

Research Scientist (5189U), Central Sierra Snow
Laboratory - 79778
University of California, Berkeley

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Job Title	Research Scientist (5189U), Central Sierra Snow Laboratory - 79778
Department	Central Sierra Snow Laboratory
Institution	University of California, Berkeley Berkeley, California
Date Posted	Jul. 21, 2025
Application Deadline	Open until filled
Position Start Date	Available immediately
Job Categories	Professional Staff
Academic Field(s)	Research/Technical/Laboratory
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Job Description

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About Berkeley

At the University of California, Berkeley, we are dedicated to fostering a community where everyone feels welcome and can thrive. Our culture of openness, freedom and belonging make it a special place for students, faculty and staff.

As a world-leading institution, Berkeley is known for its academic and research excellence, public mission, diverse student body, and commitment to equity and social justice. Since our founding in 1868, we have driven innovation, creating global intellectual, economic and social value.

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We are looking for applicants who reflect California's diversity and want to be part of an inclusive, equity-focused community that views education as a matter of social justice. Please consider whether your values align with our [Guiding Values and Principles](#), [Principles of Community](#), and [Strategic Plan](#).

At UC Berkeley, we believe that learning is a fundamental part of working, and provide space for [supportive colleague communities via numerous employee resource groups](#) (staff organizations). Our goal is for everyone on the Berkeley campus to feel supported and equipped to realize their full potential. We actively support this by providing all of our full-time staff employees with at least 80 hours (10 days) of paid time per year to engage in professional development activities. Find out more about how you can [grow your career](#) at UC Berkeley.

Departmental Overview

Located at Donner Pass in the Sierra Nevada, the Central Sierra Snow Laboratory (CSSL) is an off-campus research and teaching field station of UC Berkeley specializing in snow physics, snow hydrology, meteorology, climatology, and instrument design. It is in Soda Springs, about 25km northwest of Lake Tahoe and is one of the best instrumented hydrometeorological study sites in the world with consistent observations of a wide range of atmospheric and snowpack variables. It has a wide range of collaborators, including the California Department of Water Resources, National Weather Service, Sandia National Labs, and a broad range of universities. Research projects at the lab have included climatological analysis of trends in hydrometeorological variables, development of new instrumentation technologies for the measurement of snow water equivalent, rain-on-snow forecasting and decision making, and investigation of wildfire burn scar effects on snowpack. The lab is also one of the foremost media resources for snow and water information with international, national, and local media agencies regularly using the lab as a source.

Position Summary

The primary responsibility of the field researcher will be to evaluate the impacts of cloud seeding activities on snowpack mass and energy balance properties in representative regions of the Sierra Nevada mountains using the Weather Research and Forecasting Hydrological (WRF-Hydro) and iSnobal models. This will include evaluation of seeding activity impacts on snowpack longevity, sublimation/evaporation, and melt at different elevations and within wildfire burn scars. Evaluation of the impact of antecedent soil conditions on runoff efficiency after seeding programs will also occur. The researcher will also coordinate with team members running WRF-WxMod and other WRF-Hydro instances for comparison of results and transfer of data.

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The field researcher will also be responsible for aiding in installation and maintenance of instrumentation related to the project at the Central Sierra Snow Lab and will be responsible for occasionally making hydrometeorological measurements to support various facets of the research. The researcher will present the results from this work at internal project meetings, in published manuscripts, and at conferences.

Application Review Date

The First Review Date for this job is: 07/31/2025.

Responsibilities

Runs WRF-Hydro and iSnobal hydrological models to:

- Evaluate cloud seeding impacts to snowpack mass and energy balance with particular focus on changes in cold content, sublimation/evaporation, and snowmelt processes. This work will focus on changes to snowpack longevity and fractions of snow water equivalent lost to various ablation processes.
- Investigate changes in energy balance and runoff efficiency resulting from seeding activities occurring at various times during the snow season. The purpose of this work will be to identify differences to energy balance and/or runoff efficiency resulting from seeding during warm months such as December or March versus cold months such as January or February.
- Examine impacts of cloud seeding increases in snowfall/snowpack on runoff efficiencies at various catchment elevations. This work will focus on different physical processes during the ablation phase in various catchments to determine if catchments above/below certain elevations provide better runoff efficiencies related to cloud seeding activities.
- Evaluate the impact of antecedent soil conditions on cloud seeding related runoff efficiencies through running models with differing soil initial conditions and comparing seasonal runoff outputs.
- Evaluate impacts on snowpack characteristics within wildfire burn scars from cloud seeding activities. Focus will be on soil conditions, turbulent and radiative transfers, and runoff efficiencies in these areas. The goal is to determine whether seeding activities have similar impacts within wildfire burn scars compared to surrounding sub-alpine and alpine areas.

Coordinate the running of WRF-Hydro, iSnobal, and WRF-WxMod between CSSL personnel and other project researchers.

- This will include the transfer and use of WRF- WxMod output data as precipitation quantity inputs in WRF-Hydro and iSnobal.

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Aid in installation and maintenance of CCN counter, an aerosol particle counter, and an SMPS at the Central Sierra Snow Laboratory (CSSL) for collection of winter storm aerosol and CCN properties.

- This will include basic maintenance, data collection, and analysis.

Research Operations and Support

- Aids in maintaining instrumentation, infrastructure, and other materials support research goals.
- Analyzes data and provides input to reports and/or plans to meet regulatory requirements consistent with research protocols and objectives.
- Contacts agencies and research partners as needed to coordinate planning.
- Participates in training activities on research methods and measurement to research partners.

Required Qualifications

- Experience working with hydrometeorological models.
- Proven ability to work closely with collaborators on complex tasks, including data transfer, analysis, and troubleshooting.
- Knowledge of hydrometeorological instrumentation siting, maintenance, and data collection practices.
- Thorough knowledge of the hydrometeorological research discipline, principles, concepts, analysis, and/or operations.
- Proven ability to publish manuscripts acting as first author and as a coauthor.
- Proven ability to develop and maintain strategic relationships and partnerships with remote research partners.
- Proven ability to work independently and with a team, and to meet deadlines with minimal supervision.
- Strong attention to detail and strong organizational skills.
- Proven ability to work in ambiguous conditions and take relevant responsible action as required.
- Strong research and analytical skills.
- Strong communication skills with research partners and project team members.
- Bachelor's degree in related area and/or equivalent experience/training.

Preferred Qualifications

- Experience working with hydrometeorological models, preferably WRF-Hydro and/or iSnobal.
- Experience with Cloud Condensation Nuclei (CCN) counters, aerosol particle counters, and/or

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Scanning mobility particle sizer.

- Master's degree in related area and/or equivalent experience/training.

Salary & Benefits

For information on the comprehensive benefits package offered by the University, please visit the University of California's [Compensation & Benefits](#) website.

Under California law, the University of California, Berkeley is required to provide a reasonable estimate of the compensation range for this role and should not offer a salary outside of the range posted in this job announcement. This range takes into account the wide range of factors that are considered in making compensation decisions including but not limited to experience, skills, knowledge, abilities, education, licensure and certifications, analysis of internal equity, and other business and organizational needs. It is not typical for an individual to be offered a salary at or near the top of the range for a position. Salary offers are determined based on final candidate qualifications and experience.

The budgeted annual salary range that the University reasonably expects to pay for this position is \$78,000.00 - \$90,000.00.

- This is an exempt monthly-paid position.

How to Apply

- To apply, please submit your resume and cover letter.

Other Information

- This is not a visa opportunity.
- This position's work location is at Donner Pass in the Sierra Nevada.
- This position is eligible for up to 20% remote work. Exact arrangements are determined in partnership with your supervisor to meet role responsibilities and department needs, and are subject to change.

Conviction History Background

This is a designated position requiring fingerprinting and a background check due to the nature of the job responsibilities. Berkeley does hire people with conviction histories and reviews information

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received in the context of the job responsibilities. The University reserves the right to make employment contingent upon successful completion of the background check.

SB 791 and AB 810 Misconduct Disclosure Requirement: As a condition of employment, the final candidate who accepts a conditional offer of employment will be required to disclose if they have been subject to any final administrative or judicial decisions within the last seven years determining that they committed any misconduct; received notice of any allegations or are currently the subject of any administrative or disciplinary proceedings involving misconduct; have left a position after receiving notice of allegations or while under investigation in an administrative or disciplinary proceeding involving misconduct; or have filed an appeal of a finding of misconduct with a previous employer.

"Misconduct" means any violation of the policies or laws governing conduct at the applicant's previous place of employment, including, but not limited to, violations of policies or laws prohibiting sexual harassment, sexual assault, or other forms of harassment, discrimination, dishonesty, or unethical conduct, as defined by the employer. For reference, below are UC's policies addressing some forms of misconduct:

[UC Sexual Violence and Sexual Harassment Policy](#)

[UC Anti-Discrimination Policy](#)

[Abusive Conduct in the Workplace](#)

Equal Employment Opportunity

The University of California is an Equal Opportunity Employer. All qualified applicants will receive consideration for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, disability, age, protected veteran status, or other protected status under state or federal law.

To apply, visit

https://careerspub.universityofcalifornia.edu/psc/ucb/EMPLOYEE/HRMS/c/HRS_HRAM_FL.HRS.CG_S

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Contact Information

Please reference Academickeys in your cover letter when
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Contact

N/A

University of California, Berkeley

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