

Postdoctoral research associate in soil moisture and fire modeling at the University of Georgia

We seek a dynamic and innovative postdoctoral research associate to work at the nexus of soil science and fire ecology. Our project seeks to understand the relationship between soil moisture and fire prediction by integrating a suite of soil, fire, climate, and remote sensing datasets with robust modeling techniques. The project is a collaboration between the University of Georgia, Oklahoma State University, the US Geological Survey, and two USDA regional climate hubs (Southwest and Southern Plains). The candidate will be based at the University of Georgia in the Department of Crop and Soil Sciences in Athens, GA <http://www.caes.uga.edu/departments/crop-soil.html>. UGA is a Land/Sea Grant institution and is ranked 16th among public universities in the U.S. News & World Report's 2018 edition of America's Best Colleges. Athens is well known for its quality of life in regard to both outdoor and urban activities (<https://www.visitathensga.com/>) and is 90 miles northeast of Atlanta, the state capital. Ideal candidates would combine expertise in data analysis and modeling of large spatial datasets. Potential start date is June 1, 2018 for up to two years (contingent upon funding). We offer a competitive salary commensurate with experience.

Keywords: Soil moisture; Wildfire; Mapping; Modeling

Objective: Primary goals are (1) develop an effective model of soil moisture for two large river basins in the southwestern and south central US using soil and climate data; (2) quantify the relationships between modeled soil moisture and wildfire probability; and (3) distribute soil moisture and wildfire probability maps for both basins.

Summary of duties: Integrate existing soil, climate, and remote sensing data to model soil moisture conditions present in the root zone at daily time steps and moderate spatial resolution for two large watersheds in the southwestern and south central US. Apply newly generated soil moisture maps, along with other biophysical variables, to develop dynamic fire probability maps for the basins. Produce soil moisture models and wildfire data sets for the 2000–2016 period, and selected maps of dynamic soil moisture and wildfire probability. Work with collaborators and stakeholders to facilitate stakeholder meetings and produce peer-reviewed manuscripts, presentations and website content. Travel to some stakeholder and professional meetings is expected.

Required qualifications: Completed Ph.D. in soil science, fire ecology, landscape ecology, or similar field by start date. Experience with spatial modeling and proficiency with computer software including R, Python, ArcGIS, etc. is required. A positive attitude and willingness to collaborate with an interdisciplinary team of researchers is required.

Desired qualifications: Familiarity with soil geographic databases (e.g., SSURGO), climate data (e.g., PRISM), remote sensing, and wildfire modeling is desired.

To apply: Please send an email to Dr. Matt Levi at matthew.levi@uga.edu with subject line: "Application for soil-fire postdoc" that includes your CV and a short cover letter (1 page) detailing your qualifications and interest for the position. Review of applications will begin May 15 and will be open until filled.