

The USDA-ARS Jornada Experimental Range is seeking a qualified and highly motivated post-doctoral soil scientist. The selected candidate will work with a diverse partnership of scientists and natural resource managers, led by Dr. Sarah McCord and Dr. Nicholas Webb, to contribute to a new project to evaluate effects of variability in field and modelled soil properties on conceptual and process models that support land management. The position will evaluate the impacts of variability in soil property estimates on wind and water erosion predictions and interpretations of ecosystem dynamics (i.e., ecological sites). This position will work closely with data collected as part of national rangeland inventory and monitoring programs (USDI Bureau of Land Management Assessment, Inventory, and Monitoring, USDA Natural Resources Inventory), to assess the best approaches for using soils data together with vegetation condition information to support land management and conservation on US rangelands.

The project involves: 1) quantifying the variability in and accuracy of soil property estimates based on field observations and measurements, modeled estimates, and predictions (from digital soil maps and related approaches); 2) identifying and evaluating sources of variability in soils observations in national rangeland monitoring programs; 3) assessing the sensitivity of ecological site identification and erosion predictions to variability in field observations, digital soil mapping products, and the NRCS soils databases; and 4) contributing to the development of a soil particle size distribution database and spatial predictions to enable national wind erosion (AERO) model applications.

We are seeking applicants with a PhD in soil science (e.g., pedology, digital soil mapping) or related fields who have experience in processes that control soil-landscape relationships across a broad range of geomorphologies, soil-vegetation relationships, and relationships between different relatively static and relatively dynamic soil properties (particularly those that control water availability) and how they vary across space and time. Qualified candidates will also have experience coding and/or modeling (R, Python, Javascript) and knowledge of the U.S. soil survey.

This is a year-to-year appointment, renewable up to 4 years contingent upon funding and performance.

Interested applicants should reach out to Dr. Sarah McCord ([sarah.mccord@usda.gov](mailto:sarah.mccord@usda.gov)) by August 15, 2021.