
Staff Hydrogeologist

Expertise Hydrogeology and Environmental Monitoring

Education M.S. (Earth Sciences), 2023
Ohio State University, Columbus, Ohio, USA
B.S. (Hydrogeology), 2020
University of Texas at Austin, Austin, Texas, USA

Professional Experience

2024 – Present ITASCA Denver, Lakewood, Colorado
Staff Hydrogeologist

2021 – 2023 Computational Hydrogeology Research Group, Columbus, Ohio
Graduate Research Assistant

2022 – 2022 Ohio State University, Columbus, Ohio
Graduate Teaching Assistant

2022 – 2022 NSF International Research Experience, El Salvador
Research Assistant

2020 – 2021 GSI Environmental Inc., Austin, Texas
Hydrogeologist I

2018 – 2020 Hydrology Research Group, Austin, Texas
Undergraduate Researcher

Project Experience

Aqueous Hydrogeology in Coastal Environments: Designed and executed soil column experiments to investigate the fate and transport of inorganic nitrogen species in a coastal aquifer in Mataro, Spain, under fluctuating water-table conditions. Analyzed water samples to develop conceptual mass for different stages in the experiments to assess denitrification under elevated water-table conditions and nitrate addition following seawater floods to the coastal aquifer.

Environmental Monitoring for Groundwater Remediation: Conducted field campaigns across Texas and the United States, which included groundwater sampling, vapor sampling, and aquifer testing, to ensure governmental compliance. Conducted literature reviews and document queries for environmental litigation.

Aquifer Monitoring for Dam Impact Assessment: Monitored water-table movement in an aquifer adjacent to the lower Colorado River in Austin, Texas, by using pressure, temperature, and conductivity transducers to understand the influence of regulated and natural floods resulting from dam releases on the physical and chemical hydrogeology of shallow riverine aquifers. Collected groundwater samples for cation/anion, dissolved organic carbons, and water-quality analysis to understand the hydrogeologic connectivity of the aquifer. Based on the monitoring data, water-table fluctuations were modeled using MATLAB to understand the extent of pressure propagations caused by elevated river stages throughout the year.

Socio-hydrology Research for Salvadorian Communities: Conducted interviews of local populations in Usulután, El Salvador, to understand community perceptions of the local government when addressing water issues in the region. Additional research included aquifer characterization, seasonal water-quality studies, and installation of hydro-meteorological monitoring equipment for multi-year climate studies.