UNIVERSITY OF CALIFORNIA, SANTA CRUZ
Institute of Marine Sciences
Fisheries Collaborative Program (FCP) — Postdoctoral Scholar

DESCRIPTION

The Institute of Marine Sciences [https://ims.ucsc.edu/] at the University of California, Santa Cruz (UCSC), working in conjunction with the NOAA National Marine Fisheries Service Southwest Fisheries Science Center (NOAA Fisheries), invites applications for the positions of Postdoctoral Scholar.

The Institute of Marine Sciences (IMS) is an organized research unit whose mission is to increase knowledge of the world's oceans and inhabitants to better understand their economic importance and the impact people have on them. Through this effort, IMS maintains the responsibility to encourage, develop, and support marine research and education and does this by providing research opportunities, resources, facilities, and support for scientists within the institute and with other marine research institutions.

As part of its mission's efforts, IMS launched the Fisheries Collaborative Program (FCP) to help foster research collaborations between NOAA scientists, UCSC faculty, IMS researchers, and students. The FCP's research activities include field studies, laboratory experiments, modeling, and computational studies involving marine and freshwater species and habitats. Comprehensive studies are being conducted on the ecology and life history of Pacific salmonids and other fishes. FCP research supports the conservation of coastal biodiversity and the sustainable management of fisheries resources.

The Postdoctoral Scholar(s) will work directly on a new, multi-institutional project that will explore climate resilience and equity in California water management: COEQWAL (COllaboratory for EQuity in Water Allocations). The project brings together multidisciplinary researchers across many California institutions to broaden the scope and improve the interpretability and accessibility of projections for California's managed water resources. This ambitious two-year effort will leverage expertise at many University of California campuses, including UC Berkeley, UC Davis, UC San Diego/Scripps Institution of Oceanography, but also seeks to develop new expertise through the employment and training of postdoctoral scholars and other academic researcher positions who will assist in many technical aspects of the work.

The scholar(s) will focus on water resources system modeling of the California Central Valley using the CalSim planning models (CalSim3, CalLite) and related hydrologic and agricultural water demand models. This position will be responsible for assisting the project water resources team with the development of a large ensemble of scenarios to explore the sensitivities of water resource outcomes (delivery reliability, shortages, water quality and ecological impacts) to variability in future climate, operational priorities, and system demands. This work will be done as part of a large collaborative effort across six UC campuses and multiple other partners, requiring good communication skills and an ability to work with collaborators from a range of disciplinary backgrounds and expertise.

The scholar will also have the opportunity to explore broader scientific inquiries, including but not limited to topics such as: exploring how hydroclimatic variability and water management actions interact to affect system resiliency; addressing California water supply availability, quality, and equity challenges; and better understanding sensitivities and uncertainties in a large, complex water resources system.

The scholar(s) filling this position will frequently interact with collaborators focused on the following efforts: developing downscaled climate model-based hydrologic datasets, articulating operations scenarios for implementation, and adapting and interpreting CalSim outputs for use in other models (Delta salinity, salmon life cycle, economics, etc).

Job duties may include:

- data processing,
- converting operational rules into computer code,
- model workflow setup and execution,
- interpretation and communication of results,
- documentation of methods and outcomes.
- The position may also contribute to the design and execution of analysis to explore scientific inquiries developed during the project.

A successful applicant will have:

- exceptional attention to detail,
- ability to communicate clearly in written and oral forms,
- the ability to work independently and proactively in a dynamic collaborative environment.

The positions are fully funded for two years, with the potential for continuing appointments based on funding availability, and can be performed remotely. The positions will work under the supervision of Dr. James Gilbert, Associate Project Scientist in the Fisheries Collaborative Program at the University of California, Santa Cruz.

The hiring unit will not sponsor employment-eligible immigration statuses for this position.

ACADEMIC TITLE
Postdoctoral Scholar

SALARY
Commensurate with qualifications and experience. See the current salary scale at https://apo.ucsc.edu/compensation/salary-scales/index.html

MINIMUM QUALIFICATIONS:

- A thorough understanding of the fundamentals of hydrology or water resources systems, substantiated through education or experience
- Ph.D. in a discipline with some training in physical hydrology or water resources science or engineering, including but not limited to:
  - Civil or water resources engineering,
  - Hydrology
  - Earth science
  - Agricultural engineering
  - Geography
  - Environmental science, ecology, economics, natural resources management if training included some hydrology
- Proficiency in common tools for computing and interacting with a broad range of data types:
  - Spreadsheets (Excel)
  - Databases
  - GIS software
  - Scripting or compiled language programming (e.g. Python, R, Matlab, Fortran, C/C++)

TEAM PREFERRED QUALIFICATIONS:

- Experience with water resources modeling processes, protocols, and implementation
- Understanding of or experience with the managed infrastructure of California's Central Valley, including experience with regional models like CalSim, SacWAM, CALVIN, or CalFEWS
- Proficiency in understanding, developing, and adapting agricultural water budget and demand methods
- Experience setting up and executing complex simulations on a range of computational platforms including HPC or cloud computing services (e.g. AWS, Azure)

TERM OF APPOINTMENT:

Initial appointments are typically for a period of two years. Reappointment may be considered contingent upon the availability of work and appropriate funding provided the candidate has not exceeded their five year postdoctoral scholar eligibility.

POSITION AVAILABLE
As soon as possible after the initial review of the applications.

HOW TO APPLY:
Application materials can be submitted directly to James Gilbert at jamagilb@ucsc.edu

Documents/Materials
- Letter of application that briefly summarizes your qualifications and interest in the position (required).
- Curriculum vitae (required).
- List of publications (optional)

Reference Requirement
Applicants must provide the names and contact information of their references (a minimum of 3 are required and a maximum of 5 will be accepted). The hiring unit will request confidential letters* from the references of those applicants who are under serious consideration.

*All letters will be treated as confidential per University of California policy and California state law. For any reference letter provided via a third party (e.g., dossier service, career center, etc.), direct the author to UCSC's confidentiality statement at http://apo.ucsc.edu/confstm.htm.

RECRUITMENT PERIOD
Full consideration will be given to applications received by **September 29, 2023.** Applications received after this date will be considered only if the position has not been filled.