

NEHA GUPTA

PhD Hydrology
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M.S. Hydrogeology
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EDUCATION

PhD, University of Arizona, Hydrology and Atmospheric Sciences. Tucson, Arizona	2022
Minor in Natural Resources and the Environment	
Project: Hydrological and Biogeochemical Investigation of Semi-Arid Urban Catchments: Assessing Opportunities and Performance of Green Infrastructure; Advisor: Dr. Thomas Meixner	
MS, Ohio University, Geological Sciences (Hydrogeology), Athens, OH.	2013
Project: Development and Characterization of Controlled-Release Permanganate Gel for Groundwater Remediation; Advisor: Dr. Eung Seok Lee	
BS, Ohio University, Geological Sciences, Magna Cum Laude, Athens, OH.	2011

EXPERIENCE

Assistant Research Professor , University of Arizona	Jan 2023 – Present
Arizona Institutes for Resilience (AIR), Tucson, AZ	
Joint Faculty, Department of Hydrology and Atmospheric Sciences	
Faculty Advisor, Office of Sustainability	
Program Coordinator , University of Arizona	May 2020 – Jan 2023
University Climate Change Coalition (UC3), AIR, Tucson, AZ	
Graduate Research & Teaching Assistant , University of Arizona	Aug 2016-May 2020
Department of Hydrology & Atmospheric Sciences, Tucson, AZ	
Environmental Scientist , URS (now AECOM), Cincinnati, OH	Nov 2014 – Jan 2018
Scientist , Iris Environmental, Irvine, CA	June 2013 – Nov 2014

REFEREED PUBLICATIONS

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- Gupta, N.** Lima, R., Sankey, T., Mroczek, C., Jacobs, K., Lewis, R., Bromley, F., Xu, T., Richter, H., Broxton, P., Korgaonkar, Y., Zalesky, T., Famiglietti, J., Springer, A. Opportunistic Recharge Enhancement in arid and semi-arid regions: An Arizona case study. *Groundwater*. <https://doi.org/10.1111/gwat.70070>
 - Crosson, C., Pincetl, S., Bhushan, R., Scruggs, C., Zuniga-Teran, A., **Gupta, N.**, Porse, E., Sharvelle, S., Boccelli, D. L., Pierce, G., Schuler, A., MacAdam, J., & Piza, H, 2025. Acceptance of a net zero urban water future: Challenges and strategies for a sociotechnical shift of water systems. *Frontiers in Water*, 7. <https://doi.org/10.3389/frwa.2025.1637215>
 - Mroczek, C., Springer, A., **Gupta, N.**, Lucas. B. 2025. Regional Base-Flow Index in Arid Landscapes Using Machine Learning and Instrumented Records. *Journal of Hydrology: Regional Studies*, Vol. 62. [10.1016/j.ejrh.2025.102778](https://doi.org/10.1016/j.ejrh.2025.102778)
 - Zuniga-Teran, A., Gaxiola, I., Kokroko, K., Radonic, L., Hovis, M., Brown, A., Bryson, M., Sandoval, F., Aguilar-Murrieta, C., Rodriguez-Ponce, O., Baldwin, B., **Gupta, N.**, Cortes, I., Barron-Gafford, G. 2025. Beyond native plants: Aligning greening programs with disadvantaged communities' landscape needs for more equitable green infrastructure planning. *Geoforum*, Vol. 166. [10.1016/j.geoforum.2025.104393](https://doi.org/10.1016/j.geoforum.2025.104393)

5. Radonic, L., Nelson, M., Zuñiga, A., **Gupta, N.**, Kokroro, K., Hovis, M., Meziab, S., Sandoval, F., Aguilar-Murrieta, C. 2025. Learning from Bilingual Engagement Practice to Advance Justice in Climate Resilience Planning. *Environmental Justice*. <https://doi.org/10.1089/env.2024.0076>
6. Su, X., Dai, Q., Yao, C., **Gupta, N.**, Korgaonkar, Y., Milczarek, M., Tong, D., Xu, T. 2025. Stormwater Capture as a Pathway to Enhance Groundwater Recharge: A Potential Assessment in Arid to Semi-Arid Urban Landscapes. *City and Environment Interactions*, Vol. 26, <https://doi.org/10.1016/j.cacint.2025.100190>.
7. Crosson, C., Pincetl, S., Scruggs, C., **Gupta, N.**, Bhushan, R., Sharvelle, S., Porse, E., Achilli, A., Zuniga-Teran, A., Pierce, G., Boccelli, D. L., Gerba, C. P., Morgan, M., Cath, T. Y., Thomson, B., Baule, S., Glass, S., Gold, M., MacAdam, J., ... Meixner, T. 2024. Advancing a Net Zero Urban Water Future in the United States Southwest: Governance and Policy Challenges and Future Needs. *ACS ES&T Water*. <https://doi.org/10.1021/acsestwater.4c00031>
8. Friedrich, H. K., Tellman, B., Sullivan, J. A., Saunders, A., Zuniga-Teran, A. A., Bakkensen, L. A., Cawley, M., Dolk, M., Emberson, R. A., Forrest, S. A., **Gupta, N.**, Gyawali, N., Hall, C. A., Kettner, A. J., Lozano, J. L. S., & Bola, G. B. 2024. Earth Observation to Address Inequities in Post-Flood Recovery. *Earth's Future*, 12(2), 1–11. <https://doi.org/10.1029/2023EF003606>
9. **Gupta, N.**, Bearup, L.; Jacobs, K.; Halper, E.; Castro, C.; Chang, H.-I.; Fonseca, J. 2023. Stakeholder-Informed Hydroclimate Scenario Modeling in the Lower Santa Cruz River Basin for Water Resource Management. *Water*, 15, 1884. <https://doi.org/10.3390/w15101884>
10. Gerlak, A., Baldwin, B., Zuniga-Teran, A., Colella, T., Elder, A., Bryson, M., **Gupta, N.**, Yang, B., Doyle, T., Heflin, S., MacAdam, J., Hanshaw, K., McCoy, A., Wilson, J.K. 2022. A Collaborative Effort to Address Maintenance of Green Infrastructure through a University-Community Partnership. *Socio-Ecological Practice Research*, <https://doi.org/10.1007/s42532-022-00127-5>
11. Meixner, T., Berkowitz, A.R., Downey, A.E., Pillich, J., LeVea, R., Smith, B.K., Chandler, M., **Gupta, N.**, Rullman, S., Woodroof, A. and Cherrier, J., 2021. Rapid Assessment and Long-Term Monitoring of Green Stormwater Infrastructure with Citizen Scientists. *Sustainability*, Vol. 13, issue 22, p. 12520.
12. Gerlak, A.K., Elder, A., Thomure, T., Shipek, C., Zuniga-Teran, A., Pavao-Zuckerman, M., **Gupta, N.**, Matsler, M., Berger, L., Henry, A.D. and Yang, B., 2021. Green Infrastructure: Lessons in Governance and Collaboration From Tucson. *Environment: Science and Policy for Sustainable Development*, Vol 63, issue 3, pp.15-24.
13. Ibsen, P.C., Borowy, D., Dell, T., Greydanus, H., **Gupta, N.**, Hondula, D.M., Meixner, T., Santelmann, M.V., Shiflett, S.A., Sukop, M.C. and Swan, C.M., 2021. Greater aridity increases the magnitude of urban nighttime vegetation-derived air cooling. *Environmental Research Letters*, Vol. 16 issue 3, p. 34011.
14. Lee, E.S. and **Gupta, N.**, 2014. Development and characterization of colloidal silica-based slow-release permanganate gel (SRP-G): Laboratory investigations. *Chemosphere*, Vol. 109, p. 195-201.
15. Lee, E.S., Olson, P.R., **Gupta, N.**, Solpuker, U., Schwartz, F.W., and Kim, Y., 2013. Permanganate gel (PG) for groundwater remediation: Compatibility, gelation, and release characteristics. *Chemosphere*, Vol. 97, p. 140-145.

NON-REFEREED PUBLICATIONS AND MEDIA

1. **Gupta, N.**, Craig, S., Quay, R., Handy, R., Keener Busby, K. "Navigating uncertainty: Collaborative solutions for sustainable water management in the rural west." *Arizona Water Innovation Initiative* (blog), 13 March 2024, <https://azwaterinnovation.asu.edu/navigating-uncertainty-collaborative-solutions-sustainable-water-management-rural-west>

2. **Gupta, N.**, 2022. May 2022. Hydrological and Biogeochemical Investigation of Semi-Arid Urban Catchments: Assessing Opportunities and Performance of Green Infrastructure. *Doctoral Dissertation. University of Arizona. ProQuest Dissertations Publishing, 2022. <http://hdl.handle.net/10150/664358>*
3. **Gupta, N.**, Jacobs, K., Halper, E., Bearup, L., Kennett, B., Wilson, W. (2022). Lower Santa Cruz River Basin Study: Science Summary of Climate and Surface Water Modeling. University of Arizona Center for Climate Adaptation Science and Solutions, Tucson, AZ, USA, 26 pp.
4. **Gupta, N.** "Chasing Monsoons." *Terrain.org* (blog), 26 May 2021, <https://www.terrain.org/2021/a-life-of-science/chasing-monsoons/>

CONFERENCE PRESENTATIONS AND SESSIONS

- **Session Co-Convener and Co-Chair**, *Water Resources, Ecohydrology, Ecological Restoration and Management in Cold and Arid Regions*, 2025, American Geophysical Union.
- **Gupta, N.**, Lima, R., Richter, H., Jacobs, K. 2024. Using the San Pedro Watershed as a Test Bed for Hydrological Data Integration and Verification in the Arizona Tri-University Recharge and Water Reliability Project. American Geophysical Union.
- **Gupta, N.**, Korgaonkar, Y., Strom, N., Ferrell, K. 2024. Empirical Analysis of Runoff in Urban and Undeveloped Arid and Semi-Arid Watersheds to Support Stormwater Capture Opportunities. American Geophysical Union.
- **Session Co-Chair and Presenter**, *Meixner Tri-University Legacy Project*, Water Resources Research Center Annual Conference, 2024.
- **Session Co-Convener and Co-Chair**, *Making the World Better through Biogeochemistry*, American Geophysical Union, 2023.
- **Gupta, N.**, Jacobs, K., Mascaro, G., Springer, A., Hu, J., Korgaonkar, Y. 2023. Arizona Tri-University Investigation of Potential Recharge Enhancement and Water Resources Prioritization. American Geophysical Union.
- **Gupta, N.** 2022. Evaluation of Adaptation Strategies in the Lower Santa Cruz River Basin Study. Arizona Hydrological Society Symposium.
- **Gupta, N.**, Meixner, T., Gallo, E., Dziubanski, D., Korgaonkar, Y., 2019. Comparison of Runoff Response in Tucson, AZ Neighborhoods. American Geophysical Union.
- **Gupta, N.**, Meixner, T., Gallo, E., Dziubanski, D., Korgaonkar, Y., 2019. Hydrological Investigation of Green Infrastructure Network in Tucson Neighborhoods. Arizona Hydrological Society Symposium.
- **Gupta, N.**, Meixner, T., Gallo, E., Dziubanski, D., Canfield, E., Spinti, R., 2018. Runoff increases due to urbanization in a semi-arid city. American Geophysical Union.
- **Gupta, N.**, Meixner, T., Gallo, E., Dziubanski, D., Korgaonkar, Y., 2018. Quantification of Runoff Response in Semi-Arid Urban Catchment. Arizona Hydrological Society Symposium.
- **Gupta, N.** and Lee, E.S., 2012. Development and characterization of controlled-release permanganate gel for groundwater remediation. *Geological Society of America Abstracts with Programs*, Vol. 44, No. 7.
- **Gupta, N.** and Kidder, D., 2012. Utilization of desalination waste brines as ionic feedstock for carbon sequestration through carbonate mineralization process. *Geological Society of America Abstracts with Programs*, Vol. 44, No. 7.

AWARDED FUNDING

- **University of Arizona, Arizona Institutes for Resilience (AIR) Water, Environmental, and Energy Solutions (WEES) Initiative, 2025. \$78,247.**
PI on project titled “Leveraging Space Science Pursuits to Support Water Resources in Arizona” to develop and test a drone-based electromagnetic method (TDEM) to evaluate groundwater in terrestrial environments with focus on application to other planets (e.g. Mars).
- **University of Arizona, Research Leadership Institute, 2025. \$5,000**
Capacity building grant awarded to enhance interdisciplinary water research collaborations across U of A via development of an Arizona Water Collaboratory.
- **National Science Foundation, Civic Innovation Challenge (CIVIC) Stage 1 Planning Grant, 2024. \$75,000.**
Co-PI on project titled “Advancing A Net Zero Urban Water Future In The Southwest While Expanding Urban Greening And Associated Socio-Environmental Co-Benefits” that integrates urban greening and water conservation planning and evaluation in partnership with municipal and county stakeholders.
- **National Science Foundation, Confronting Hazards, Impacts and Risks for a Resilient Planet (CHIRRP), 2024. \$197,844.**
Senior Personnel on project titled “Increasing resilience to fire through pre-fire assessments of postfire flow hazards: Co-producing solutions with the Yavapai County Flood Control District” focused on linking wildfire and flood management efforts in partnership with regional stakeholders.
- **University of Arizona, Arizona Institutes for Resilience (AIR) Annual Resilience Theme Grant, 2024. \$99,994.**
Co-PI on project titled “Santa Cruz Watershed Soundscape: Building Hydro-Local Community Through Music, Art & Watershed Science” led by U of A School of Music Faculty.
- **Arizona State University, Water Innovation Initiative, 2024. \$32,787**
Contracted partner on project titled “Rural Groundwater Resilience Workshop Series” led by Impact Water – Arizona Program at ASU..
- **Pima County Regional Flood Control District, 2024. \$107,426.**
PI on project titled “Collaboration on Evaluation of Urban Precipitation and Runoff Data and Modeling of Small-Scale Basin Sites in Tucson, AZ” to evaluate functioning of urban flood control basins using monitoring data and conducting modeling efforts.
- **Arizona Board of Regents, 2022. \$3,717,471.**
Collaborator and Project Manager with late PI Thomas Meixner and current PI Kathy Jacobs with partners Arizona Department of Water Resources and researchers from University of Arizona, Arizona State University, and Northern Arizona University to enhance recharge in Arizona.
- **University of Arizona Research, Innovation, and Impact (RII) International Research Grant, 2022. \$50,000.**
Collaborator with PI Adriana Zuniga-Terran, UA partners Greg Barron-Gafford and Kenneth Kokroko, and University of Western Australia researchers to conduct pilot international collaborative project to link ecosystem services, landscape design, and equity.
- **University of Arizona, Arizona Institutes for Resilience (AIR), 2021. \$16,940.**
Collaborator with PI Kathy Jacobs and partners City of Tucson and Tucson Climate Coalition to facilitate community workshops to inform City of Tucson Climate Action Plan.

AWARDS

- Babbitt Dissertation Fellowship Award, Lincoln Institute of Land Policy, 2020.
- Student Scholarship, WateReuse Arizona, 2019.
- Best Visual Communication (Poster), Department of Hydrology & Atmospheric Sciences, 2019.
- Third Place Award for Best Lightning Talk, University of Arizona Earthweek Plenary Session, 2019.
- Best Student Poster Presentation, Hargis & Associates, Inc., 2017.
- Mary Stoertz Memorial Scholarship, Department of Geological Sciences, 2012.
- First Place Award, Ohio University Student Research and Creativity Exposition, Ohio University, 2011, "Utilization of desalination waste brines as ionic feedstock for carbon sequestration through carbonate mineralization process."
- First Place Award, Ohio University Student Research and Creativity Exposition, Ohio University, 2010, "Sequestration of Carbon Dioxide from Ohio University's Power Plant through Carbon Mineralization. "

FELLOWSHIPS

- Water Educators Leaders Fellowship, Central Arizona Project, 2024-2026.
- Research Leadership Institute Cohort, Research, Innovation, and Impact, University of Arizona, 2024-2025.
- Babbitt Dissertation Fellowship Award, 2020.
- Carson Scholars Program, Institute of the Environment Fellow, University of Arizona, 2019.

SERVICE AND AFFILIATIONS

Council Member , Pima County Regional Flood Control District Advisory Council	2023-Present
Committee Member , AIR Leadership Committee	2023-2024
Board Member , Cienega Watershed Partnership	2023-Present
Steering Committee , Sonoran Urban Resilience and Green Infrastructure Exchange	2018-Present
Co-Chair , University of Arizona Climate Action Plan: Research Working Group	2023-2024
Committee Member , City of Tucson Climate Action Advisory Council	2020-2022
Founder , Northside Sustainability Committee	2015-2016
Board Member , Northside Community Council	2016
Member , American Geophysical Union	2011-Present
Member , Arizona Hydrological Society	2016-Present
Member , Arizona Cross-Watershed Network	2020-Present

THESIS COMMITTEE MEMBERSHIPS

- Special Committee Member (MS): Nathan Strom (UA HAS)
- Minor Advisor/Special Committee Member (PhD): Adriana Arcelay (UA ENG)
- Special Committee Member (PhD): Caelum Mroczek (NAU SEES)
- Special Committee Member (MS): Kenneth Ferrell (UA SGDE)
- Special Committee Member (MS): Eden Harper (UA HAS)

TEACHING

- Fall 2025: Sustainability Workshop 1 (ENVS397S): 2-unit, undergraduate level course, 12 students.
- In Preparation, Summer 2026: Capstone (RESI598b). 2-unit, graduate level course. Delivered in-person and online, asynchronous.
- In Preparation, Fall 2026: Systems Thinking (RESI502). 3-unit, graduate level course. Delivered in-person and online, asynchronous.
- Guest Lecture, Fall 2024: Watershed Hydrology (HWRS/WSM 460/450) on topic of Urban Hydrology
- Guest Lecture, Spring 2023: Water, Environment, and Society (GEOG/EVS 304) on topic of Green Stormwater Infrastructure

LEADERSHIP AND CITIZENSHIP

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| • Program Faculty Advisor: Sustainability Pathways Internship (Office of Sustainability) | 2025 - Present |
| • Program Faculty Advisor: Students for Sustainability (Office of Sustainability) | 2023-2025 |
| • Project Advisor: Nathan Strom (UA HAS) | 2023-2025 |
| • Project Advisor: Eden Harper (UA HAS) | 2023-2025 |
| • Project Advisor: Travis Zalensky (UA SGDE) | 2024-2025 |
| • Project Mentor: Cade Pankowski (UA WSP) | 2024-2025 |
| • Project Advisor: Julianna Reynolds (UA SGDE) | 2024-2025 |
| • Project Mentor: Nicandro Guererque (UA SOM) | 2024-2025 |
| • Project Mentor: Dominic Self (UA HAS) | 2024-2025 |

APPLICATION AND ENGAGEMENT

- Developed, implemented, and presented at workshops focused on Rural Groundwater Resilience in four (4) communities across the State of Arizona. Workshops were held in La Paz County (March 2025), Coconino County (June 2025), Town of Patagonia (October 2025), and Sulphur Springs Valley (December 2025).
- Developed and implemented workshop to develop research questions to advance pre-fire planning for post-fire debris flows in collaboration with practitioners representing flood control districts, fire preparedness, hydrologic modeling, and disaster response planning, April 7, 2025.
- Developed and implemented workshop on science communication strategies to international science communication training cohort (INITIATE), September 18, 2025.
- Presented to community group, Building a Resilient Neighborhood (BaRN), on resilience related research at the University of Arizona, January 29, 2025. Workshop engaged community groups and organizations (e.g. American Red Cross) on topics of community emergency preparedness.
- Presented at Heritage Days event in Cave Creek Canyon to present on regional groundwater overview for San Simon groundwater basin on September 19, 2025.
- Presented to Sonoran Urban Resilience and Green Infrastructure Exchange (SURGE) on topic of stormwater recharge, September 17, 2025.
- Participated in narration of multiple performances (5) of Sonoran Rivers consortium in high schools across Tucson, Arizona, over Spring 2025 semester.
- Presentation to stakeholders and community partners (e.g. The Nature Conservancy, Upper San Pedro Partnership) on Arizona Tri-University Recharge and Water Reliability Project.

- Developed and implemented workshop titled “Arizona Flood Control District Workshop on Integrating Recharge and Flood Control Objectives”, March 19, 2024. Hosted by the Arizona Tri-University Recharge and Water Reliability Project. Workshop engaged flood control district managers and engineers across Arizona to explore opportunities to link flood control efforts with groundwater recharge. Policy brief developed to summarize outputs.
- Developed and implemented workshop titled “Water Recharge and Environmental Enhancement Opportunities in Grasslands”, December 4, 2024. Hosted by the Arizona Tri-University Recharge and Water Reliability Project. Workshop engaged land managers, scientists, and practitioners working on grasslands primarily in Southern Arizona to assess the state of knowledge and opportunities related to opportunities to recharge groundwater in grassland ecosystems. Policy brief developed to summarize outputs. Developed of Resource Strategy Group for Rural Groundwater Resilience Workshops that includes water managers and nonprofit organizations operating across the State of Arizona., 2024. Group members include ADWR, Sonoran Institute, Local First Arizona, and the Arizona Department of Environmental Quality (ADEQ).
- Co-hosted webinar to engage potential community partners for Rural Groundwater Resilience Workshops that resulted in applications from rural regions across Arizona, including La Paz County Supervisor, Coconino County Supervisor, and representatives of watershed groups.
- Co-hosted Green Stormwater Infrastructure (GSI) tour on April 6, 2024, in collaboration with the City of Tucson and Pima County Regional Flood Control District, of GSI features located on U of A campus and throughout Tucson, Arizona. Tour included speakers, descriptions of data collection efforts, and opportunities for networking and discussion.
- Participation in three (4) workshops associated with the NSF DISES RCN Net Zero Urban Water project focused on identifying pathways for institutional change, groundwater and surface water interactions, the role of green stormwater infrastructure; and infrastructure challenges in achieving a Net Zero Urban Water future.