

S. FAYE SMITH, PH.D.

ENVIRONMENTAL SCIENTIST | SOIL SCIENTIST | GIS & DATA ANALYST

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PROFESSIONAL SUMMARY

Environmental scientist and soil scientist with 10+ years of experience spanning environmental consulting, soil health, geospatial analysis, microbial ecology, and sustainable land management. Experienced in wetland and stream delineation, habitat and stream assessment, soil and topographic analysis, technical reporting, and large-scale environmental data analysis. Advanced user of ArcGIS, QGIS, R, Python, and SAS, with a record of coordinating multidisciplinary work and translating complex findings into actionable recommendations.

CORE QUALIFICATIONS

Environmental Field & Regulatory	Wetland and stream delineation; habitat evaluation; stream assessment; WOTUS report support; soil sampling; conservation planning
GIS & Data Analysis	ArcGIS; QGIS; R; Python; SAS; spatial modeling; statistics; bioinformatics; data visualization
Soil & Land Management	Soil health benchmarking; soil physical properties; agroecosystems; sustainable land management; ecological assessment
Project Delivery	Technical writing; project coordination; stakeholder collaboration; grant writing; training; quality-focused documentation

PROFESSIONAL EXPERIENCE

- Environmental Scientist II | Crafton Tull | Rogers, AR** Nov 2025 - Aug 2026
- Conducted wetland and stream delineations, habitat evaluations, stream assessments, and soil and topographic analyses for public- and private-sector projects.
 - Prepared technical reports supporting initial Waters of the United States (WOTUS) assessments and environmental planning decisions.
 - Consulted with public and private entities on land-management practices and communicated field findings through maps, data summaries, and defensible written documentation.
- Soil Data Analyst | Soil Health Institute | Morrisville, NC** Jan 2023 - May 2024
- Managed and coordinated data collection for large-scale soil-health testing initiatives, including the Carbon Program and a Soil Health Assessment conducted with Truterra.
 - Analyzed soil datasets to establish benchmarks and support strategic land-management and conservation initiatives.
 - Collaborated with internal teams and external stakeholders to maintain project alignment, data quality, and conservation objectives.
- Postdoctoral Researcher | USDA Agricultural Research Service | Pendleton, OR** Sep 2021 - Oct 2022
- Led research on genetic mechanisms of fungicide resistance in wheat pathogens using genomic and bioinformatics tools.
 - Developed ecological maps evaluating relationships between wheat-farming practices and soil microbiomes to inform sustainable agriculture research and policy.
- Postdoctoral Researcher | USDA Agricultural Research Service | Beltsville, MD** Jul 2020 - Aug 2021
- Developed an R-based pipeline for designing SNP-based PCR assays to distinguish fungal variants associated with boxwood blight.
 - Performed mitochondrial DNA and bioinformatics analyses supporting targeted plant-pathogen management strategies.

- Designed and delivered environmental science curriculum for more than 160 students, connecting sustainability and conservation concepts to real-world environmental challenges.

EARLIER RESEARCH EXPERIENCE

Graduate Researcher - Soil Microbial Ecology | University of Arkansas 2015 - 2020

- Designed and executed a spatial ecology field experiment examining relationships among soil properties, microbial communities, and landscape position.
- Collected, managed, and analyzed large microbiome and geospatial datasets using bioinformatics, R, and QGIS; translated results into publications and presentations.
- Coordinated field and laboratory activities, experimental design, data quality, and scientific communication across a multiyear doctoral research program.

Graduate Research Assistant - Applied Soil Physics | University of Arkansas 2011 - 2013

- Conducted field and laboratory studies measuring trace-gas emissions and soil physical properties in agricultural systems.
- Managed field operations and contributed to grant proposals, scientific publications, and presentations focused on sustainable agricultural practices.

Research and Technical Assistant Roles | University of Arkansas 2008 - 2014

- Supported soybean breeding, plant biotechnology, and crop genetics projects through greenhouse and laboratory research, DNA/RNA isolation, seed-stock management, genetic crosses, data analysis, and manuscript preparation.
- Maintained organized research records and safely handled laboratory materials while supporting multiple concurrent projects.

EDUCATION

Ph.D., Environmental Dynamics | University of Arkansas | Fayetteville, AR 2020

M.S., Crop, Soil, and Environmental Sciences | University of Arkansas | Fayetteville, AR 2013

B.S., Environmental, Soil, and Water Sciences | University of Arkansas | Fayetteville, AR 2011

Honors with Distinction; cum laude

TECHNICAL SKILLS

Software & Programming: ArcGIS, QGIS, R, Python, SAS, JMP, RStudio, Bioconductor, Microsoft Office, GitHub, LaTeX

Analytical Methods: Spatial analysis, statistics, experimental design, soil-health benchmarking, bioinformatics, ecological mapping, data visualization

Communication & Leadership: Technical reporting, stakeholder collaboration, project coordination, grant writing, training, curriculum development, scientific presentations

SELECTED SCHOLARLY CONTRIBUTIONS

- Co-author of 12 peer-reviewed journal articles addressing soil respiration, aggregate stability, greenhouse-gas emissions, soil enzyme activity, crop production, and plant genetics.
- Delivered invited and conference presentations on soil health, wetland soils, ecological restoration, sustainable agriculture, and soil microbial ecology.