James Maze
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Education

2020 B.S. Water: Resources, Policy, and Management, minors in Green Engineering and Environmental Science. Virginia Tech. GPA 3.9/4.0

Research/Employment

2020-present **Wetlands Research Assistant.** *University of Maryland, Palmer Lab.* Researched hydrologic and seasonal controls on carbon-focused biogeochemical processes; Responsible for high-frequency chemistry and water level sensor maintenance and data QAQC; Field maintenance of SCADA telemetry network; Sampled water chemistry, soil profiles and surveying elevations; Arduino "DIY" datalogger and sensor project; Data management and analysis with R and version control with GitHub; Independent analysis of hydrologic gradients and connectivity at the wetland landscape scale. *Supervisors:* Michael R. Williams, PhD., Daniel L. McLaughlin, PhD. & Margaret A. Palmer, PhD.

2019-2020 **Limnology Undergraduate Research Assistant.** *Virginia Tech, Carey Lab.* Researched phytoplankton blooms and biogeochemical cycling in drinking water reservoirs under variable oxygen regimes; Organized supplies for large field sampling campaigns; Collected water chemistry, plankton, and benthic sediment core samples; Pre-processed samples in lab for analysis; Responsible for dilution and flowmeter stream discharge measurements; Data management. *Supervisor:* Cayelan C. Carey, PhD.

2018 (summer) **Policy Intern.** *US EPA, Washington Headquarters, Enforcement Targeting and Data Division*. Unified state-specific permits for remediated groundwater discharge to include in the National Pollution Discharge Elimination System (NPDES) eReporting tool; Analyzed trends in fraudulent Discharge Monitoring Reports (DMR) to improve future enforcement and fraud detection. *Supervisor:* Carey Johnston.

2017 (summer) **Field Intern.** *Tennessee Department of Environment and Conservation, Knoxville Field Office, Water Division.* Accompanied state inspections of reclaimed mines, stream alteration permitting, hydroelectric dams, drinking water and wastewater treatment plants; Clerical office duties; Reviews of municipal drought management plans. *Supervisor:* Michael Atchley.

Presentations/Publications

Maze, James, Jones, Nathan C., Corline, Nicholas J., McLaughlin, Daniel L., Williams, Michael R. (*2022*). *In preparation.* Integrating Successive Depressional Wetlands into a Catchment-scale Picture: Connectivity and Flow Paths. Poster presentation delivered at American Geophysical Union Fall Meeting. Remote.

Corline, Nicholas J., Hotchkiss, Erin R., Scott, Durelle, Jones, Nathan C., **Maze, James**, Badgley, Brian, Strahm Brian, McLaughlin, Daniel (*2022*). Hydrologic Connectivity Affects DOM Transport and Utilization by Microbes in Headwater Catchments. Oral presentation delivered at the Joint Aquatic Sciences Meeting. Grand Rapids, Michigan.

Carla López Lloreda, Hotchkiss, Erin R., **Maze, James** (*2022*). Linking Greenhouse Gas Concentrations and Changing Inundation Regimes in Wetlands. Poster presentation delivered at the Joint Aquatic Sciences Meeting. Grand Rapids, Michigan.

Grants/Awards

2018 **Science Policy Fellowship, *Virginia Tech Global Change Center*.** Funded housing and expenses for summer work experience at U.S. EPA Headquarters.

2017 **Finalist NYU Policy Case Competition, *New York University Politics Society*.** Team presentation on climate strategy awarded best in domestic policy category. Travel funded by Virginia Tech College of Natural Resources and Environment.

2016-2020 **Assorted Merit Awards.** George M. Simmons Water Scholarship, Ut Prosim Scholarship, Timberland Management Scholarship, Virginia Tech Scholars, Knoxville Chapter of Virginia Tech Alumni Scholarship.

Skills/Coursework

Skills

Arduino hardware and IDE
Basic electronics (soldering, wiring diagrams and communication protocols)
Data management standards (Environmental Data Initiative)
Geospatial analysis in ArcGIS and R (sf, whitebox and leaflet)
Field skills (planning/logistics, operating power tools and working independently)
High frequency sensors (YSI, PME, Eosense and Onset HOBO)
Tidyverse R packages
Technical writing
Telemetry and data logger operation (Campbell Sci. and IWT Envok)

Water chemistry sampling (planning campaigns and writing SOPs for sample integrity)

Coursework

Calculus I, II & III
Differential Equations
Groundwater Hydrology
Fluvial Geomorphology
Physics I, II & III (Statics)
Physics of Pollution Transport
Soil Phys. & Hydro. Properties
Watershed Hydrology

Teaching Experience

2022 **Special Topics in Biogeochemistry.** *University of Maryland, PLSC 689F.* Guest speaker explaining the principles and applications of stable water isotopes in hydrology.