., Long, X., Wei, Z., **Sui, X.**, Jiang, B., Chen, X., Yu, D., Qin, S. & Cui, Y. (2023). Toward a better understanding of uncertainty for satellite precipitation products over complex terrain with sparse rain gauge data. *Atmospheric Research*, 288, p.106742.
- 16) Wei, Z., Long, X., Gai, Y., Yang, Z., **Sui, X.**, Chen, X., Kan, G., Fan, W. & Cui, Y. (2022). Evaluating Remote Sensing Precipitation Products Using Double Instrumental Variable Method. *IEEE Geoscience and Remote Sensing Letters*, 19, p.1-5. doi:10.1109/LGRS.2022.3192644
- 17) Li, H., Zhong, X., Ma, Z., Tang, G., Ding, L., **Sui, X.**, Xu, J. & He, Y. (2020). Climate Changes and Their Teleconnections with ENSO Over the Last 55 Years, 1961–2015, in Floods-Dominated Basin, Jiangxi Province, China. *Earth and Space Science*, 7(3). doi:10.1029/2019ea001047
- 18) Zhang, F., **Sui, X.**, Jiang, S., & Liang, X., (2019). Experimental study on the influence of moisture content on the frozen wall in in-situ mining of oil shale. *Chemical Industry Management*, 17. (in Chinese)
- 19) Ulkü, M., **Sui, X.**, van der Lans, M., Dillon Peynado, T., Zheng, J. & Fong, C. (2018). Sponge City Project, Multidisciplinary project report, Delft University of Technology

AWARDS & SCHOLARSHIPS

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| ● NCAR Advanced Study Program (ASP) Postdoctoral Fellowship | 2026 – 2028 |
| ● NASA FINESST Fellowship (\$150,000) – Urban Influences on Extreme Precipitation | 2022 – 2025 |
| ● Recruitment Fellowship, UT Austin Graduate Program (\$36,000) | 2021 – 2025 |
| ● Best PhD Talk Award (2024 – 2025), Department of Earth and Planetary Sciences, UT Austin | 2025 |
| ● Dean’s Prestigious Supplement Fellowship, UT Austin | 2024 |
| ● Professional Development Award, UT Austin | 2021 |
| ● Excellence Award in the Innovation & Entrepreneurship Competition (¥15,000 RMB) | 2017 |
| ● Individual’s Scholarship, Jilin University | 2015 |

MEDIA & PROFESSIONAL RECOGNITIONS

- Featured TV and video interviews: [PBS Terra](#), [KXAN](#), “Why Are Some Cities ATTRACTING Storms While Others REPEL Them?” (2024)
- Featured press interviews: [The Washington Post](#), [Scientific American](#), [Inside Climate News](#), etc., “Why cities are getting more rainy” (2024); “Urban landscapes can boost storms—or break them up” (2026)
- Research findings (PNAS, 2024; Nature, 2026) covered by 50+ outlets, including [Bloomberg](#), [USA Today](#), [Yahoo! News](#), [EOS](#), etc.

PROFESSIONAL PRESENTATIONS

SELECTED CONFERENCE

- **Sui, X.** (2026 April). A multi-decadal benchmark dataset for quantifying advances in snow modeling in the western United States. *Western Snow Conference/Eastern Snow Conference* (**Oral Presentation**).
- **Sui, X.**, Nielsen-Gammon, J., Yang, Z. & Niyogi, D. (2025 Dec). How Texas Cities Alter Warm-Season Storms?. *American Geophysical Union (AGU) Annual Meeting* (**Oral Presentation**).
- **Sui, X.** & Yang, Z. (2025 Dec). Urban Microclimate: Building Morphology and Satellite-Derived Evapotranspiration. *AGU Annual Meeting* (**GeoBurst**).
- **Sui, X.**, Yang, Z.L. & Niyogi, D. (2025 Jan). Urban Rainfall Anomalies: Regional and Diurnal Variability under Diverse Landscapes. *American Meteorological Society (AMS) Annual Meeting* (**Oral Presentation**).

- **Sui, X.**, Yang, Z.L. & Niyogi, D. (2024 Dec). Urban Precipitation Anomalies: Explained by Diverse Landscapes. *AGU Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Yang, Z.L., Marshall, S., & Niyogi, D. (2024 Jan). Exploring urban precipitation anomalies: The influence of local climate and urban development. *AMS Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D. (2023 Jan). Assessing Five Precipitation Datasets in Continental US Using Decision Tree Approach. *AMS Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D. (2022 Jan). A novel approach to systematically evaluate precipitation datasets using decision trees. *AMS Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D. (2022 Dec). Evaluating and intercomparing satellite and reanalysis precipitation products by using decision trees. *AGU Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D. (2022 Aug). Using Machine Learning to Assess Uncertainty in Rainfall Climatology Products. *Asia Oceania Geosciences Society (AOGS) Annual Meeting* (**Oral Presentation**).
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D., (2021 Dec). A novel approach to systematically evaluate precipitation datasets using decision trees. *AGU Annual Meeting* (**Poster Presentation**).

SELECTED WORKSHOPS & SEMINARS

- **Sui, X.**, Wood, A., Tang, G., Pulling, R., He, C., (2026 May). A long-term baseline testbed dataset for benchmarking snow model performance in the western United States. *CIROH Developers Conference* (**Poster Presentation**).
- **Sui, X.** (2025 Oct). Urbanization's Impacts on Hydroclimate Extremes: From Knowledge to Actionable Science. *Ingram School of Engineering, Texas State University, invited by Dr. Eunsang Cho* (**Invited Talk**)
- **Sui, X.**, Nielsen-Gammon, J., Yang, Z. & Niyogi, D. (2025 Aug). Urbanization Effects on Warm-Season Storms in Texas. *UT Austin & NCAR Advancing Land Modeling for Gulf Coast Resilience Workshop* (**Poster Presentation**)
- **Sui, X.** (2025 June). Anthropogenic Influences on Hydroclimate Extremes & Water Resources. *Center for Hydrometeorology and Remote Sensing (CHRS), UC Irvine, invited by Dr. Amir AghaKouchak* (**Invited Talk**)
- **Sui, X.** (2025 Mar). Urbanization's Impacts on Precipitation. *Water, Climate & Environment (WCE) Seminar, Department of Earth and Planetary Sciences, UT Austin* (**Oral Presentation**).
- **Sui, X.**, Yang, Z.L. & Niyogi, D. (2024 Feb). Diurnal Urban Rainfall Anomalies across Different Landscapes. *Planet Texas 2050 Symposium* (**Poster Presentation**).
- **Sui, X.**, Yang, Z.L., Marshall, S. & Niyogi, D. (2023 Nov). Global Urban Precipitation Anomalies Explained by Urbanization and Local Climate. *UT Austin Portugal – Bridging the Gap: Satellite Data and Models for Local Impact | Online Workshop* (**Invited Talk**)
- **Sui, X.**, Yang, Z.L. & Niyogi, D. (2023 Mar). Urban precipitation anomalies for global cities. *Planet Texas 2050 Symposium* (**Oral Presentation**).
- **Sui, X.** (2022 Nov). Global Urban Precipitation Anomalies. *Environmental and Water Resources Engineering (EWRE) Seminars, UT Austin* (**Oral Presentation**)
- **Sui, X.**, Li, Z., Tang, G., Yang, Z.L. & Niyogi, D. (2022 Mar). Evaluating and intercomparing satellite and reanalysis precipitation products by using decision trees. *Civil Engineering-Graduate Symposium, UT Austin* (**Oral Presentation**)

LEADERSHIP & SERVICE

- Abdul-Aziz, O., Prigione, V., ... & **Sui, X.** (2025). Frontiers in Hydroclimatic Extremes, Stormwater and Compound Flooding: Modeling, Monitoring, and Management. *AGU Annual Meeting* (**Session Chair**).
- Li, C., Jiang, T., Horne, J., Berk, S. & **Sui, X.** (2025). Early Career Researcher (ECR) Showcase in Urban Systems Research. *AGU Annual Meeting* (**Session Chair**).
- Yang, Z., He, C., Myint, S., **Sui, X.**, ... (2025). UT-Austin & NCAR – Advancing Land Modeling for Gulf Coast Resilience Workshop (**Local Support**)

- **Sui, X.**, Leung, R., Eisma, J.A. & Tiwari, A. (2024). City and Climate Extremes: Scientific and Community Perspectives. *AGU Annual Meeting* (**Session Chair**).
- Preisser, M., Jha, A., Ali, J., **Sui, X.** & Adelsperger, S. (2023). Building Your Network: Sharpening the Soft Skills of Science. *AGU Annual Meeting* (**Town Hall Chair**)
- Patterson, J., **Sui, X.**, Lane, N., Becker, P. & Byrnes, D. (2023). AGU Hydrology Section Student Subcommittee (H3S) – Prepare for AGU Conference: Elevator Pitch Workshop (**Host**).
- Sanyal, S., Ignacio, N., **Sui, X.**, Okoronkwo, R., Goncalo, I. & Udawala, S. (2023). Cockrell School of Engineering Student DEI Board, UT Austin – DEI Talk Series. Speakers: Sripada, S., Telang, N., Castro, P., Emtiyaz, K. (**Host**)
- **Sui, X.**, Ignacio, N., Maynor, K., Zhang, M., Kumar, S., Concepcion, A. & Maynor, K. (2023). Graduate Engineering Council Seminar, UT Austin – How to "Manage" Your Advisor: Professional Relationship Between Graduate Students and Faculty (**Host**)
- **Sui, X.**, Zhang, M., Maynor, K., Kumar, S. & Maynor, K. (2023). Graduate Engineering Council Seminar, UT Austin – Writing Successful Cover Letters: A Process Approach. Speakers: Spurgeon., E. (**Host**)
- **Sui, X.**, Zhang, M., Maynor, K., Kumar, S. & Maynor, K. (2022). Graduate Engineering Council Seminar, UT Austin – Life After Graduate School: Exploring the Options. Speakers: Lamb., J. (**Host**)
- **Sui, X.** (2018). Arcadis, Rotterdam-Wuhan Planning & Design Institute – Urban water & transportation management workshop (**Local Support**)

TEACHING & MENTORING

- CSCI/DSCI470/570 **Introduction to Machine Learning** (Guest Lecturer, Colorado School of Mines) – AI in Earth System Modeling 2026 Spring
- CE 398T **Supervised Teaching in Civil Engineering** (Module Instructor, UT Austin) – How Knowledge Organization Affects Learning? & Academic Writing and Science Communication 2024 Spring
- GEO 371T **Geohealth** (Module Instructor, UT Austin) – Precipitation, Flood & Geohealth 2024 Spring
- **Shokoufeh Khojeh** (Ph.D. student, UT Austin) – Rural Soil Moisture Fuels Urban Rainfall. 2024.2 –
- **Rhys Pulling** (Master student, Colorado School of Mines) – CFE-LSE: A Large-Sample Emulator Framework for Hydrologic Modeling 2025 – 2026
- **Jingxin Liang** (Undergraduate, UT Austin) – Standardized Aridity Index: A New Tool for Quantifying Texas Drought 2023 – 2025
- **Anant Dimri** (Undergraduate, UT Austin) – Quantifying Uncertainties in Urban Rainfall Anomalies: Insights from Multiple Precipitation Datasets 2024 – 2025
- **Danny Xu** (Undergraduate, UT Austin) – Assessing Freezing Rain Events: Impact of Tree Ice Loading on Austin Power Outages 2023 – 2024

SELECTED INVITED REVIEW

Science Advances	Nature Communications
Remote Sensing of Environment	Journal of Hydrology
Environmental Research Letters	Journal of Geophysical Research–Atmospheres

VOLUNTEERING ROLES

- AGU Hydrology Section Student Subcommittee 2022 – 2024
- UT Austin Graduate Engineering Council, Seminar Chair 2022 – 2023
- UT Austin Cockrell School of Engineering Student DEI Board 2023