

CONTACT INFORMATION	2204 Griffith Drive Champaign, IL 61820	217.300.4851 (w) 210.854.3830 (c) alljones@illinois.edu  github.com/allanejones
RESEARCH INTERESTS	- Pairing data analytics (GitHub) and hydrogeology to inform water resource management including implementing facets of Machine Learning (ML) and Artificial Intelligence (AI) into groundwater models for real-time decision-making and analysis - Water resource innovations to combat water scarcity and ensure future water supplies	
EDUCATION	University of Texas at Austin, Austin, Texas Ph.D., Geological Sciences - Hydrology, Dec. 2017 • Cumulative GPA: 3.989/4.0 • Dissertation Title: <i>Where the River Meets the Sea: An Initial Investigation into the Riverine Tidal Freshwater Zone</i> Investigated physical controls on nutrient and freshwater discharges to coastal environments. Provided zones' foundational nomenclature (and first empirical field identification) for future studies to expand on by investigating resulting water residence times and nutrient concentrations. University of Notre Dame, Notre Dame, Indiana B.S., Environmental Geosciences, May 2012 • Cumulative GPA: 3.489/4.0 • Recipient of the Reverend Alexander Kirsch, C.S.C. Award - For evidence of personal character, scholarship, and leadership	
EXPERIENCE	Assistant Research Scientist, Hydrogeology Scientific Specialist, Hydrogeology Illinois State Water Survey Water Impacts on Society and Environment Computational Hydrology for Decision Support Prairie Research Institute University of Illinois, Urbana-Champaign Primary Supervisor: Erin Bauer, M.S. Responsibilities: - High performance computing to enhance modeling ensembles - Develop automated, integrated, real-time groundwater modeling with FloPy - MODFLOW groundwater contaminant transport modeling - Supervising group of groundwater modelers using novel techniques (e.g., GitHub, FloPy, Docker, and ParFlow) to rapidly develop socially applicable models Postdoctoral Researcher Moffett Research Group Washington State University Vancouver Primary Supervisor: Ms. Kevan B. Moffett, Ph.D. Topics: (1) Coastal watershed response to climate change; (2) Urban ecohydrology modeling and decision-making	July 2023 to Present July 2019 to July 2023

- Finite-element, numerical modeling of tidal rivers given future climate predictions. With shifting climate conditions, tidal rivers' location, length, and persistence may alter, which impact their control on nutrient concentrations and discharges to coastal environments.
- Developing municipal ecohydrology model assessing long-term organism health and resultant street runoff temperature. Urban runoff temperature impacts local environmental flow water quality and threatens fish mortality.
- Assisting with graduate-level statistics course: Applied Multivariate Analysis

Graduate Research Assistant

Aug. 2012 to Dec. 2017

Moffett Research Group
The University of Texas at Austin
Washington State University Vancouver
Primary Supervisor: Ms. Kevan B. Moffett, Ph.D.

Topic: *Quantifying the Hydrodynamics of Riverine Tidal Freshwater Zones*

- Developed repeatable statistical model for classifying surface water systems. The terms *lentic*, *lotic*, and *oscillic* now consistently encapsulate the nutrient, biogeochemical, and hydrologic conditions of a freshwater system.
- Established first formal definition, conceptual model, and empirical identification of a Riverine Tidal Freshwater Zone (RTFZ). These RTFZs control the magnitude and timing of freshwater and nutrient transport to the coastal environments, and promote increased nutrient exchange with sediments (i.e., tidal pumping).
- Constructed a rating curve to gauge tidal rivers using an expansion of typical gauging methods. The gauging method provided estimates of freshwater discharge that helped characterize water quality, water residence times, and nutrient concentrations, while incorporating climatic variability.

Laboratory Technician

May 2016 to May 2017

Moffett Research Group
Washington State University Vancouver
Supervisor: Ms. Kevan B. Moffett, Ph.D.
Job duties:

- Organized and cataloged laboratory inventory, purchased new equipment
- Implemented safety protocols to improve laboratory efficiency and safety
- Assisted in 100+ hours of field work on several projects, including remote research equipment installation on Mt. Adams, WA and Wax Lake Delta, LA

Pro Bono Hydrogeologic Consulting

Aug. 2015 to July 2018

Build Health International - St. Boniface Hospital
Fond des Blancs, Department Sud, Haiti

- Interpreted magnetotelluric geophysical data
- Consulted with Supervising Project Engineer on drilling expectations
- Aided in selection of additional groundwater well locations
- Examined and discussed aquifer potential yield and sustainability of pumping at Hôpital Universitaire de Mirebalais, Mirebalais, Haiti

Undergraduate Research Assistant

Jan. 2011 to May 2012

MITERAC Lab
University of Notre Dame
Supervisor: Antonio Simonetti, Ph.D.

Topic: *Melt history of phonolitic feldspars from the Barmer Region, India*

- Investigated feldspar phenocrysts from phonolitic lavas of alkaline complexes
- Composed sample thin sections for Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA-ICPMS)
- Completed initial LA-ICPMS ablation, examination, and analysis

- Performed Scanning Electron Microscopy (SEMS) to determine Sr and Pb isotopic and trace element content

TRAININGS AND CERTIFICATIONS

Soft-Skills Trainings

- Supervisory Skills Course with IHR May 2026
- Completed multi-month course with Illinois Human Resources intended to discuss and build supervisory skills
 - Topics included:
 - Types of Bias as Supervisors
 - Importance of Diversity on Teams
 - Feedback and Evaluations
 - Met with (and continue to meet with) a small group to learn from each other throughout the supervisory process
- Crucial Conversations Training with IHR Apr. 2026
- Completed week-long course following the Crucial Conversations curriculum
 - Learned skills needed to have difficult discussions at work, including:
 - Get Your Heart Right
 - Create Safety
 - What is your goal?

Technical Workshops Attended

- 2026 Florida MODFLOW6 & PEST++ Training Jan. 2026
- Confirmed knowledge of MODFLOW6 (assisted other members from PRI with keeping up with short course assignments)
 - Learned about MODFLOW-API, parallelization options for MODFLOW, and PEST++ implementations
 - Helped grow PRI's relationship with primary MODFLOW/FloPy developers - Joe Hughes and Jeremy White

Introduction to ParFlow Short Course:

- MODFLOW and More Conference June 2024
- Learned ParFlow modeling techniques and implementation from Reed Maxwell, Stefan Kollett, Laura Condon, and Nick Engdahl
 - Knowledge of ParFlow has since been used to complete deliverables for project sponsors

- Introduction to Groundwater Modeling using Groundwater Vistas Sept. 2019
- Learned modeling philosophy using Groundwater Vistas from Jim Rumbaugh

- Introduction to High Performance Computing Training hosted by CIRC with Washington State University (WSU) Feb. 2018
- Learned syntax for interacting with WSU's high performance computing cluster

- Introduction to R for Analysis Nov. 2017
- Learned R statistical software for application to spatial and temporal datasets

- Center for Transformative Environmental Monitoring Programs (CTEMPS)
Distributed Temperature Sensing (DTS) workshop Dec 2013
- Learned theory, methodology, and application of DTS

- Advanced Geosciences Inc. Resistivity Imaging Seminar Oct. 2013
- Learned electrical resistivity theory and techniques

PEER-REVIEWED
JOURNAL
PUBLICATIONS

ORC iD: [0000-0001-9165-7072](https://orcid.org/0000-0001-9165-7072) **Google Scholar:** [Allan E. Jones](https://scholar.google.com/citations?user=AllanEJones) **Research Gate:** [Allan E. Jones](https://www.researchgate.net/profile/Allan-E-Jones)

2024

1. Krasowski, M. P., Gulsen, E., **Jones, A. E.**, & Abrams, D. B. (2024). Modelling Seasonal Variability in Parameters Defining Volumetric Water Content in a Low Permeability Soil in Central Illinois: An Application of MODFLOW-6 and the Unsaturated Zone Flow Package. *Hydrological Processes*, 38(11), e70007. doi:10.1002/hyp.70007.

2022

1. Wei, H., Xu, X., **Jones, A. E.**, Hardison, A. K., Moffett, K. B., and McClelland, J. W. (2022). Tidal Freshwater Zones Modify the Forms and Timing of Nitrogen Export from Rivers to Estuaries. *Estuaries and Coasts*. doi:10.1007/s12237-022-01112-7.

2020

1. **Jones, A. E.**, A. K. Hardison, B. R. Hodges, J. W. McClelland, and K. B. Moffett (2020), Defining a Riverine Tidal Freshwater Zone and Its Spatiotemporal Dynamics, *Water Resources Research*, V56 I4, doi:10.1029/2019WR026619.

2019

1. **Jones, A. E.**, A. K. Hardison, B. R. Hodges, J. W. McClelland, and K. B. Moffett (2019), An expanded rating curve model to estimate river discharge during tidal influences across the progressive-mixed-standing wave systems., *PloS One*, V14 I12, doi:10.1371/journal.pone.0225758.

2017

1. **Jones, A. E.**, B. R. Hodges, J. W. McClelland, A. K. Hardison, and K. B. Moffett (2017), Residence-time-based classification of surface water systems, *Water Resources Research*, 53, doi:10.1002/2016WR019928.

ILLINOIS STATE WATER SURVEY REPORTS

List of reports published with the Illinois State Water Survey.

1. Krasowski, M. P., Jones, A. E., Gulsen, E., Hillermann, M. Q., Zavelle, A., Zhao, L., & Abrams, D. B. (2025). Groundwater Contaminant Transport Model: American Bottoms Aquifer, East St. Louis, IL. ISWS Contract Report 2025-04. <https://hdl.handle.net/2142/130897>
2. Krasowski, Michael P., **Allan E. Jones**, and Tyler M. Pierson. 2025. "Transient Groundwater Flow Model of the American Bottoms Aquifer, East St. Louis, IL." ISWS Contract Report 2025-03, December. <https://hdl.handle.net/2142/130896>.
3. **Jones, A.E.**, Zhang, Z., Gulsen, E., Krasowski, M.P., Kelly, W.R., Dang, W., Abrams, D.B. 2024. *Water Supply Planning: American Bottoms Assessment of Water Resources for Water Supply*. Illinois State Water Survey Contract Report 2024-04. Champaign, IL. <https://hdl.handle.net/2142/125287>
4. Cullen, C., M.P. Krasowski, D.B. Abrams, **A.E. Jones**, P. Xia, V. Iordache, V. Smykalov, W.R. Kelly. 2024. *Groundwater Quality within Natural Areas of Lake County: How Past and Present Data Illuminate Characteristics of the Shallow Aquifer*. Illinois State Water Survey Contract Report 2024-01. Champaign, IL. <https://hdl.handle.net/2142/121887>.
5. Hadley, D. R., **A. E. Jones**, and C. Healy (2020), Analysis of Groundwater Level Change, Surface Water Conditions, and Water Use in the Barrington Area, 2014-2019, *Contract Report for Barrington Area Council of Governments*. <http://hdl.handle.net/2142/107287>

List of reports submitted to sponsors with the Illinois State Water Survey.

1. Xia, P., Zavelle, A., and **Jones, A.E.** (2026). Description of and Instructions for Running the Tri-Level Protection Area (TLPA) Water Quality Dashboard. *Internal Memo Report prepared for Illinois Department of Transportation (IDOT)*. [Link to dashboard](#)
2. **Jones, A.E.**, Gulsen, E., and Krasowski, M.P. (2026). Instructions for Running the GCTM Model using Docker. *Internal Memo Report prepared for Illinois Department of Transportation (IDOT)*.
3. **Jones, A.E.**, Gulsen, E., Hillermann, M.Q., and Xia, P. (2026). Infrastructure Protection Analysis Modeling (IPAM): Risk and Impact to Low Pavement Areas at Five Roadways near IDOT Dewatering Infrastructure, Metro East, IL. *Internal Contract Report prepared for Illinois Department of Transportation (IDOT)*.
4. Krasowski, M. P., **Jones, A. E.**, Gulsen, E., Hillermann, M. Q., Zavelle, A., Zhao, L., & Abrams, D. B. (2025). Groundwater Contaminant Transport Model: American Bottoms Aquifer, East St. Louis, IL. *Internal Contract Report prepared for Illinois Department of Transportation (IDOT)*.
5. **Jones, A.E.**, Krasowski, M.P., Abrams, D.B., Gulsen, E., Hillermann, M.Q., Xia, P., Zavelle, A., and Zhao, L. (2025). American Bottom Aquifer: Groundwater Analysis Synthesis Report. *Internal Contract Report prepared for Illinois Department of Transportation (IDOT)*.
6. Krasowski, Michael P., **Allan E. Jones**, and Tyler M. Pierson (2021). “Transient Groundwater Flow Model of the American Bottoms Aquifer, East St. Louis, IL.” *Internal Contract Report prepared for Illinois Department of Transportation (IDOT)*.
7. **Jones, A. E.**, M. P. Krasowski, and T. J. Pierson (2020), Conceptual Model and Steady-State Model of the American Bottom Aquifer, East St. Louis, IL, *Internal Contract Report prepared for Illinois Department of Transportation (IDOT)*.

CONVENED CONFERENCE SESSIONS

1. Session Title: *Modeling Philosophy: The Confluence of Stepwise Modeling and Automation in Modeling* (June 2024)
 - Session Type: Poster
 - Role: Early Career Convener
 - Conference: [WaterSciCon24](#)

PRESENTATIONS

Scientific Meetings - Main presenter in **BOLD**

1. **Gulsen, E.**, Jones, A. E., Xia, P., & Krasowski, M. P. “Floodwaters Rising: Groundwater Flooding after Dewatering Shutdown.” Groundwater Modeling and More Conference, Princeton University, Princeton, New Jersey, 2026.
2. **Abrams, D. B.**, Krasowski, M. P., Jones, A. E., & Gulsen, E. (2024, December 9). *Exploring Uncertainty of Baseflow with MODFLOW 6 and PESTPP-IES: Initial Insight and Guidance* [Interactive Poster Presentation]. American Geological Union 2024, Washington DC. AGU Fall Meeting.
3. **Gulsen, E.**, Krasowski, M. P., Hillerman, M. Q., Jones, A. E., & Abrams, D. B. (2024, June 25). *Parent-Inset Model Infrastructure Using Modflow-setup: Streamlining the Model Process from Regional to Local* [Poster Presentation]. WaterSciCon 2024, St Paul, MN. [Presentation link](#).

4. **Krasowski, M. P.**, Gulsen, E., Jones, A. E., & Abrams, D. B. (2024, June 25). *A Transitional Project: How One Groundwater Model Has Seen Multiple In-Office Modeling Revolutions—And Did It Produce Anything Worthwhile?* [Poster Presentation]. WaterSciCon 2024, St Paul, MN. [Presentation link](#).
5. **Balikian, R.**, Abrams, D., Franke, J., Jones, A., Michael, K., & Xie, K. (2023). Wells for Hydrogeology: Improving, Expanding, and Automating Geologic Inputs to Near-Surface Groundwater Flow Models Using Existing Well Databases. Geological Society of America Abstracts, 55, 394394. [Abstract](#)
6. **A.E. Jones**, J.W. McClelland, A.K. Hardison, B.R. Hodges, K.B. Moffett (Nov. 2017) *Defining the spatio-temporal dynamics of riverine tidal freshwater zones in response to tide and precipitation*. Oral presentation at Coastal & Estuarine Research Federation Biennial Conference, Providence, RI, USA.
7. A.E. Jones, **B.R. Hodges**, J.W. McClelland, A.K. Hardison, and K.B. Moffett (April 2017) *Classifying terrestrial surface water systems using integrated residence time*. Poster presentation at the European Geosciences Union General Assembly, Vienna, Austria.
8. **A.E. Jones**, A.K. Hardison, B.R. Hodges, J.W. McClelland, and K.B. Moffett (November 2015) *Determining freshwater lentic-lotic-oscillic character through integrated residence time*. Poster presentation at the Biennial Coastal & Estuarine Research Federation conference, Portland, OR, USA.
9. **A.E. Jones**, B.R. Hodges, J.W. McClelland, and K.B. Moffett (April 2014) *Stratification associated with a riverine tidal freshwater ecosystem, Mission River, TX, USA*. Poster presentation at the annual Texas Bays and Estuaries Meeting, Port Aransas, TX, USA.
10. **A.E. Jones**, K.M. Befus, M.B. Cardenas, J.W. McClelland, and K.B. Moffett (December 2013) *Stratification associated with a riverine tidal freshwater ecosystem, Mission River, TX, USA*. Poster presentation at the Fall Meeting of the American Geophysical Union, San Francisco, CA, USA.
11. **A.E. Jones**, K.B. Moffett, and J.W. McClelland (Feb. 2013) *Modeling Controls on the Hydrodynamics of Tidal Freshwater Ecosystems to Prepare for Coastal Climate Change*. Poster presentation at the annual Texas Bays and Estuaries Meeting, Port Aransas, TX, USA.

Academic Institution Symposiums - Main presenter in BOLD

1. K.M. Buckley, M.P. Krasowski, **A.E. Jones**, and E. Gulsen (Feb. 2026). *Public Education in Hydrogeology Through Digital and Physical Groundwater Models*. Oral Lightning Talk. Prairie Research Institute Lightning Symposium 2026, Champaign, IL, USA.
2. **A.E. Jones**, A.K. Hardison, B.R. Hodges, J.W. McClelland, and K.B. Moffett (Feb. 2018) *Creation of tidal rating curve through an expansion of classic river gauging methods*. Poster presentation at Washington State University Vancouver Graduate Student Symposium, Vancouver, WA, USA.

Public Presentations

1. Panel Discussion (Oct. 2025) *Collinsville, IL City Council Meeting: PFAS Update*. Member of the Expert Panel. Collinsville, IL, USA.
2. **A.E. Jones** (Mar. 2021) *Near-stream flow inversions in Mason County: Head-specified modeling results*. Mahomet Aquifer Consortium, Champaign, IL, USA.

1. **A.E. Jones** (Feb. 2021) *Near-stream flow inversions in Mason County: Head-specified modeling results*. Imperial Valley Water Authority, Havana, IL, USA.

Seminars - Primary presenter in BOLD.

1. **A.E. Jones** and M.P. Krasowski (May 2026) *Computational Hydrology for Decision Support*. Lunch and Learn Series Seminar with the Illinois Department of Natural Resources (IDNR), Springfield, IL, USA.
2. **M.P. Krasowski** and A.E. Jones (Mar. 2024) *Machine Learning and its Application in Refining Groundwater Model Parameter Estimates*. Illinois State Water Survey Seminar Series, Champaign, IL, USA.
3. **A.E. Jones** (Sept. 2018) *Conceptual model, framework, and nomenclature of tidal freshwater zones*. Departmental Seminar at the Washington Department of Fish and Wildlife, Olympia, WA, USA.

FUNDING AND PROPOSALS

Ongoing Funding

Funding Agency: Illinois Environmental Protection Agency (IEPA)

- IEPA Hydrologic Modeling Training and Wellhead Delineation Scientific Support Program
 - Role: Lead PI
 - Amount: \$1,525,000
 - Timeframe: July 2026 - June 2029

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$250,000
 - Timeframe: July 2026 - June 2027

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Lead PI
 - Amount: \$150,000
 - Timeframe: July 2026 - June 2027

Approved Funding

Funding Agency: Illinois Environmental Protection Agency (IEPA)

- IEPA Hydrologic Modeling Training and Wellhead Delineation Scientific Support Program
 - Role: Lead PI
 - Amount: \$3,191,778
 - Timeframe: July 2027 - June 2029

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$500,000
 - Timeframe: July 2027 - June 2029

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Lead PI, Co-PI
 - Amount: \$300,000
 - Timeframe: July 2027 - June 2029

Previous Funding

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$450,000
 - Timeframe: July 2025 - June 2026

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Co-PI
 - Amount: \$140,000
 - Timeframe: July 2025 - June 2026

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$450,000
 - Timeframe: July 2024 - June 2025

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Co-PI
 - Amount: \$130,000
 - Timeframe: July 2024 - June 2025

Funding Agency: United States Geological Survey

- Shallow groundwater modeling in the Illinois River Basin: Analysis of irrigation, aerial electromagnetics, and nitrate for assessing water availability
 - Role: Secured funding; passed Lead PI to Dr. Daniel Abrams
 - Amount: \$250,000
 - Timeframe: July 2023 - June 2025

Funding Agency: Illinois Department of Natural Resources (IDNR)

- Scientific Activities in Support of Water Supply Planning Tasks: FY2023-2025
 - Role: Co-PI
 - Amount: \$1,500,000
 - Timeframe: July 2023 - June 2025

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$400,000
 - Timeframe: July 2023 - June 2024

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Lead PI

- Amount: \$125,000
- Timeframe: July 2023 - June 2024

Funding Agency: Illinois Department of Transportation (IDOT)

- Dewatering Well Assessments for Highway Drainage Systems at Five Sites in East St. Louis Area
 - Role: Lead PI
 - Amount: \$125,000
 - Timeframe: July 2022 - June 2023

Funding Agency: Illinois Department of Transportation (IDOT)

- IDOT Tri-Level Pumping area and SIC Contaminant Plume Migration
 - Role: Lead PI
 - Amount: \$200,000
 - Timeframe: July 2022 - June 2023

Funding Agency: Illinois Water Resource Center (IWRC)

- Isotopic assessment of groundwater flow along the Sandwich Fault Zone in Northern Illinois
 - Role: Lead PI
 - Amount: \$7,000.00
 - Timeframe: Jan. - Dec. 2021

Funding Agency: Barrington Area Council of Governments (BACOG)

- Analysis of Groundwater Level Change, Surface Water Conditions, and Water Use in the Barrington Area, 2014-2019 (Barrington, IL metropolitan area)
 - Role: Co-PI
 - Amount: \$24,352.00
 - Timeframe: Jan.-Mar. 2020

Funding Agency: National Science Foundation

- Where a River Slows: Investigating the Oscillic Freshwater Zone, NSF-EAR-1417433
 - Role: Graduate research assistant
 - Amount: \$514,791.00
 - Timeframe: 2014-2017

Submitted Proposals

Funding Agency: National Aeronautic and Space Association (NASA)

- Characterizing nitrate concentrations in Illinois groundwater and their contributions to nitrate concentrations in Illinois surface waters
 - Role: Co-PI
 - Amount: \$250,000
 - Timeframe: March 2026 - February 2029

Funding Agency: United States Geological Survey (USGS) through the Illinois Water Resource Center

- Intelligent Integration of Multi-Source Remote Sensing Imagery and Ground Observations to Estimate Hydraulic Heads for Modeling Nutrient Transport from Groundwater to Surface Waters in Illinois
 - Role: Co-PI
 - Amount: \$250,733.00
 - Timeframe: March 2026 - February 2029

Funding Agency: Prairie Research Institute (PRI) and Center for Digital Agriculture (CDA)

- Characterizing nitrate concentrations in Illinois groundwater and their contributions to nitrate concentrations in Illinois surface waters

- Role: Lead PI
- Amount: \$30,000
- Timeframe: July 2025 - June 2026

Funding Agency: Prairie Research Institute (PRI) and Center for Digital Agriculture (CDA)

- Rapid Digital Characterization of Algal Biomass Components for Soil Amendment Application
 - Role: Co-PI
 - Amount: \$30,000
 - Timeframe: March 2025 - February 2026

Funding Agency: United States Environmental Protection Agency (USEPA)

- Integrated database-model for robust simulation of PFAS fate and transport
 - Role: Co-PI
 - Amount: \$100,000
 - Timeframe: July 2024 - June 2025

Funding Agency: National Oceanic and Atmospheric Administration (NOAA)

- A Framework for Assessing the Risks of Drought on Terrestrial Ecosystems in the US Midwest - An Application in Illinois
 - Role: Co-PI
 - Amount: \$580,426
 - Timeframe: 2022-2024

Funding Agency: National Science Foundation (DISES Program)

- Sustainable Groundwater Management Through Participatory Modeling and Scenario Planning
 - Role: Co-PI
 - Amount: \$1,000,644
 - Timeframe: 2021-2024

Funding Agency: United States Geological Survey

- Agricultural decision support systems and tools for heavily irrigated regions
 - Role: Lead PI
 - Amount: \$247,547.42
 - Timeframe: Sept. 2021 - Aug. 2024

Funding Agency: United States Geological Survey

- Agricultural decision support systems and tools for heavily irrigated regions
 - Role: Lead PI
 - Amount: \$249,807.00
 - Timeframe: Sept. 2020 - Aug. 2023

AWARDS

Professional Awards

University of Illinois at Urbana-Champaign, Prairie Research Institute

- Outstanding Collaboration Award April 2025
- Early Career Investigator Award March 2023

Student Awards

University of Texas at Austin, Jackson School of Geosciences

- Outstanding Teaching Assistant Award May 2013

University of Notre Dame, Department of Environmental Geosciences

- Reverend Alexander Kirsch, C.S.C. Award May 2012
 - Awarded to the graduating senior who has evidenced high qualities of personal character, scholarship, and leadership

Honor Society Memberships

University of Texas at Austin, University of Texas Chapter of Phi Kappa Phi

- Inducted into Phi Kappa Phi Honor Society Apr. 2013
 - Awarded for earning a 4.0 GPA in first semester of graduate school

Presentation Awards

Texas Bays and Estuaries Meeting, University of Texas Marine Science Institute

- Awarded Second-Best Poster Presentation Feb. 2013

Other Achievements

University of Notre Dame

- Received a letter from the University of Notre Dame President Aug 2009
commending summer service
 - Only individual to receive such a commendation that year

Boy Scouts of America

- Earned the rank of Eagle Scout, the highest rank in scouting Aug. 2007

TEACHING EXPERIENCE

Guest Lectures

1. Lecture: *Introduction to GitHub Processes* 30 March/01 April 2020
Course: Applied Hydrogeology
Instructor: Daniel Abrams, Ph.D.
2. Lecture: *Stratification in Lakes, Reservoirs, and Estuaries* 02 March 2018
Course: Advanced Environmental Hydrology
Instructor: Kevan B. Moffett, Ph.D.
3. Lecture: *Groundwater Mapping and Groundwater Flow* 12 September 2016
Course: Advanced Environmental Hydrology
Instructor: Kevan B. Moffett, Ph.D.
4. Lecture: *Introduction to Evapotranspiration* 8 February 2016
Course: Water and the Earth
Instructor: Kevan B. Moffett, Ph.D.
5. Lecture: *Field Methods in Hydrogeology* 30 April 2014
Course: Introduction to Physical and Chemical Hydrogeology
Instructor: Kevan B. Moffett, Ph.D.
6. Lecture: *Applications of Fluid Mechanics* 29 April 2014
Course: Elementary Mechanics of Fluids
Instructor: Ben R. Hodges, Ph.D.

Teaching Assistant (TA) Experience

Grading Assistant

Spring 2018

STAT 519 - Applied Multivariate Statistics

Instructor: Leslie New, Ph.D.

Washington State University Vancouver

- Assisted in grading needs with 29 students
- Provided secondary instruction (i.e., lectures and tutoring) when required

Teaching Assistant

Summer 2014

GEO 382C - Groundwater Field Methods

Instructor: M. Bayani Cardenas, Ph.D.

The University of Texas at Austin

- Lectured on hydrologic field methods including:

- Surveying
- Electrical Resistivity
- Aided in organizing a field course in Valles Caldera, New Mexico

Teaching Assistant Spring 2014

GEO 346C - Introduction to Physical and Chemical Hydrogeology

Instructor: Kevan B. Moffett, Ph.D

The University of Texas at Austin

- Assisted with curriculum development
- Tutored students twice weekly
- Lectured on hydrologic field methods
- Obtained a 4.3/5 rating on instructor evaluation forms

Teaching Assistant Spring 2013

GEO 346C - Introduction to Physical and Chemical Hydrogeology

Instructor: Kevan B. Moffett, Ph.D

The University of Texas at Austin

- Co-wrote seven assignments
- Tutored students twice weekly
- Obtained a 4.2/5 rating on instructor evaluation forms

Teaching Assistant Fall 2012

GEO 303 - Introduction to Geology

Instructors: Richard Ketcham, Ph.D and Laurie Duncan, Ph.D

The University of Texas at Austin

- Lectured in three laboratory classes
- Helped to finalize lecture materials
- Led multiple field trips
- Obtained a 4.6/5, 4.7/5 and 5/5 rating on instructor evaluation forms

ACADEMIC SERVICE

PRI AI Research Frontier

Head of Organizing Committee

Aug. 2024 - Present

- Led the first annual PRI AI Training week from Jan. 12-14, 2026
- Organized and led monthly "Lunch and Learn" seminars for PRI-wide community
- Established a Mission Statement for the Research Community

PRI Executive Director's Advisory Committee

ISWS Representative

Oct. 2022 - Aug. 2025

- Represented the concerns and issues of fellow ISWS researchers to Office of Executive Director
- Developed Institute bylaws and communication channels for researchers' benefit
- Established formal mentoring program to aide professional development

ISWS GWS Publication Coordinator

Publication Coordinator

Jan. 2021 - Jan. 2023

- Ensured all GWS publications met ISWS publication standards
- Served as liaison between publication staff and researchers
- Established regular meetings to maintain accountability in manuscript development

Coastal & Estuarine Research Federation (CERF) Conference

Student Volunteer

Nov. 2015, 2017

- Assisted with organizing the judging of student presentations
- Distributed meeting information and registration packets
- Curated CERF's first local coastal art exhibit

Consulting (pro bono) for Build Health International

Aug. 2015 to July 2018

St. Boniface Hospital, Fond des Blancs, Department Sud, Haiti

- Interpreted magnetotelluric geophysical data
- Consulted with Supervising Project Engineer on drilling expectations
- Aided in selection of additional groundwater well locations
- Examined and discussed aquifer potential yield and sustainability of pumping at Hôpital Universitaire de Mirebalais, Mirebalais, Haiti

Graduate Mentor for Undergraduate Honors Thesis Feb. 2012 to May 2014

- Assisted with organization and completion of an undergraduate Honors Thesis
- Assisted in the installation of field observation equipment
- Collaborated with the undergraduate to interpret and disseminate results

NON-ACADEMIC SERVICE

Extracurricular Community Service

Books to Prisoners (Urbana, IL)

Mar. 2022 - Present

- Collate book donations from Urbana-Champaign community
- Send books to prisoners based on requests from prisoner communication (letters)
- Advertise bi-annual book sale to raise money for program

St. Vincent De Paul Society (Portland, OR)

Mar. 2017 - Jun. 2019

- Assist with monthly food distribution to low-income retirees
- Distribute non-perishable food and fresh produce to low-income community members monthly through Catholic parish food pantry

SOFTWARE PRODUCTS

Hydrologic Modeling Software Proficiencies:

- MODFLOW
 - *flopy* - python package that promotes writing and running of MODFLOW simulations
 - MODFLOW-NWT
 - MODFLOW6
- ParFlow
 - *parflowio* and *pftools* - python packages that promote writing and running of ParFlow simulations

Dark Data Digitization

1. Stevens Recorder Chart Digitization

- Project goal is to convert analog water level data recorded using a Stevens Recorder Chart into digital data to be archived and served from a database.

Data Mining Scripts:

1. Web-crawler application, using Python, to obtain 15-minute "current conditions" data from [United States Geological Survey \(USGS\) National Water Information System \(NWIS\)](#) monitoring stations.
 - User provides station ID number, dates of record for the desired data (i.e., a beginning and end date). Script returns the stage and discharge time series for desired site.
2. Web-crawler application, using Python, to obtain tidal stage time series from [Texas Coastal Oceanic Observation Network \(TCOON\)](#).
 - User provides station ID number, dates of record for the desired data (i.e., a beginning and end date). Script returns the tidal stage time series for desired site.
 - ***TCOON is no longer funded and the data is no longer hosted at this repository.*
3. Web-crawler application, using Python, to obtain weather data from [public weather stations](#) hosted by [Weather Underground](#).
 - User provided station ID, dates of record for the desired data (i.e., a beginning and end date). Script returned all available weather time series data (e.g., precipitation, pressure, temperature) for desired site.

- ***Weather Underground now provides an integrated payment method to download the same data; my script worked before the monetization.*

LANGUAGE
KNOWLEDGE

Programming languages:

- Python
- MATLAB
- Learning L^AT_EX, and R
- Minimal knowledge of JavaScript and VBA

Spoken and written languages:

- English - Fluent
- Spanish - Intermediate proficiency