

BERKELEY CLIMATE MAP - Sea Level Rise -- JUNE 2025

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Sea level rise is already a significant flooding problem in a number of areas globally, including the U.S. east coast. That problem will eventually be a substantial issue for the San Francisco Bay and the California, with our thousands of miles of developed and wild shoreline. Berkeley is conducting sea level rise research here in the Bay Area and globally, including these topics:

- Ocean health
- Land subsidence around SF Bay
- Local projections for sea level rise for CA coast and SF Bay
- Impacts on island communities globally
- Impacts on groundwater levels around SF Bay
- Urban design and development
- The importance of sediment
- Wetlands and flood protection
- Airport flooding in California
- Toxic materials and sea level rise in the Bay Area
- South Pacific islands losing their homelands
- Bay Area transportation, governance and environmental justice

First	Last	Affiliation (primary)	Summary	Selected Projects/Reports/Classes
	Berkeley Center for Oceans Futures	RCNR	<p>Rachel Carlson, Co-Director</p> <p>BeCOF is a collective of researchers dedicated to understanding and mitigating critical threats to ocean health, as well as generating ocean-based solutions for human communities.</p>	

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Roland	Burgmann	L&S Physical Sciences – EPS	Geophysical modeling around San Francisco Bay	
Daniel Aldana	Cohen	L&S Social Sciences - Sociology	<p>Cohen works on the intersections of the climate emergency, housing, political economy, social movements, and inequalities of race and class in the United States and Brazil. As Director of Socio-Spatial Climate Collaborative (SC)2, he is leading qualitative and quantitative research projects on Whole Community Climate Mapping, green political economy, and eco-apartheid.</p> <p>Climate Equity Environmental Justice Core Faculty</p>	Should We Start Preparing for the Evacuation of Miami?
	Geospatial Innovation Facility	RCNR	<p>Nancy Thomas, Executive Director</p> <p>The Geospatial Innovation Facility at RCNR provides leadership and training across a broad array of integrated mapping technologies. Our goal is to help people better understand the changing world through the analysis and visualization of spatial data. We develop engaging applications that leverage and build upon state-of-the-art geospatial and web technologies, and provide opportunities for researchers to learn how they can use spatial data to answer critical questions.</p>	<p>Cal-Adapt (http://cal-adapt.org) has been developed for the State of California o showcase the wealth of innovative climate change research being produced by the scientific community in California, as documented in the 2009 California Climate Adaptation Strategy.</p> <p>Through a combination of locally relevant information, visualization tools, and access to primary data, Cal-Adapt allows users to investigate how the climate is projected to change in their area of interest, and gives them tools to plan for these changes.</p> <p>The site has been developed by the GIF with funding and advisory oversight by the California Energy Commission's Public Interest Energy Research (PIER) Program, and advisory support from Google.org. Learn more about the development of Cal-</p>

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				Adapt in a highlight article published in the June 2011 issue of PE&RS .
Christina	Gerhardt	RCNR – ESPM	Cultural and societal impacts of sea level rise	Author of “Sea Change: An Atlas of Islands in a Rising Ocean,” exploring the effects of sea level rise on island communities.
Kristina	Hill	CED - Landscape Architecture & Environmental Planning	<p>Leading Bay Area sea level rise expert, particularly around groundwater issues. Working with BCD, flood control agencies, cities and others in the region.</p> <p>Research Director, Institute of Urban and Regional Development</p> <p>Hill studies urban ecology and hydrology in relationship to physical design and social justice issues. Her primary area of work is in adapting urban districts and shore zones to the new challenges associated with climate change. Hill currently focuses her research on adaptation and coastal design in the Bay Area but engages in comparative studies in the US Mid-Atlantic, Europe, and Hawaii.</p> <p>CEEJ Advisory Council</p>	<p>Shallow Groundwater Response to Sea Level Rise – 4 Bay Area Counties</p> <p>Hill is working with Mark Stacey (Engineering) to support City of San Rafael and the Canal Alliance to address sea level rise in the Canal District. This includes translation of research information.</p> <p>Teaching: LDARCH 201 001 - Ecological Factors in Urban Landscape Design (Fall 2023)</p>
Nate	Kaufman	CED	Director, Sustainable Environmental Design Program. Systematic, strategic and scale-related aspects of climate adaptation, sustainability and environmental governance and justice.	Climate Change, Adaptation Planning and Institutional Integration: A Literature Review and Conceptual Framework (2021)

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				Sediment for Survival: A Strategy for the Resilience of Bay Wetlands in the Lower San Francisco Estuary (2021) Infrastructuring the Imaginary: How Sea-Level Rise Comes to Matter in the San Francisco Bay Area (2019)
Laurel	Larsen	Engineering	Hydro-ecology, geomorphology, environmental modeling around wetlands and coastal flooding	
Sarah	Lindbergh	CED - Landscape Architecture and Environmental Planning	Disaster risk reduction and climate adaptation policy. Currently working on airport land use update, wildfire evacuation, and science-diplomacy for energy transition.	The Case of Future Flooding of California's Airports (2022)
Rachel	Morello-Frosch	RCNR - ESPM	Morello-Frosch's research focuses on environmental health and environmental justice. She is particularly interested in addressing the double jeopardy faced by communities of color and the poor who experience high exposures to environmental hazards and who are more vulnerable to the toxic effects of pollution due to poverty, malnutrition, discrimination, and underlying health conditions. CEEJ Advisory Council	Toxic Tides Project looking at sea level rise impact on toxics stored in bayside areas. The Bay Area has at least 400 hazardous facilities including power plants, refineries, industrial facilities, and hazardous waste sites. SLR poses risks for such facilities experiencing flooding events that can potentially expose nearby residents to hazardous pollutants. Because many of these facilities are disproportionately located in poor communities and communities of color, climate resilience strategies must address the disproportionate impacts of SLR and associated flooding threats faced by

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				<p>environmental justice communities. See KQED report on project here.</p> <p>Environmental Justice & Climate Change This project convenes advocates and researchers to assess the disparate impact of climate change on communities of color and the poor with a focus on the following issues: (1) health and economic impacts of extreme weather events; (2) environmental justice and social equity implications of proposed greenhouse gas reduction strategies in California associated with the AB32 Scoping Plan; and (3) disparities in community capacity to adapt to environmental impacts of climate change.</p>
Jennifer	Redfearn	Journalism - Documentary Films	<p>Academy Award nominated documentary filmmaker and director of the documentary film program at the J-School. .</p> <p>Director Documentary Film Program</p>	<p>Her film <i>Sun Come Up</i> tells the story of a South Pacific Island community losing their homeland to rising seas. <i>Sun Come Up</i> was nominated for an Academy Award and for the IDA's Pare Lorentz Award. It screened in theaters across the U.S., including the IFC Center in New York and the Sundance Cinema</p> <p>J284 Documentary Production SPRING 2024</p>
Mark	Stacey	Engineering - Civil and Environmental Engineering	<p>Professor, Civil & Environmental Engineering</p> <p>Mathematical analyses of interesting coastal and estuarine challenges, and the policies that govern them.</p>	<p>Resilient Infrastructure as Seas Rise (RISer SF Bay) deals with sea level rise, transportation mobility and governance for the Bay Area.</p> <p>Stacey is working with Kristina Hill (CED) to support City of San Rafael and the Canal</p>

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			Environmental fluid mechanics, transport and mixing in stratified flows, dynamics of estuaries, lakes and the coastal ocean, interdisciplinary applications of environmental fluid mechanics	<p>Alliance to address sea level rise in the Canal District. This includes translation of research information</p> <p><u>Climate Change Adaptation</u> (Fall 2023, undergrads)</p> <p><u>Climate Resilient Infrastructure</u> (Fall 2023, grads)</p>