**UC Berkeley HEAT HEALTH CLIMATE Workshop — Resource Handout**

***Compiled by: Berkeley Climate Change Network***

**Marin County Heat Activities**

1. [Marin Officials Turn to Heat Risk Planning System](https://www.marinij.com/2022/09/11/marin-officials-turn-to-heat-risk-planning-system/) (Marin IJ Sept 2022)
2. **[Staying Cool and Safe in Warm Weather](https://www.marinhhs.org/staying-cool-safe-warm-weather) (Marin Health and Human Services)**

Cooling Tips

Keep Your House Cool

[Learn How to Create an Energy Efficient Home](https://www.pge.com/en_US/residential/save-energy-money/resources/everyday-tips/energy-saving-tips/energy-saving-tips.page)

Safety Tips

Warning Signs of Heat Problems

Heat Exhaustion

Heat Stroke

1. [Cooling Centers in Marin County](https://www.marinhhs.org/cooling-centers)
2. News Releases: [Taking Steps to Reduce Effects of Excessive Heat](https://www.marincounty.org/main/county-press-releases/press-releases/2022/so-oes-heat-watch-090122)

Plan Ahead

Stay Cool

Stay Hydrated

Stay Informed

Heat Cramps

Heat Exhaustion

Heat Stroke

**Alameda County Heat-Related Projects**

1. Concluding development of **Climate Action Plan for Government Services & Operations**, which includes numerous actions to increase community resilience, co-creation with residents, responsiveness to specific frontline communities such as unhoused residents and older adults who may be most affected by extreme temperatures
2. Convening an **inclement weather working group** to coordinate efforts to guide/publicize/open cooling centers (and cleaner air centers, etc.)
3. Drafting a **cross-agency Alameda County Extreme Heat Communications Plan**.
4. Seeking funding to work with community organizations to **co-create public education resources** on protective actions for heat, smoke and beyond.
5. Building on community and other stakeholder engagement from the **Cooling Our Communities** tree planting program (2019-2022) to inform the development of our **Community Climate Action Plan and Environmental Justice Element for** the unincorporated parts of the county.

* **Environmental Justice Element:** Beginning in 2022, identifying objectives and policies that prioritize improvements and programs to address the needs of disadvantaged communities in the unincorporated areas of the County. Topics include reducing pollution exposure, increasing access to public facilities, promoting safe and sanitary homes, promoting health and physical activity, and promoting civic engagement in public decision-making processes.
* **Community Climate Action Plan and Safety Element**: Beginning in 2023, engaging community in climate-related general plan updates for unincorporated Alameda County. The Community Climate Action Plan serves as a roadmap for reducing greenhouse gas emissions and integrating climate adaptation and resilience strategies and programs in the unincorporated communities of the County. The Safety Element identifies existing and projected hazards in unincorporated Alameda County and explores strategies to minimize human injury, loss of life, property damage, and economic/social dislocation, including strategies for responding to climate adaptation and resilience.

[Heat and Health Resources](https://acphd.org/phep/heat-and-health/) for Residents

* [Heat & health resources from Alameda County Public Health](http://www.acphd.org/phep/heat-and-health.aspx)
* [Heat & health resources for unincorporated area residents](https://www.coolingourcommunities.com/heat)
* [Heat emergency resources for people experiencing homelessness](https://www.achch.org/heat-emergency-resources.html)
* [List of cooling centers with air conditioning](https://www.acgov.org/emergencysite/) (posted during warmer months; may be limited due to COVID-19)

**City of San Leandro Heat Resources**

Tree master plan: <https://www.sanleandro.org/1157/Tree-Master-Plan>

CalFire tree grant: <https://www.sanleandro.org/1158/CalFire-Tree-Grant>

Annual summer climate impacts health workshop for community based organizations in collaboration with Alameda County Public Health, example info on website: <https://www.sanleandro.org/807/Climate-and-Health>

**City of Berkeley Heat-Related Activities**

1. **Urban Forestry Equity Program (Department of Parks, Recreation and Waterfront - PRW)**
   1. Trees Make Life Better Program: The City of Berkeley’s Department of Parks, Recreation and Waterfront sought and received state grants for fund tree planting in neighborhoods that have lower levels of tree canopy density. These neighborhoods are also those which have been historically disinvested in, including through redlining. The grants fund tree planting in neighborhoods that have lower levels of tree canopy density. Both grants will cover staff costs, trees, planting materials, marketing, watering, and concrete cuts if needed. With funds from the above grant awards, the City has developed the Trees Make Life Better Program to inform residents of the potential for new street trees. The City anticipates that approximately 1,200 - 1,800 new street trees will be planted with these funds. So far, over 500 trees have been planted in west Berkeley. Additionally, the grant will provide for the planting and watering of 250 trees in Aquatic Park, 50 in San Pablo Park, and 50 on University Avenue between Frontage and Marina Boulevard.
      1. Grants:
         1. Urban Greening Grant Program for $725,000, with a City match of $190,000. Awarded March, 2020.
         2. Environmental Enhancement and Mitigation Program Grant for $500,000, with a City match of $125,000, awarded February 2022.
      2. Resilience benefits: Equity, urban cooling, greenhouse gas reductions, air quality improvement, beautification, quality of life.
      3. Reference: <https://berkeleyca.gov/community-recreation/news/get-tree-front-your-home-or-business-or-help-plant-one>
2. **Cooling Centers (Office of Emergency Services - OES)**
   1. City Cooling Centers are hosted using existing City sites (Libraries, Senior Centers, Old City Hall). Activation involves public communications, upstaffing for longer hours if necessary.
   2. The City considers whether the site has A/C before promoting it as a cooling center.
   3. If temperatures are forecast to reach 90 degrees, the City’s focus will be to ensure that cooler indoor spaces are available for and communicated to unhoused community members. Cooling Center locations need to be cooler than the outdoors but do not require air conditioning (ex: Old City Hall). Cooler air centers focused on unhoused community members are promoted through social networks and services providing direct support to these groups.
   4. If temperatures are forecast to reach 100 degrees, the City’s focus expands to ensure that cool indoor spaces are available for and communicated to vulnerable community members.
3. **Community Readiness for Extreme Heat (Berkeley Ready – OES] and Public Health)**

The OES and Public Health Emergency Preparedness teams are working together to identify ways to better serve Berkeley’s most vulnerable populations during extreme heat events.

1. Community Resilience Center (CRC) & Apartment Resilience Center (ARC) Programs: Through our Community Resilience Center Program and Apartment Resilience Center Programs, we are exploring ways to work with community-based organizations serving marginalized communities in Berkeley to continue supporting their clients through heat events. Options under consideration include well checks, allocation of cool kits, hosting cooling centers, allocation of portable air conditioner units.
2. Community preparedness: The Berkeley Ready team is developing public messaging and preparedness instructions for extreme heat events.
3. Supply distribution/equipment lending: The Berkeley Ready team is exploring effective methods to distribute of supplies (ex: cool kits) and equipment (ex: box fans) to vulnerable community members. Ideas include working through CRCs/ARCs (per above), as well as with Libraries.
4. **Hazard Analysis of Extreme Heat (Berkeley Ready – OES and Public Health)**

Berkeley is doing ongoing hazard analysis of extreme heat impacts. The City plans to report back on current findings as part of the 2024 Local Hazard Mitigation Planning process. Two outstanding questions related to Berkeley’s environment that are being explored:

1. Better understanding the impacts of thermal belting on overnight temperature recovery in Berkeley. In the September 2022 heat wave, temperatures in the Berkeley hills got hotter and stayed much hotter overnight than in the Berkeley flats. This was a surprise because the Berkeley hills are much better vegetated. The team understands that this is attributable to the thermal belting phenomenon, and is working to better understand what this means for the City's preparedness and response programs.
2. Better understanding of the benefit provided by tree canopy during extreme heat events.
3. **Extreme Heat Planning (Berkeley Ready – OES and Public Health)**
   1. Berkeley is working on plans to address extreme heat, including the City’s maintenance of essential functions and emergency response actions, to include:
      1. Identifying and responding to City infrastructure vulnerabilities
         1. Identifying thresholds for failure of City-run and externally-run infrastructure
         2. Identifying sites where City services will need to be curtailed due to extreme temperatures, identifying alternate worksites when appropriate, and pausing nonessential work for employee and customer safety
      2. Ramping up emergency medical services to serve increased call volumes
      3. Coordination within the City organization and with external partners to serve the public
      4. Cooling center operations using City sites and partner coordination (see above)
      5. Supply procurement and distribution (water, cooling kits)
      6. Public messaging
   2. Berkeley is coordinating with other cities including Portland, Seattle, and Vancouver BC as they discuss lessons learned and ongoing plans to address extreme heat, largely after the extreme heat wave that impacted the Pacific Northwest in 2021.

**Contra Costa County Heat Resources**

[**Climate Change Vulnerability in Contra Costa County: A Focus on Heat (2015)**](https://cchealth.org/health-data/pdf/2015-climate-change.pdf)

**[Heat and Your Health](https://cchealth.org/heat/)**

**Contra Costa County Excessive Heat Response Plan**

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Heat-Related Health Conditions 7

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NWS (National Weather Service) Experimental Heat Risk Forecast Tool 8–9

NWS Indicators and CCHS Response Phases 10-13

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Appendix A: CCHS Department Current Response Actions and Existing Resources 20

Appendix B: Indicators Used to Develop the Heat Vulnerability Score in the 2015 Climate Change Vulnerability Study of Contra Costa County 26

**Santa Clara County Heat-Related Projects**

**Heat and Air Quality Resilience (HAQR) Work Group** –Convenes diverse stakeholders to align priorities, engage communities, share best practices, and coordinate the implementation of strategies and projects across organizations and communities to advance equitable solutions to the health impacts of heat and air quality hazards. HAQR is part of the [Santa Clara County Climate Collaborative](https://www.climatecollaborativescc.org/), a cross-sector network and community of practice to advance regional solutions to climate change.

**Extreme Heat Social Media Campaign** (forthcoming) – Public Health will be collaborating with County departments and community organizations to implement a social media campaign this summer. The campaign will include:

○ Health effects of extreme heat exposure

○ Suggestions to stay cool and safe

○ Resources and cooling center information

* Specific messaging for populations most vulnerable to extreme heat

**Climate and Health webpage –**The Public Health Department recently added a [Climate and Health webpage](https://publichealth.sccgov.org/health-information/climate-and-health) which includes resources for preparing for extreme heat, hot weather safety tips, and other resources.

**Santa Clara County Climate Impact Compendium –**The newly created [Climate Impact Compendium](https://sustainability.sccgov.org/climate-action-and-adaptation/climate-impact-compendium#demographic-data) includes tools, resources, and story maps to address climate impacts such as extreme heat. Relevant health, socio-economic, and demographic data is available to determine vulnerability to climate impacts and adaptive capacity.

**Cooling Centers** – County departments are exploring strategies to increase access and utilization of cooling centers during extreme heat events.

**Silicon Valley 2.0 Climate Change Preparedness Tool -**[Silicon Valley 2.0](https://siliconvalleytwopointzero.org/home) provides a climate vulnerability and economic risk assessment for the entire Santa Clara County to support adaptation and resilience planning. Extreme heat is one the four climate hazard areas addressed in the tool.

**Continuity of Operations and Resiliency Study for the 3 County owned and managed hospitals** -

This study will include a vulnerability assessment to heat, wildfire, precipitation, and sea level rise for mid-late century hazard scenarios and an adaptation plan/strategy for making the facilities resilient in the future.

**City/County of San Francisco Heat Resources**

[Understanding the Risk:  
An Assessment of San Francisco’s Vulnerability to Extreme Heat Events](https://sfclimatehealth.org/wp-content/uploads/2018/12/climate-and-health-report-130628.pdf) (2018)

[Heat and Air Quality Resilience Project](https://onesanfrancisco.org/heat-and-air-quality-resilience)

[Preparing for Extreme Heat in San Francisco -  
Climate Change and Your Health](https://sfclimatehealth.org/wp-content/uploads/2019/06/Extreme-Heat_2019.04.19.pdf)

[San Francisco Climate and Health Profile](https://sfclimatehealth.org/wp-content/uploads/2018/12/SFDPH_ClimateHealthProfile_FinalDraft.pdf)

**Berkeley Law**

[Ted Lamm](https://www.law.berkeley.edu/research/clee/about/people/ted-lamm/), [Ethan Elkind](https://www.law.berkeley.edu/research/clee/about/people/ethan-elkind/) (Berkeley Law, CLEE) [tlamm@law.berkeley.edu](mailto:tlamm@law.berkeley.edu) [elkind@berkeley.edu](mailto:elkind@berkeley.edu)

* [Insuring Extreme Heat Risks](https://www.law.berkeley.edu/wp-content/uploads/2020/11/Insuring-Extreme-Heat-Risks-Dec-2020.pdf) (2020)

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Louise Bedsworth, Director, Center for Law Energy and Environment [lbedsworth@berkeley.edu](mailto:lbedsworth@berkeley.edu)

**College of Environmental Design**

[Gail Brager](mailto:Gail%20Brager) (Architecture, Center for the Built Environment) [gbrager@berkeley.edu](mailto:gbrager@berkeley.edu)

* Buildings and Architecture
* Leads research efforts in mixed-mode buildings, which combine natural and mechanical ventilation.
* Leads CBE’s research into dynamic comfort and worker performance in alternative office environments.

[Zoé Hamstead](mailto:Zoé%20Hamstead) (City & Regional Planning)  [zoehamstead@berkeley.edu](mailto:zoehamstead@berkeley.edu)

·       Urban heat and built environment-related spatial modeling

·       Heat Politics: lived experiences of weathering heat waves

·       Thermal Governance: nexus of energy, housing, climate, and health services

[Daniel Rodriguez](https://ced.berkeley.edu/ced/faculty-staff/daniel-rodriguez) (City and Regional Planning) [danrod@berkeley.edu](mailto:danrod@berkeley.edu)

* Examining the mortality consequences of past extreme heat events; whether greenspaces and air pollution ameliorate or exacerbate those effects; and how mortality will change as heat events increase under global emissions scenarios for the midcentury.
  + [City-level impact of extreme temperatures on mortality in Latin America](https://www.nature.com/articles/s41591-022-01872-6)
    - Research Briefing [here](https://www.nature.com/articles/s41591-022-01893-1.epdf?sharing_token=iV0zw7UXB96Hy3DJftaIAtRgN0jAjWel9jnR3ZoTv0N64SnaSnxVBv3UmihNkpKdSRldL2UdqMT1n0vEQfcDXjkNarmsHme9DJXoHawd8ZmnbsPhuH_XLWqM4aaAdBhQLq6XlhIG9iQyhNLyp_iu7uBbYCHii2kid8_qnzn7Ymc%3D)
    - Manuscript results portal [here](https://drexel-uhc.shinyapps.io/MS85/)
* Leading project with Drexel University Dornsife School of Public Health (DSPH), through its Urban Health Collaborative (UHC), [Green spaces, air pollution, and climate-related heat mortality in Latin American cities.”](https://wellcome.org/grant-funding/people-and-projects/grants-awarded/green-spaces-air-pollution-and-climate-related-heat) Study uses data gathered by [Salud Urbana en América Latina (SALURBAL)](https://drexel.edu/lac/salurbal/overview/) project and extend its research to further the understanding of how urban environments may influence health in the context of climate change.
  + Whether SES modifies the relationship between heat and mortality in Latin American cities
    - <https://www.sciencedirect.com/science/article/pii/S0277953622008322>
  + Research brief on Green spaces and climate change -- strategies for adaptation and mitigation for latin american cities

<https://drexel.edu/~/media/Files/lac/Briefs/policy-briefs/brief-AREASVERDES-Nov22.ashx?la=en>

* In partnership with WRI and Drexel University, examining intra-urban disparities in heat mortality
* Expanding collaboration to consider health impact assessments of adaptation and mitigation strategies in Santiago (greening) and Bogota (urban development)

[Stefano Schiavon](https://vcresearch.berkeley.edu/faculty/stefano-schiavon) (Architecture, Civil and Environmental Engineering) [schiavon@berkeley.edu](mailto:schiavon@berkeley.edu)

* How to reduce energy consumption in buildings and, at the same time, increase indoor environmental quality. Has performed human subject experiments in climatic chambers and real buildings. Working in Singapore on cooling technology and green solutions for buildings located in the Tropics for more than 10 years. Has worked on ventilation strategies, personal environmental control systems, radiant-hydronic systems, air movement, thermal comfort, systems integration and building renovation.
* Thermal comfort — [CBE Thermal Comfort Tool](https://comfort.cbe.berkeley.edu/) is a free online tool for thermal comfort calculations, [air movement as affordable and sustainable cooling strategies](https://www.linkedin.com/pulse/turning-up-thermostat-tropics-shows-promise-energy-comfort-schiavon/), [overcooling and gender inequality in thermal comfort](https://www.linkedin.com/pulse/overcooling-offices-reveals-gender-inequity-thermal-comfort-schiavon/), [using wearables to predict thermal comfort](https://www.linkedin.com/pulse/using-wearable-sensors-predict-thermal-comfort-stefano-schiavon/), [contributed to the development of the largest database in the world about thermal comfort](https://www.sciencedirect.com/science/article/abs/pii/S0360132318303652), [the effect of temperature on human cognitive performance](https://www.linkedin.com/pulse/meta-analysis-finds-relationship-between-indoor-office-schiavon/).
* Heat stress — [a Python library for thermal comfort and heat stress calculations](https://www.linkedin.com/pulse/pythermalcomfort-python-package-thermal-comfort-stefano-schiavon/), [Can electric fans be safely used to cool people during heatwaves? Yes](https://www.linkedin.com/pulse/can-electric-fans-safely-used-cool-people-during-stefano-schiavon/), [predicted heat strain tool](https://comfort.cbe.berkeley.edu/phs)
* Building energy use and efficiency — [metrics for the design and assessment of resilient buildings](https://www.linkedin.com/pulse/ventilation-thermal-luminous-autonomy-metrics-design-process-stefano/), [air distribution](https://www.sciencedirect.com/science/article/abs/pii/S0378778819307893), [radiant systems](https://www.sciencedirect.com/science/article/abs/pii/S0378778813003472))
* Indoor air quality — [Human respiratory performance during exposure to moderate levels of CO2](https://www.linkedin.com/pulse/human-respiratory-performance-during-exposure-levels-co-schiavon/), [robot to measure indoor air quality](https://www.linkedin.com/pulse/new-robot-developed-measure-indoor-environmental-quality-schiavon/), [indoor environmental quality assessment in buildings](https://www.sciencedirect.com/science/article/abs/pii/S0360132313002539), [people's satisfaction in buildings](https://www.linkedin.com/pulse/satisfaction-levels-buildings-results-from-cbe-survey-schiavon/)

Hui Zhang (Center for the Built Environment) [zhanghui@berkeley.edu](mailto:zhanghui@berkeley.edu)

* Reducing heat stress in extreme conditions using fans and evaporative cooling
* Working with Ronnen L at LBNL on DOE-funded “Resilient Cooling” project
* Fans for resilient cooling (can be used higher than recommended temp limit)

Edward Arens (Architecture, Center for the Built Environment) [earens@berkeley.edu](mailto:earensi@berkeley.edu)

* Design and testing of optimally efficient personal comfort systems (PCS).
* Mainstreaming the adoption of PCS and other decentralized comfort control in buildings by authoring changes to building standards and governmental policies.
* Developing advanced dynamic comfort models for improving the design of outdoor spaces and transitional environments such as transit facilities, lobbies, retail stores, and restaurants.

Charlie Huizenga (Center for the Built Environment) [huizenga@berkeley.edu](mailto:huizenga@berkeley.edu)

* Thermal comfort/physiology modeling
* Personal comfort systems for energy efficiency and heat stress reduction
* Building energy use and efficiency

**College of Letters and Science**

[Daniel Aldana Cohen](mailto:Daniel%20Aldana%20Cohen) (Sociology) [dacohen@berkeley.edu](mailto:dacohen@berkeley.edu)

* Whole community climate mapping
* Director, [Socio-Spatial Climate Collaborative](https://sc2.berkeley.edu/)
* Indoor heat islands (new paper under review)
* Housing
* Environmental justice

David Romps (Earth and Planetary Sciences) [romps@berkeley.edu](mailto:romps@berkeley.edu)

* [Extending the heat-index thermoregulation model](https://romps.berkeley.edu/papers/pubs-2020-heatindex.html)
* [Ranking US heat waves](https://romps.berkeley.edu/papers/pubs-2022-heatwave.html)
* [Comparison of heat-stress models to laboratory data](https://romps.berkeley.edu/papers/pubs-2022-jap.html)

**Lawrence Berkeley National Lab**

[Ronnen Levinson](https://eta.lbl.gov/people/ronnen-levinson) (LBNL) [rmlevinson@lbl.gov](mailto:rmlevinson@lbl.gov)

* [Urban Heat Island Group](https://heatisland.lbl.gov/) Leader
* Cool pavements, roofs, walls, cars, etc.

[Liz Stuart](https://eta.lbl.gov/people/elizabeth-stuart) (LBNL) [EStuart@lbl.gov](mailto:EStuart@lbl.gov)

* Energy efficiency and load flexibility policies, programs and markets with a concentration on energy savings performance contracting/the ESCO industry.
* Financial vehicles and providers that can contribute to mitigating the effects of extreme heat on humans

[Michael Wehner](https://crd.lbl.gov/divisions/amcr/computational-science-dept/acsd/staff/staff-members/michael-wehner/) (LBNL) [mfwehner@lbl.gov](mailto:mfwehner@lbl.gov)

* [The effect of anthropogenic climate change on heat waves in the United States.](https://crd.lbl.gov/assets/Uploads/CONUS-2021-heat-wave-attribution-statement-071221.pdf) [Attribution study for the 2021 Western U.S. Heat Wav](https://crd.lbl.gov/assets/Uploads/CONUS-2021-heat-wave-attribution-statement-071221.pdf)e.
* [Attribution for the 2020 California heatwave](https://crd.lbl.gov/assets/Uploads/California-heatwave-attribution-and-projection.pdf)
* The behavior of extreme weather events in a changing climate, especially heat waves, intense precipitation, drought and tropical cyclones
* [The Impact of Moisture and Temperature on Human Health in Heat Waves](http://naturalhazardscience.oxfordre.com/view/10.1093/acrefore/9780199389407.001.0001/acrefore-9780199389407-e-58) (Wehner, Castillo, Stone)
* [The deadly combination of heat and humidity in India and Pakistan in summer 2015](https://journals.ametsoc.org/view/journals/bams/97/12/bams-d-16-0145.1.xml?tab_body=pdf) [in “Explaining Extremes of 2015 from a Climate Perspective”] – Wehner, Castillo, Stone, et al)
* [Benefits of mitigation for future heat extremes under RCP4.5 compared to RCP8.5](https://link.springer.com/article/10.1007/s10584-016-1605-5). (Tebaldi & Wehner)
* Is land use producing robust signals in future projections (*of extreme temperatures*) from earth system models, all else being equal? (Tebaldi, Wehner, Leung; in review)
* [Anthropogenic contributions to the 2021 Pacific Northwest heatwave](https://agupubs.onlinelibrary.wiley.com/doi/10.1029/2022GL099396) (Bercos-Hickey et al)
* Characterizing the extremal dependence in spatial analysis of 2021 Pacific Northwest heatwave (Zhang et al. In preparation)

[Max Wei](https://eta.lbl.gov/people/max-wei) (LBNL) [mwei@lbl.gov](mailto:mwei@lbl.gov)

* [Multi-year study of extreme heat in Fresno vulnerable communities](https://uccs.ucdavis.edu/events/2022-February-24-UCCSBriefing)
* [CAL-THRIVES – A California Toolkit for Heat Resilience in Underserved Environments](https://www.youtube.com/watch?v=DmPSedNLTqc)
* [Quoted in LA Times series on heat and equity](https://www.latimes.com/california/story/2021-10-28/extreme-heat-built-environment-equity)– why shouldn’t building codes require AC?

**Rausser College of Natural Resources**

[Geospatial Innovation Facility](http://gif.berkeley.edu/resources/cal-adapt.html) (ESPM) [nethomas@berkeley.edu](mailto:nethomas@berkeley.edu)

Nancy Thomas (ESPM)

* [Cal-Adapt](https://cal-adapt.org/) – Localized extreme heat day and night tools for California planners

**School of Public Health**

[John Balmes](https://vcresearch.berkeley.edu/faculty/john-balmes) (SPH, UCSF, CARB) [jbalmes@berkeley.edu](mailto:jbalmes@berkeley.edu)

* Climate/health, air pollution, wildfire
* [Climate Change and Implications for Prevention. California’s Efforts to Provide Leadership](https://www.atsjournals.org/doi/full/10.1513/AnnalsATS.201706-476MG) (heat and air pollution)
* [Climate change. A global threat to cardiopulmonary health.](https://pubmed.ncbi.nlm.nih.gov/24400619/)
* [The last Summer Olympics? Climate change, health, and work outdoors.](https://pubmed.ncbi.nlm.nih.gov/27533426/)
* [Where There’s Wildfire, There’s Smoke](https://www.nejm.org/doi/full/10.1056/NEJMp1716846)

[Jennifer Head](https://jrhead.github.io/) (SPH) [jennifer\_head@berkeley.edu](mailto:jennifer_head@berkeley.edu)

* Mathematical and statistical models to understand the impact of public health policies, climate, and individual behaviors on infectious disease dynamics. Particular focus on emerging, environmentally-mediated, or zoonotic diseases.
* [Environmental factors influencing COVID-19 incidence and severity](file:///var/folders/44/zcgj8yr5409fjdx9fyshgpy80000gp/T/com.apple.mail/com.apple.mail/compose/attach/•%09https:/www.annualreviews.org/doi/abs/10.1146/annurev-publhealth-052120-101420).
* [Influence of meteorological factors and drought on coccidioidomycosis incidence in California, 2000-2020.](file:///var/folders/44/zcgj8yr5409fjdx9fyshgpy80000gp/T/com.apple.mail/com.apple.mail/compose/attach/•%09https:/www.medrxiv.org/content/10.1101/2022.02.03.22270412v1)

[Layla Kwong](https://publichealth.berkeley.edu/people/laura-kwong/) (SPH) [lakwong@berkeley.edu](mailto:lakwong@berkeley.edu)

* Global environmental health — Bangladesh, India, China, Mongolia, Fiji, Indonesia, Peru, Uganda, and Mali in urban, rural, and humanitarian settings.

Cara Schulte (SPH) [cara\_schulte@berkeley.edu](mailto:cara_schulte@berkeley.edu)

* DrPH student planning dissertation work on heat + human rights
* Working with Dr. Layla Kwong on heat in Bangladesh
* Consulting work for Global Heat Health Information Network, Human Rights Watch, and Climate Rights International on heat and pregnancy/maternal health

Rohini Haar (SPH) [rohinihaar@berkeley.edu](mailto:rohinihaar@berkeley.edu)

# **Health, wildfires, heat, equity**

# **Emergency room physician**

# **Research fellow - Berkeley Law’s Human Rights Center**

# **Lecturer - Berkeley’s School of Public Health**

# [Health and social impacts of California wildfires and the deficiencies in current recovery resources: An exploratory qualitative study of systems-level issues](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0248617) **(Rosenthal, Haar, Stover)**

Tenaya Summers-Lafore (SPH - Labor Occupational Health Program) [tenaya@berkeley.edu](mailto:tenaya@berkeley.edu)

* Research into impact of heat on low wage workers
* Training for worker organizations and impacted workers to build their capacity to identify heat hazards and work together to advocate for needed protections
* Consultation on effective policy strategies

Annie Rosenthal (SPH, UC College of Law)

# [Health and social impacts of California wildfires and the deficiencies in current recovery resources: An exploratory qualitative study of systems-level issues](https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0248617) **(Rosenthal, Haar, Stover)**

* Associate Director, CARE Program