POSTDOCTORAL POSITION IN HYDROLOGIC MODELING
USDA AGRICULTURAL RESEARCH SERVICE

USDA Agricultural Research Service

POSITION SUMMARY
The USDA Agricultural Research Service (ARS) Southwest Watershed Research Center is seeking applicants for a postdoctoral position focusing on hydrologic modeling and enhanced infiltration parametrization in the Rangeland Hydrology and Erosion Model (RHEM) (and possibly other models) for applications on rangelands, woodlands, and dry forests. The incumbent will use data from and collaborate with partners across multiple ARS locations and the US Forest Service (USFS), Bureau of Land Management (BLM), Geological Survey (USGS), Natural Resources Conservation Service (NRCS), and multiple universities. The primary objectives are to develop (1) improved quantitative understanding of infiltration relationships across various experimental methodologies/data types and (2) new approaches to integrate respective data into RHEM infiltration parameterization.

EXPECTED RESULTS
Results will establish new methodologies to incorporate unique data in RHEM infiltration parameterization. Respective advances will enhance/improve RHEM infiltration modeling capabilities and thereby provide an improved decision-support tool for assessing hydrologic function, predicting hydrologic responses to conservation practices, and guiding respective management on western rangelands, woodlands, and forests.

REQUIRED QUALIFICATIONS
Candidates must have a PhD in Hydrology, Water Resources, or related field by appointment start date. The successful candidate will have evidence of: (1) experience in hillslope and/or watershed hydrologic processes and modeling, (2) expertise in interpreting and quantitatively evaluating hydrologic data, model outputs, and associated relationships with model inputs (vegetation cover, soils, precipitation, etc.), and (3) a demonstrated ability to publish research in appropriate outlets.

PREFERED QUALIFICATIONS
Successful applicants should be highly motivated and willing to work independently and as a part of a multi-disciplinary team with excellent written and oral communication skills. The preferred applicant will have knowledge in one or more of the following subject areas with respect to rangelands, woodlands, and/or forest ecosystems: ecohydrology, disturbance ecology, fire ecology, landscape responses to management practices, plant community dynamics, soil science, and/or watershed management.

APPOINTMENT
The anticipated start date is negotiable (preferred first quarter of 2023). The appointment is for 1 year, with renewal after the first year based upon performance and funding. This is a full-time appointment stationed at the Southwest Watershed Research Center, Tucson, Arizona, USA.

SALARY/BENEFITS
The position will be hired at the level of Postdoctoral Research Associate (Research Hydrologist, Term GS-11).

TO APPLY
Interested individuals should submit to Jason Williams (jason.williams@usda.gov) a brief statement outlining your experience and research interests with respect to the qualifications, a current CV and the names and contact information of three references. Letters of reference may be requested of finalists.

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