Postdoctoral research associate to develop web-based applications in soil moisture and soil survey interpretations at the Univ. of Georgia

We seek a dynamic and innovative postdoctoral research associate to focus on the development of a web-based application for modeling and visualizing soil moisture and meteorological information across the conterminous U.S. Our project will focus on improvements to the Newhall Simulation Model, which has been the go-to method for quantifying soil moisture and temperature regimes for more than 20 years, using primarily the R programming language. The project is a collaboration between the University of Georgia and USDA-NRCS. 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. **Position is available immediately** for one year (with potential to seek additional funding). We offer a competitive salary commensurate with experience. **Keywords:** Web application; Soil moisture; Soil temperature; Mapping; Modeling

Objectives: (1) Assist in developing and testing an R implementation of the Newhall Simulation Model. (2) Create a web-based version of the Newhall Simulation Model using Rstudio's Shiny package. (3) Assist in compiling all new functions into an R package for distribution via the CRAN repository.

Summary of duties: Assist in integrating existing soil and climate data to model soil moisture and temperature conditions present in the root zone at daily time steps and moderate spatial resolution for portions of the conterminous U.S. Develop a web-based graphical user interface (GUI) for easy accessibility and enhanced functionality of the Newhall Model. 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, computer science, landscape ecology, geography, or other field specializing in data science or informatics by start date. Proficiency with computer software including R, ArcGIS, etc. is required. Some experience with website development preferred. 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 soil moisture/temperature modeling is desired. Experience with spatial modeling is also an asset.

To apply: Please send an email to Dr. Matt Levi at matthew.levi@uga.edu with subject line: "Application for soil moisture postdoc" that includes your CV and a short cover letter (1 page) detailing your qualifications and interest for the position. Review of applications is ongoing until filled. The University of Georgia is an Equal Opportunity/Affirmative Action employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, disability, gender identity, sexual orientation or protected veteran status.