BERKELEY CLIMATE MAP — WILDFIRES – JUNE 2025

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Berkeley has a long history with forestry and wildfire. Our connection with forestry management began in 1914 with the "Division of Forestry" within the Department of Agriculture. The program evolved into the Department of Forestry in 1939 and the School of Forestry in 1946. In 1974, the College of Agriculture and the School of Forestry, along with other related units, merged to form the College of Natural Resources. ESPM's Master of Forestry degree is the only "M.F." program in California and the only graduate degree program in California that offers qualifying credit for meeting education/experience requirements for licensing as a Registered Professional Forester in California.

Berkeley's research and action on wildfires currently covers a number of critical topics, including:
- Early wildfire detection (drones, satellites, sensors, etc.)
- California policy and regulations
- Forest management practices
- Smoke impacts on human health
- Wildfires in national parks
- Evacuation strategies
- Fire-resistant materials for buildings and infrastructure
- Wildfire history in California
- Human rights
- Impacts on ecosystems and agriculture
- Impacts on vulnerable populations—farm workers, prisoners, etc.
- Insurance and risk
- Post-fire recovery and rebuild
- Housing and community development
- Utility undergrounding, shutoffs, etc.
- Fire management in tribal communities

Wildfire research is being conducted today primarily within 8 entities — Rausser College of Natural Resources, Berkeley Law, School of Public Health, School of Engineering, College of Environmental Design, L&S Physical Sciences, Haas School of Business, and Lawrence Berkeley Lab. Off-campus partners include the State of California, Sonoma County, PG&E, National Park Service and others.

First	Last	Affiliation (primary	Summary	Selected Projects/Reports/Classes
David	Ackerly	RCNR	Impact of fire on plant communities -- resilience	Living With Fire – Sonoma County Symposium
Alice	Agogino	Engineering - Mechanical Engineering	Mechanical Engineering, Intelligent learning systems, informational retrieval and data mining. Early detection wildfires, Squishy Robotics	Squishy Robotics manufactures a robotic ball that can be dropped into a blaze to take critical temperature and wind readings that can assist first responders. CITRIS 2022 Seed Award: Human-Drone-Robot Teaming for Wildfire Detection: Technology and Workforce Development
Ken	Alex	Center for Law, Energy and Environment	Director, Project Climate at CLEE	Climate & Wildfire Institute
Joshua	Apte	Engineering - Civil and Environmental Engineering	Air pollution with major focus on impacts on vulnerable communities. Wildfire smoke Apte's research focus is air quality engineering and various techniques for air pollution exposure assessment. His research group addresses policy-relevant air pollution challenges related to energy, infrastructure, climate change, and human health.	How Much Wildfire Smoke is Infiltrating Our Homes (co-author with Allen Goldstein)
Thomas	Azwell	Engineering – Civil and Environmental Engineering	Founder and Director, Disaster Lab – Practical Solutions for Climate Resilience, Disaster Preparedness and Sustainable Recovery	Confronting Wildfire: Into the Fire to Advance Research and Innovation

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				Disaster Lab blog posts on wildfire projects
John	Balmes	Public Health - Environmental Health Sciences	Physician Member, California Air Resources Board. Respiratory, cardiovascular and metabolic health effects of various air pollutants and occupational agents. Smoke and health	What You Need to Know about Wildfire Smoke and Its Impacts on Health The Changing Nature of Wildfires: Impacts on the Health of the Public (2020
John	Battles	RCNR - ESPM	Professor of Forest Ecology. Research program goal is to know how and why forests change. Our understanding must apply to specific forests with all the attendant complexities and idiosyncrasies.	Co-chair, Science Advisory Panel, California Forest Management Task Force. How and why forests change. How Indigenous Burning Shaped the Klamath's Forests for a Millennia
	Berkeley Fire Research Lab	Engineering	Michael J. Gollner , Director -- Fire science utilizing experiments and combustion and fluid dynamics theory to solve problems. Congressional testimony by Gollner in 2022 on wildfire policy and mitigation	New Models Shed Light on How Wildfires Spread Through Communities
	Berkeley Forests	RCNR - ESPM	Bill Stewart, Co-Director. Scott Stephens, Co-Director. Berkeley Forests operates six research forests throughout the state to develop and test appropriate management strategies for forested watersheds that will flourish under different climate change scenarios. Berkeley Forests is home to the oldest permanent forest plots (1915) and longest running forestry summer camp (1917) in the Western United States.	Fire and Fire Surrogates Study 20 year study shows CA forests healthier when burned or thinned Berkeley News on Fire Surrogate Study Fuels and Forest Health Treatments

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	Berkeley Lab Wildfire Research	LBNL	Berkeley Lab is home to interdisciplinary research exploring wildfire and how it impacts water, air, and ecosystems.	Featured Activities: • Wildfire and Ecosystems • Wildfire and Water • Wildfire and Air Quality • Wildfire and Climate Change
	Center for Law, Energy and Environment	Law	Daniel Farber, Faculty Director Louise Bedsworth, Executive Director Solving our most pressing environmental challenges through actionable research, training, and engagement to accelerate the implementation of solutions.	Scoping the Health Impacts of Wildfire: A Primer for Stakeholders – Kasia Dahlbeck See also Human Rights Center and Project Climate
Jeffrey	Chambers	L&S Physical Sciences - Geography	Forest impacts from climate change and other disturbances (hurricanes, drought, fire), biogeography, and land-atmosphere interactions.	There Could Be an App for Detecting Wildfires
Fotini	Chow	Engineering - Civil and Environmental Engineering	Developing analytical and computational methods that help quantify climate change mitigation strategies, air quality effects, and cloud representation and feedback in regional climate models.	Wildfire smoke, Air Quality
	CITRIS and the Banatao Institute	Campuswide - Berkeley, Davis, Merced, Santa Cruz	Alexandre Bayen, Director Camille Crittenden, Executive Director. Creating IT solutions that generate social and economic benefits for everyone.	Seed funding for $2.5M NSF grant project by Soga Group on wildfire evacuation.

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Brandon	Collins	RCNR - Berkeley Forests	How fire influences forest ecosystems and how management in these ecosystems influences fire and forest health.	Sierra Nevada Adaptive Management Plan (SNAMP) Managing Natural Wildfires in Sierra Nevada Wilderness Area Spatial Patterns of Large Natural Fires in Sierra Nevada Wilderness Areas [Initial Changes in Forest Understory Communities Following Fuel Reduction Treatments
	Disaster Lab (D-Lab)	Engineering – Civil and Environmental Engineering	Joshua Dimon, Chief Scientist Thomas Azwell, Director Develops and Validates Practical Innovations for Disaster Preparation, Response, and Recovery Fire-resistant building materials, remote sensing and vegetation mgt for wildfires, -- Marin Fire	Confronting Wildfire: Into the Fire to Advance Research and Innovation Disaster Lab blog posts on wildfire projects Workforce development project
Ethan	Elkind	Center for Law, Energy and Environment	Director, CLEE Climate Program (Berkeley Law)	Branching Out: Waste Biomass Policies to Wildfire Resilience and Emission Reduction (with Ted Lamm and Katy Segal)
	Fire Research Group	Engineering, LBL	Tarek Zohdi, Director. Working toward the development and implementation of more effective technological solutions for fires in wildlands, cities and industrial complexes.	Computing and Data Science Improves What We Know About Wildfires and How to Fight Them

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	Fuego Project	Berkeley Space Sciences Lab (SSL)	Carl Pennypacker, Co-Director Tim Ball, Co-Director The Fire Urgency Estimator in Geostationary Orbit (FUEGO) Mission will continuously observe a large area of the Earth (primarily the western US) to rapidly identify the ignition of wildland fires and track their motions. FUEGO provides agencies and fire fighters on the ground with real-time actionable information that has vastly higher spatial resolution and is updated more frequently than is currently available. We envision that the imagery and notifications from FUEGO will feed into an integrated fire information and management system to help limit the destruction from wildfires.	Berkeley News story on the $1.5M Moore Foundation grant for FUEGO
	Geospatial Innovation Facility	RCNR - ESPM	Nancy Thomas, Executive Director. Provides leadership and training across a broad array of integrated mapping technologies.	Wildfire history map – Cal-Adapt.
Keith	Gilless	RCNR - ESPM	Economic analysis and operations research modeling techniques to address forest resource management issues. Co-Director of the Beahrs Environmental Leadership Program. Gilless served from 2013 to 2024 as Chair of the California Board of Forestry and Fire Protection, and as the founding Co-Chair of the Board's Joint Institute for Wood Products Innovation from 2019-2024.	

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Allen	Goldstein	RCNR- ESPM	Atmospheric chemistry and biogeochemistry. Air pollution	Understanding and Mitigating Wildfire Risk in California
Marta	Gonzalez	CED - City and Regional Planning	Statistical Physics of Complex Systems and Network Science. Spatial AI, digital traces, and Environmental data. Global fire regimes with AI.	Risk Assessment of Wildfires - Gonzalez's research team aims to develop a comprehensive wildfire protection system that guards against current and future catastrophic disasters where critical infrastructure is destroyed and lives are lost. They accomplish this not by responding to emergencies but by supporting strategic planning and policy development where the focus is on reducing the intensity and rate of spread of a wildfire.
Patrick	Gonzalez	RCNR-ESPM	Climate change impacts on ecosystems, biodiversity, wildfire, biome shifts, national parks; Forest carbon solutions. Previously Principal Climate Change Scientist, U.S. National Park Service; Previously Assistant Director for Climate and Biodiversity, White House Office of Science and Technology Policy http://www.patrickgonzalez.net/	Lead author, four reports of the Intergovernmental Panel on Climate Change Impacts on ecosystems - Climate change in U.S. national parks - Global biome shifts - Forest carbon and wildfire in California
Rohini	Haar	Law - Human Rights Center	Emergency physician. Health and human rights. Protection of human rights in times of complex humanitarian crisis and conflict.	Health and social impacts of wildfires

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	Human Rights Center	Law	Betsy Popken, Executive Director. Linda Gordon, Climate Justice Program Manager	California Wildfires Research - Project on wildfires and ag workers in Sonoma April 2025: After a strategic review of our Climate Justice Program work and capacity and an extensive process to identify gaps in the climate space that need to be filled with a human-centered approach, we have decided to transition this program into a **Climate Disasters Initiative**. This transition will take place over the next few months, and will be made public and updated on our website July 1st. Climate disaster projects will be led by our Climate Research Manager, Linda Gordon.
Carly	Hyland	Public Health - Environmental Health Services	Interventions and research translation to mitigate the health impacts of climate change among agricultural and food systems workers, with a focus on heat, wildfire smoke, and pesticides.	Sonoma County project with HRC
	Institute of European Studies		Jeroen Dewulf, Director, Institute of European Studies. Examining Europe in its global context and training the next generation of scholars to develop the capacity for transatlantic dialogue and cooperation.	Floods after wildfires project with French partners
Dave	Jones	Law - Center for Law Energy and Environment	Jones is the Director of the Climate Risk Initiative at Berkeley's Center for Law, Energy and the Environment (CLEE) and a Senior Fellow at The ClimateWorks Foundation.	First Ever Wildfire Resilience Insurance Policy Written and Placed

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				The Los Angeles Wildfires – A BCCN Podcast with Dave Jones This is Who Should Foot the Bill for the LA Fires - NYT opinion piece. See also this recent interview with Berkeley News.
Tom	Kirchstetter	LBNL - Energy Analysis & Environmental Impacts Division	Director, Energy Analysis & Environmental Impacts Division at LBNL	Wildfire Forest recovery proposal
Lara	Kueppers	RCNR - Energy Resources Group	Ecological responses and feedbacks to climate change.	"Warming increased bark beetle-induced tree mortality by 30% during an extreme drought in California"(2021) This is What You Need to Know About Climate Change and California Wildfires Western Fire and Forest Resilience Collaborative "Warming increased bark beetle-induced tree mortality by 30% during an extreme drought in California"(2021)
Mohammad	Mofrad	Engineering - Mechanical Engineering	Mechanical engineering and bioengineering. Wildfire smoke and health	
Rachel	Morello-Frosch	RCNR, SPH	Health and wildfire smoke	Wildfire Smoke Disproportionately Affects California's Indigenous Communities

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Mark	Mueller	Engineering - Mechanical Engineering	Increasing the capabilities of aerial robotics systems.	Member of the Fire Research Group
Elizabeth	Noth	Public Health - Industrial Hygiene	Director, Industrial Hygiene Program at the Northern California NIOSH Education and Research Center.	Wildfire smoke and prisons
Matthew	Potts	RCNR - ESPM	Co-production by human and natural systems of ecosystem services and natural pathways for carbon sequestration. Forest management.	Research on problems with forest carbon offset programs
Miranda	Redmond	RCNR - ESPM	Research focuses on understanding the effects of climate and disturbances on forest dynamics as a way of informing land management decisions. The work covers a breadth of topics in forest science and climate change, including the environmental drivers of tree demography (seed production, recruitment, growth, and survival), the causes and consequences of forest disturbances, tree population adaptation, and ecological forecasting of demographic events.	
Anne	Rosenthal	Campuswide - UC Center for Climate, Health and Equity	Associate Director, CARE Program Long-term health effects of wildfires	Wildfires Devastation Can Linger Long After the Smoke Has Cleared
Nathan	Sayre	L&S Physical Sciences - Geography	Transformation and management of the earth's environment, particularly semi-arid rangelands/ Fire restoration	What Are the Mismanagement Issues from the Los Angeles fires?

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Kristen	Shive	RCNR - ESPM	Leveraging recent wildfires to foster resilience and secure carbon in giant sequoia forest.	Ancient trees and modern wildfires: Declining resilience to wildfire in the highly fire-adapted giant sequoia
Kenichi	Soga	Engineering	Wildfire and human life	Wildfire planning — simulation and evacuation – Marin County
Scott	Stephens	RCNR - ESPM	Co-Director, Berkeley Forests. The interactions of wildland fire and ecosystems. Leading CA expert. 30 years in the field.	
William	Stewart	RCNR - ESPM	Co-Director, Berkeley Forests. Improving the positive financial linkages between working forests and rangelands on one hand and our urban residents on the other.	
Jason	Su	Public Health - Environmental Health Sciences	Developing machine learning land use regression modeling algorithms that incorporate multiple types of measurements into a single modeling frame. Air pollution and health outcomes	Mortality attributable to $PM_{2.5}$ from wildland fires in California from 2008 to 2018
Nancy	Wallace	Haas	Chair of the Real Estate Group and co-chair of the Fisher Center for Real Estate and Urban Economics.	Mortgage markets with Climate Change Risk – Wildfires in CA – study 2025: Working with key partners in post-Wildfire research and planning in Los Angeles
Steven	Weissman	Goldman	Energy and climate policy. PG&E undergrounding	

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Robert	York	RCNR - ESPM	The intersection of forest science and management, exploring novel approaches to forest management treatments that are guided by ecosystems' disturbance regimes.	Lessons on Wildfire Resilience From a 4,000 acre Forest Lab – Can You Run Through It?