Position Title: Climate Resilience & Labor. Climate change is having an enormous impact on workers, particularly those who work outdoors exposed to extreme heat, wildfire smoke and other hazards. Rising temperatures increase the demand on the cardiovascular, pulmonary, and renal systems which can have devastating short term and long-term consequences. Health risks are magnified during periods of poor air quality. Therefore, mitigating the negative consequences of climate change on California's workforce, particularly vulnerable low wage workers, is critical to a safer and healthier community. Although this position is focused on workers in the food production, processing, distribution and consumption environments, the knowledge and outreach will be transferable to workers in other industries that will face similar challenges.

Position: The successful applicant will bring expertise in environmental and occupational health sciences to UC ANR’s network, along with translational and public policy research focused on characterizing and mitigating the effects of climate change on vulnerable workers in agriculture and related areas in the state. The position will support research, extension and outreach on climate-related exposures experienced in California’s work environments; solutions that involve systems approaches to redesigning work and how it is performed; and policies that collaboratively establish standards and regulations to proactively keep workers safe. Applicants should have a PhD in Environmental Health Sciences, Bioengineering, Agricultural Engineering, Public Health Policy & Management, Public Health/Nutrition/Food Systems, Medicine, Physiology or other related field. This position will have core affiliations with three units within Berkeley Public Health that have a history of CE Specialist faculty recruitment and support: Berkeley’s Division of Environmental Health Sciences(EHS); Program in Public Health Nutrition(PHN); and the Center for Occupational & Environmental Health(COEH). Current faculty and programs at Berkeley Public Health will offer the candidate vast opportunities for collaboration on research and outreach related to food systems; reduction and prevention of climate-related work exposures; worker health and nutrition; vulnerable workers; and translational research to policy.

Justification: Ensuring safe and productive work environments for California's agricultural workforce in the presence of increasingly extreme climatic conditions will be critical to improving the lives of all Californians. Low-income communities and communities of color experience disproportionate risks associated with work, including those that are intensified by climate change. And as our climate changes, Californians will work more days with rising temperatures and poor air quality while jobs in many sectors transition to non-traditional, contingent employment arrangements with little to no safety nets. These changes present major public health challenges that will impact our most vulnerable workers including those who are immigrants, live in multigenerational households, are young (14-24 years), old (55-70 years), or have medical conditions. A CE Specialist who is a leader in the environmental and occupational health sciences—and who focuses on advancing a climate resilient workforce—will support major advances in translational research to develop safer, more productive workplaces across the global food system, spanning California’s food production, processing, distribution, and consumption environments. The candidate would add to—and draw upon—Berkeley’s excellence in environmental and mechanical engineering, food systems science, epidemiology, industrial hygiene, nutrition, and climate science and add a critical perspective of the worker to the existing ANR team projects.

Extension: The candidate will be a key driver of our research to practice initiatives by researching and implementing effective climate resilience solutions; collaborating with and educating employers, labor organizations, and workers on climate hazards and their mitigation; and stakeholder engagement focused on defining and advancing the future of climate resilient work in California. The CE Specialist will be supported by the vibrant outreach and stakeholder engagement activities of COEH housed within Berkeley Public Health. Examples of collaborative extension activities the CE Specialist might engage in include:

- Engaging with stakeholders of key food system sectors to understand how jobs and workers are impacted by climate change, then develop research and practical avenues to mitigate adverse impacts;
- Lead collaborations with industrial and labor organizations to disseminate information and best practices on how to work safely within a changing environment;
- Participate in state legislative advisory meetings to communicate impacts of climate change on workers in the food system, and explore potential policy developments to limit their adverse consequences;
- Partner with COEH to engage stakeholders in related workplaces (e.g., in fire management, construction, and warehouse industries) to develop cross-sector climate resilient workforce strategies.

**Research:** The CE Specialist will conduct research on the health and safety impacts of climate change on California's outdoor—and otherwise climate-exposed—workforce, and the engineering, regulatory and environmental controls that could limit adverse exposures within food production, processing, distribution, and consumption environments. Examples include:
- Estimating the impact of temperature and AQI on physiological workload and stress on the cardiovascular, pulmonary, and renal systems;
- Examining the effect of outdoor hazards (extreme temperature, poor AQI, etc.) on uncontrolled indoor work environments and worker health;
- Estimating the interaction between particulate matter air pollution, extreme temperature and worker cardiovascular, pulmonary, and renal diseases as assessed through biological monitors and markers;
- Evaluating the impact of wearable monitors and cooling technologies on worker health

**ANR Network:** Although workgroups address topics important to food production in various agricultural sectors none of them focus on how climate change will impact the health and safety of workers critical to all these sectors. Further, Climate Change, Research-to-Policy, and DEJI Program Teams, and the Positive Youth Development and California Communities working groups offer immediate opportunities for engagement. Given the vast number of opportunities to have a positive impact with working groups, the incumbent will facilitate collaborations between ANR’s network and resources within COEH, the Division of EHS and Program in PHN.

**Network External to ANR:** UC Berkeley provides a variety of potential collaborators for the incumbent that would amplify this person’s impact. COEH has over 95 faculty across 6 academic programs at 3 campuses with connections and networks to facilitate research, outreach, and teaching opportunities. Further, COEH has the Labor Occupational Health Program and Continuing Education to support community engagement with all types of stakeholders from Labor Unions to Employers to Health Professionals. Multiple faculty members within COEH are engaged in Public Policy related to Occupational Health including the Cal-OSHA Standards Board. The network of resources, collaborators, and mentors is vast and will ensure successful and productive outcomes.

**Support:** Berkeley Public Health, COEH and Public Health Nutrition have outstanding records of supporting the career advancement and success of recent CE Specialist colleagues (e.g., Dr. James Myers, Dr. Patricia Crawford, etc.). Berkeley Public Health and COEH will provide the faculty member with office space within the School’s University Hall and/or Berkeley Way West buildings. COEH will also provide laboratory space and critical shared research equipment at the Richmond Field Station, where 6500 square feet of space includes a Work Simulation Center, air quality monitoring systems, and laboratory equipment used to measure physiological workload physical activity, and cardiometabolic markers.

**Other support:** The incumbent will be expected to lead and/or collaborate on grants that will support his/her work. COEH leads major training grants amounting to approx. $2 million per year, which the CE Specialist will be able to draw upon to support students and trainees. Additional support is available should the incumbent engage in program leadership roles or teaching relevant course(s). Supplementary start-up support may be available.

**Headquarters and Coverage Area:** UC Berkeley has become a critical hub for science and policy in climate change and food systems, providing the CE Specialist with key collaborative opportunities. Research and outreach is anticipated to focus on the immediate region around the three COEH campuses (Berkeley, UCSF, UC Davis), but we expect the coverage area to range from Monterey County to Madera on the southern edge, and Butte County to Placer along the northern edge, based on the existing reach of our current research and outreach.

**Developed and proposed by:** This position was developed by Berkeley Public Health through a collaboration between the Northern California COEH, the Division of Environmental Health Sciences and the Program in Public Health Nutrition. The team solicited input and support from various Program Teams and workgroups.