

The USDA Southwest Climate Hub is seeking a post-doctoral research associate to serve as a Southwest Climate Hub Fellow (see info below). This is the flagship fellow program of the USDA Climate Hub network and this announcement is for our second cohort of climate hub fellows. The selected candidate would join a cohort of more than 20 fellows across the nation working at the nexus of climate, agriculture and natural resources. Fellows will participate in periodic in-person meetings in Washington, D.C. and across the country.

This job may be especially interesting to candidates wanting a career with the Agricultural Research Service or as a federal employee focused on climate change and resilience.

If interested in applying or recommending someone for this opportunity, please contact Emile Elias for more info.

Emile Elias, Ph.D.

Director | USDA Southwest Climate Hub

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Climate Hubs

Rain or Shine Podcast

USDA Southwest Climate Hub Post-Doctoral Fellow

This is an opportunity for a recent graduate to join a national network of Climate Hub fellows. This research assignment relates to the fields of hydrology, agricultural engineering, natural resources, agronomy, range management, climatology, forestry, and ecology. Most importantly, the candidate must want to work at the interface of climate change and natural resources to advance climate resilience. The Southwest Climate Hub fellow will focus on the research and science synthesis thematic area.

(Climate Hub Research Fellow – USDA Southwest Regional Climate Hub)

GS-1315-11

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Factor 1- Research Assignment

A. Assigned Responsibility:

The incumbent will be assigned to the USDA-ARS Southwest Climate Hub associated with the Range Management Research Unit in Las Cruces, New Mexico. The research mission of the Range Management Research Unit is to produce new knowledge of ecosystem processes for development of technologies for monitoring, assessment, remediation and management of desert rangelands. The incumbent will investigate the effects of climate change, weather variability, and hydrological changes on specialty crops, rangelands, and forests across the Southwest Region. As a member of a multi-disciplinary Climate Hub team, the incumbent will contribute to

a component of ARS National Program 216, Agriculture System Competitiveness and Sustainability. The Climate Hub work is in alignment with the USDA mission to provide leadership on food, agriculture, natural resources, rural development, nutrition, and related issues based on sound public policy, the best available science, and efficient management.

B. Research Objectives and Methodology:

As an integral part to the USDA Climate Hubs Program, the Southwest Climate Hub in Las Cruces, NM is a cross-agency and multi-institutional effort to develop and deliver science-based, region-specific information, knowledge, practices/strategies and technologies, with USDA agencies and partners, to agricultural and natural resource managers that enable climate-informed decision-making, and to provide access to assistance to implement those decisions. Climate change, weather variability, and hydrological changes impact crop production, rangeland management and forest health, and the objectives of this position are to: 1) evaluate the effects of climate change on specialty crops, forests, and rangelands across the Southwest region; 2) quantify the effect of a limited water supply on growth and productivity of higher value crops; and 3) evaluate potential adaptation strategies for specialty crops, forests, and rangelands. The conventional methods to be used in these analyses range from statistical evaluation of plant response to hydrological and climate variables and growth response to weather variation within a growing season to adaptation of simulation models to evaluate the effect of climate change scenarios and productivity and quality of specialty crops and forages. The incumbent will investigate, conduct analysis on and provide support to Climate Hub initiatives, write papers for journals, develop presentations for diverse stakeholder outreach, and make oral presentations regarding project work.

C. Expected Results:

This research will provide an assessment of climate, weather, and hydrological impacts on specialty crop, forest, and rangeland systems in the Southwest region. These results will lead to improved understanding of the impacts of climate change and altered hydrology on management and production practices for specialty crops, rangelands and forests across the Southwest region, add to current scientific and professional knowledge, as well as support the development of new or improved methods and techniques. Extensive outreach will help to educate a broad set of stakeholder audiences. The analytical approaches will be applicable to other Regional Climate Hubs and will provide updated policy to USDA agencies such as the Natural Resources Conservation Service, the Risk Management Agency, and others.

D. Knowledge Required:

This research assignment requires knowledge of hydrology, agricultural engineering, natural resources, agronomy, range management, climatology, forestry, ecology. Knowledge of basic crop science, experimental design, statistical analyses and interpretation. Extensive outreach experience is required. Communication skills, both written and verbal as well as the ability to work both collaboratively and independently are needed.

E. Supervisory Responsibilities:

The incumbent may provide intermittent technical guidance to graduate students, undergraduates in temporary support positions, and technical support staff.

Factor 2 - Supervisory Control

A. Assigned Authority:

The research problem is assigned by the supervisor and discussed with the incumbent along with instructions on the scope and objectives of the study. The supervisor or higher management makes any decisions to discontinue work, change emphasis, or change the research plan. The incumbent is expected to plan and conduct experiments; analyze, evaluate and interpret the results; and prepare reports of the results in the forms of manuscripts for publication in peer-reviewed journals and presentations at scientific meetings.

B. Technical Guidance Received:

Guidance will be provided by the supervisor and will consist primarily of defining research problems, guidance in planning experiments, and review and discussion of results within the context of team research goals. The incumbent is expected to assume responsibility for the research to its completion. Colleagues and collaborators will be consulted as needed.

C. Review of Results:

All data analysis and written reports will be reviewed by the supervisor for adequacy of methods, completeness, and appropriate interpretation of results. In addition, appropriate colleagues will be chosen with whom to review and discuss results and manuscripts. Manuscripts will be submitted to the Climate Hub Director for administrative review and approval.

D. General Supervision:

The incumbent is under the general supervision of the Climate Hub Director, who is responsible for the overall leadership of the Southwest Climate Hub and for the supervision of all support staff associated with the Hub and project. The supervisor provides administrative guidance and technical support, and holds regular discussions with the incumbent regarding process of work, results and future plans.

Factor 3 - Guidelines and Originality

A. Available Literature:

There is extensive literature on the impacts of climate change, weather variation, and hydrological change on growth and productivity of agronomic crops, forests and rangelands, however, synthesis of these data and development of decision making tools based on this science are necessary. These research summaries provide guidance for these studies but will require modification to achieve the research results.

B. Originality Required:

To achieve the objectives, this effort will require originality in developing a complete and adequate research design by selecting and adapting the most appropriate approach, methods, or techniques. This will require limited extension and/or modification of procedures or techniques as necessary.

OTHER CONSIDERATIONS (Check if applicable)

- ☐ Supervisory Responsibilities (EEO Statement)
- ☐ Training Activities - Career Intern, Student Career Experience Program
- ☒ Motor Vehicle or Commercial Driver's License Required
- ☐ Pesticide Applicators License Required
- ☐ Safety/Radiological Safety Collateral Duties
- ☐ EEO Collateral Duties
- ☐ Drug Test Required
- ☐ Vaccine(s) Required
- ☐ Financial Disclosure Required
- ☐ Special Physical Requirements/Demands
- ☐ Duties require unrestricted access to BSL-3 containment facilities; work with CFR- listed agents or toxins; or unrestricted access to the exclusion areas of high security facilities (such as the vaults of major gene banks).
- ☐ Other: