Climate and Racial Equity Forum

Molly Williams

Environmental Scientist

Office of Public Participation

July 7, 2023

waterboards.ca.gov/**climate**

CALIFORNIA
Water Boards

Welcome and Logistics

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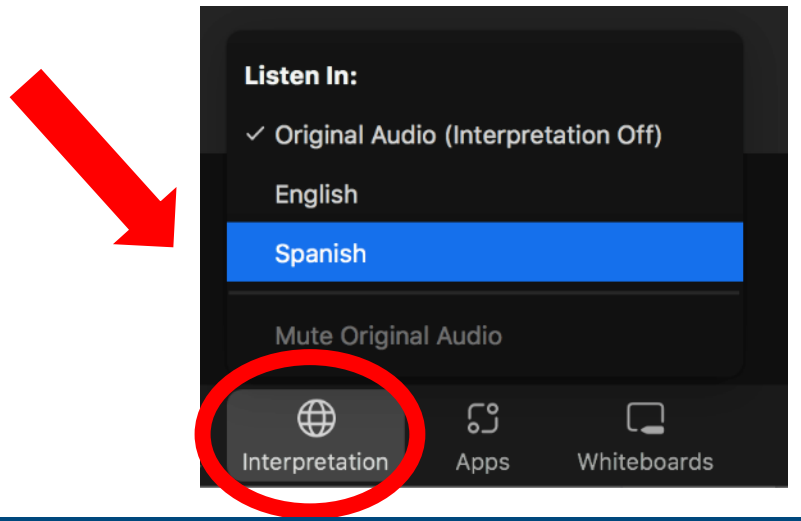
CALIFORNIA
Water Boards

Logistics

1. To participate in the Q&A, you must be on the Zoom
   - Register at bit.ly/cre-zoom
   - Questions can be asked either live or written through the Q&A box
2. English webcast on YouTube: bit.ly/cre-forum
3. Spanish and English webcasts available at video.calepa.ca.gov
4. Recordings and slides (in English and Spanish) will be available on waterboards.ca.gov/climate
5. To hear Spanish audio, click the “Interpretation” globe button on the toolbar to switch audio channels
   - English will be on "original audio"



Forum focus:
Hearing from Climate & Water Researchers & Advocates

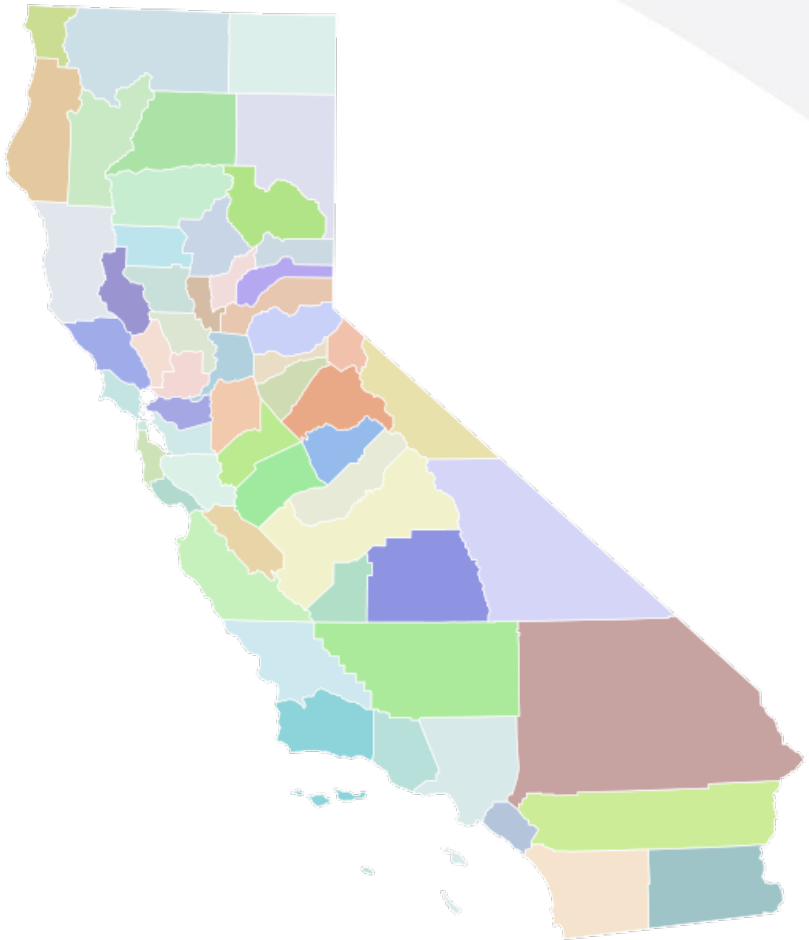
- State Water Board Climate & Racial Equity Overview
- CalEPA Opening Remarks
- Research Panel
- Advocacy Panel
- 10-Minute Break
- Panel Discussion
- Audience Q&A

Climate and Racial Equity Overview

Chris Hyun
State Water Board
Climate Lead

CALIFORNIA
Water Boards

About me

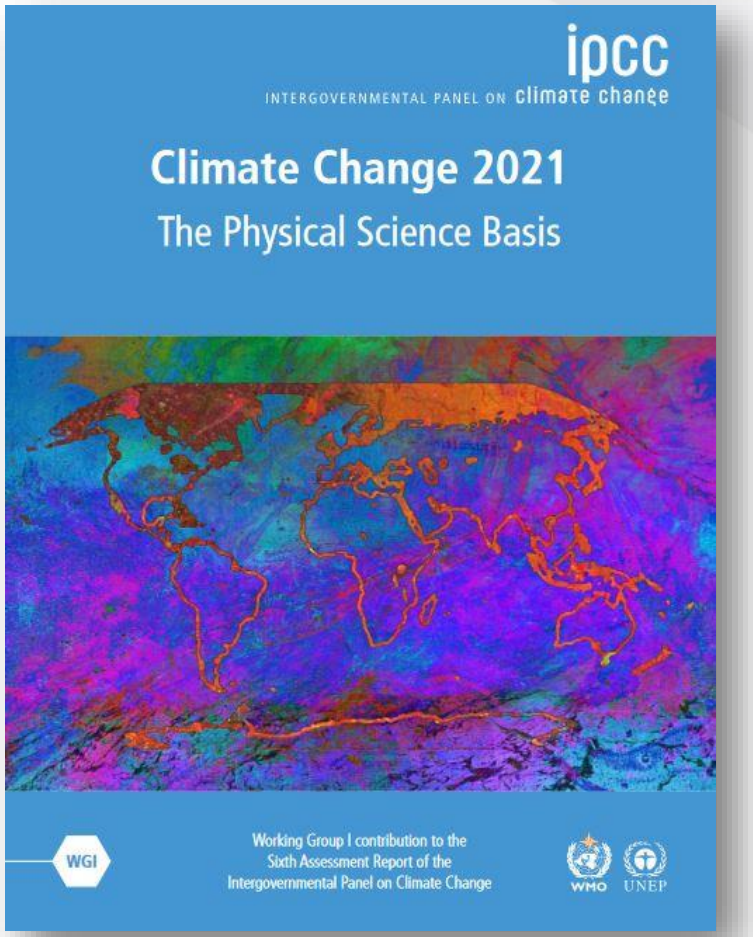


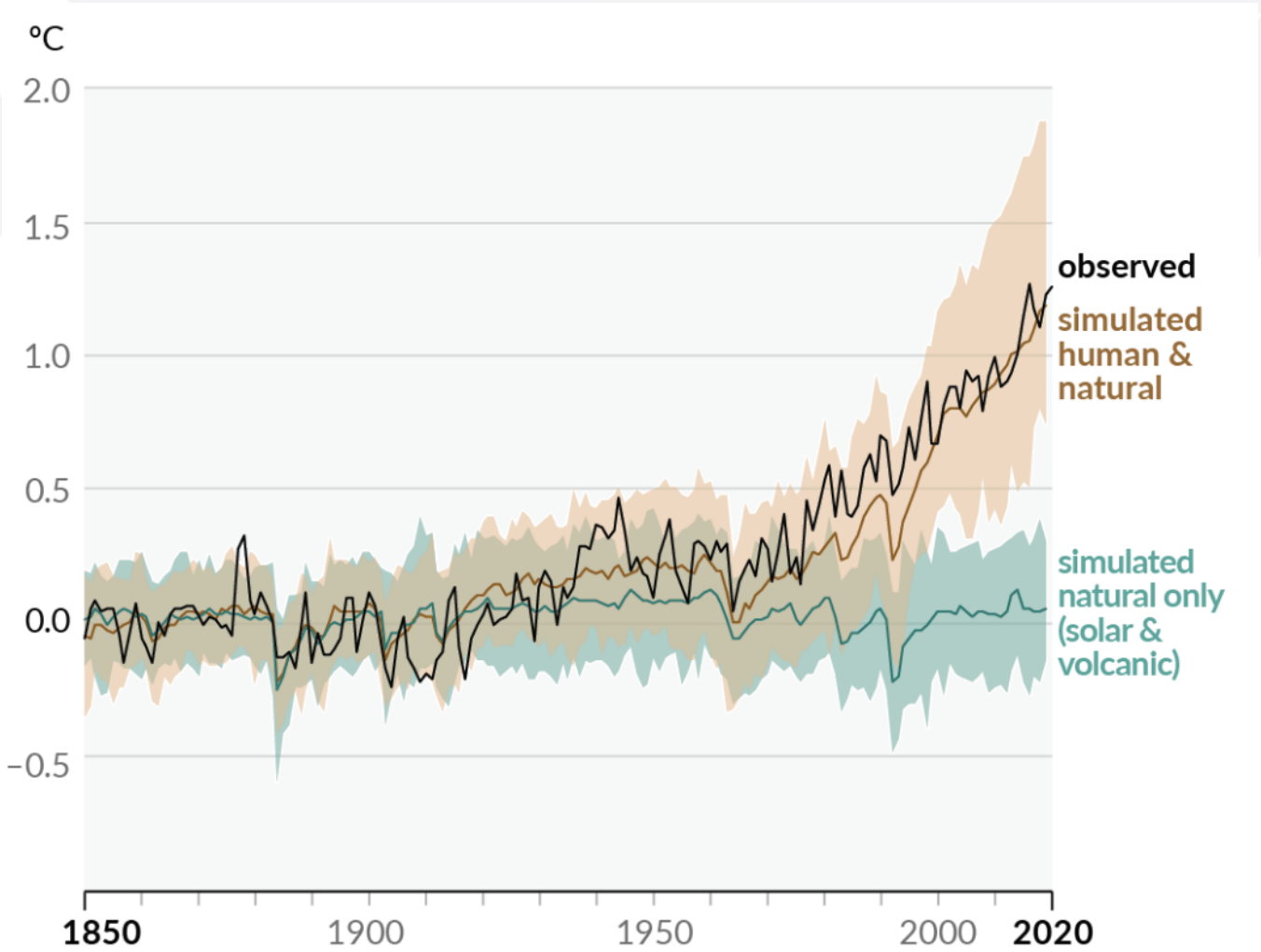
CALIFORNIA
Water Boards
STATE WATER RESOURCES CONTROL BOARD
REGIONAL WATER QUALITY CONTROL BOARDS

Climate & Racial Equity Overview

- Climate Vision
- Crash Course on Commitments
- Climate and Racial Equity Strategy (CARES)
- Rest of Today's Agenda

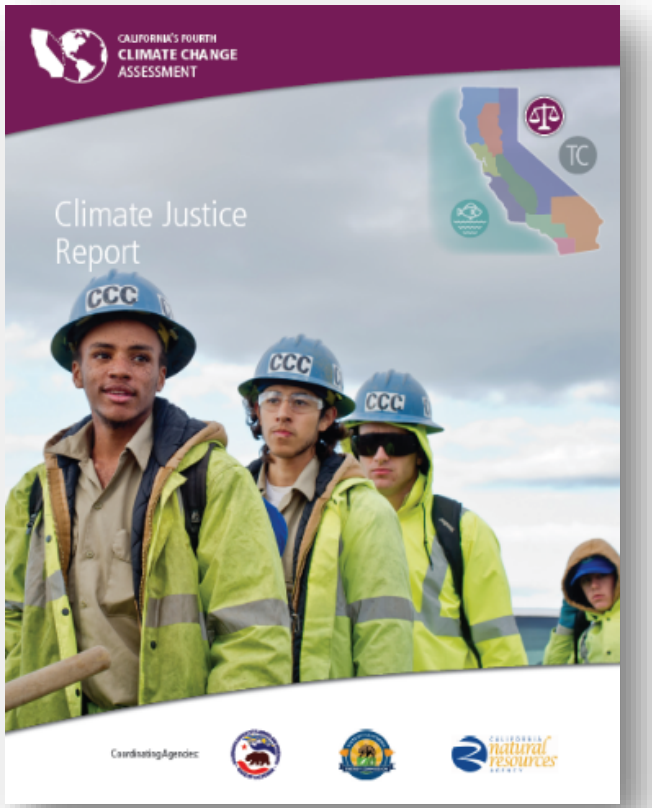
We need to do more about climate

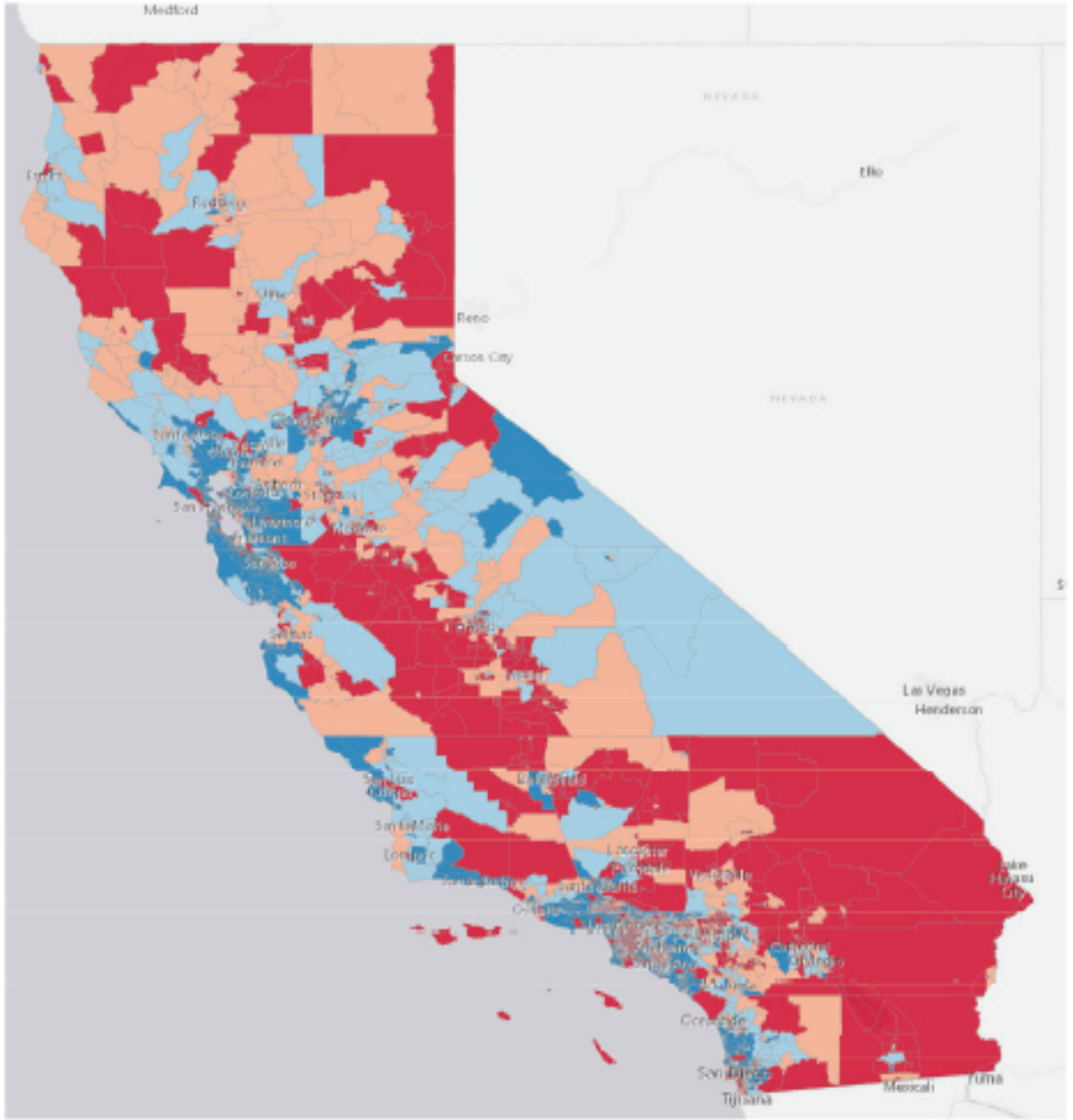




Climate impacts health & infrastructure

Climate change impacts some communities more than others

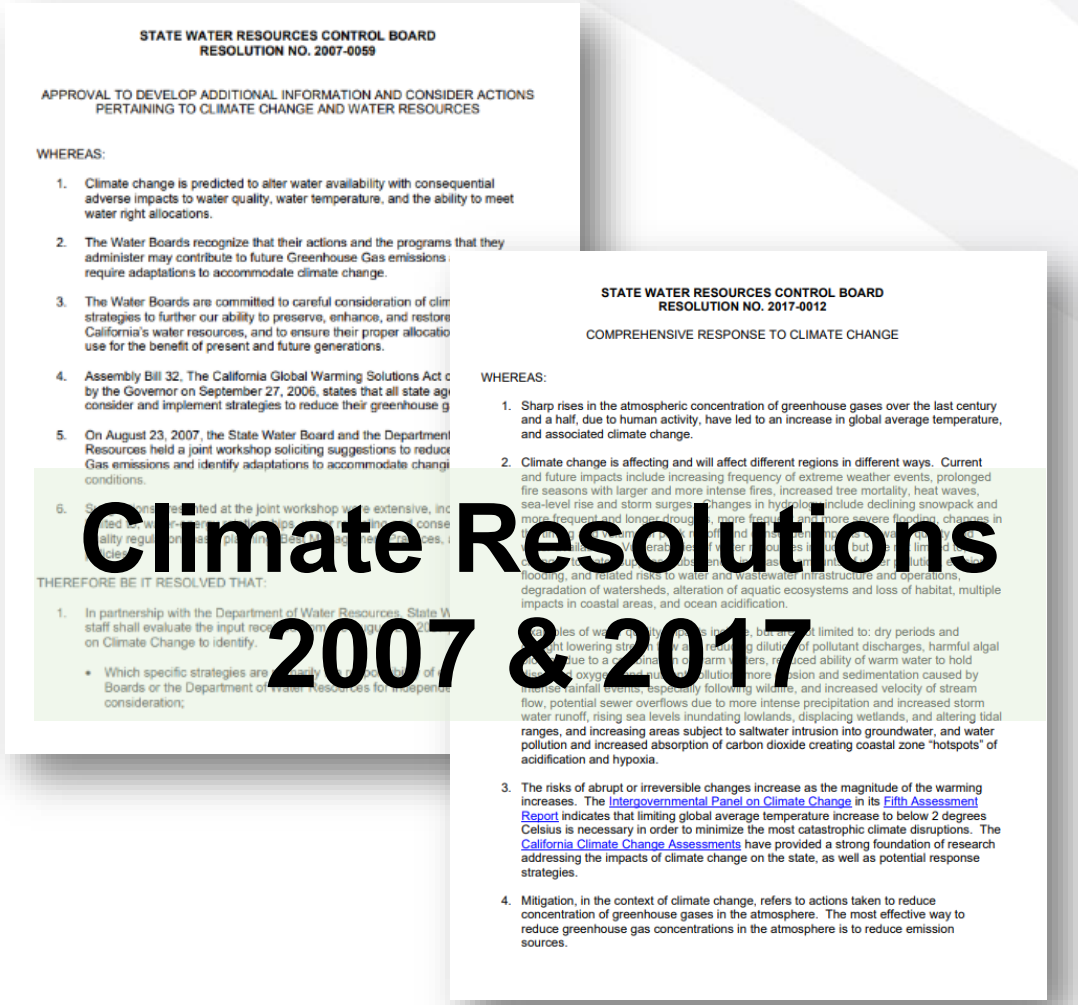




We need to shift from

climate vulnerable to **climate resilient**

2007-21: State Water Board commits to climate change and equity



STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2007-0059

APPROVAL TO DEVELOP ADDITIONAL INFORMATION AND CONSIDER ACTIONS PERTAINING TO CLIMATE CHANGE AND WATER RESOURCES

WHEREAS:

1. Climate change is predicted to alter water availability with consequential adverse impacts to water quality, water temperature, and the ability to meet water right allocations.
2. The Water Boards recognize that their actions and the programs that they administer may contribute to future Greenhouse Gas emissions
require adaptations to accommodate climate change.
3. The Water Boards are committed to careful consideration of clim
strategies to further our ability to preserve, enhance, and restore
California's water resources, and to ensure their proper allocatio
use for the benefit of present and future generations.
4. Assembly Bill 32, The California Global Warming Solutions Act c
by the Governor on September 27, 2006, states that all state ag
consider and implement strategies to reduce their greenhouse g
5. On August 23, 2007, the State Water Board and the Department
Resources held a joint workshop soliciting suggestions to reduc
Gas emissions and identify adaptations to accommodate changi
conditions.
6. S
conse
ality regu
ices,

THEREFORE BE IT RESOLVED THAT:

1. In partnership with the Department of Water Resources, State W
staff shall evaluate the input rec
on Climate Change to identify:
   - Which specific strategies are
Boards or the Department of Water Resources for independe
consideration;

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2017-0012

COMPREHENSIVE RESPONSE TO CLIMATE CHANGE

WHEREAS:

1. Sharp rises in the atmospheric concentration of greenhouse gases over the last century and a half, due to human activity, have led to an increase in global average temperature, and associated climate change.
2. Climate change is affecting and will affect different regions in different ways. Current and future impacts include increasing frequency of extreme weather events, prolonged fire seasons with larger and more intense fires, increased tree mortality, heat waves, sea-level rise and storm surges. Changes in hydrology include declining snowpack and more frequent and longer droughts, more frequent and more severe flooding, changes in
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flooding, and related risks to water and wastewater infrastructure and operations, degradation of watersheds, alteration of aquatic ecosystems and loss of habitat, multiple impacts in coastal areas, and ocean acidification.
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intense rainfall events, especially following wildfire, and increased velocity of stream flow, potential sewer overflows due to more intense precipitation and increased storm water runoff, rising sea levels inundating lowlands, displacing wetlands, and altering tidal ranges, and increasing areas subject to saltwater intrusion into groundwater, and water pollution and increased absorption of carbon dioxide creating coastal zone "hotspots" of acidification and hypoxia.
3. The risks of abrupt or irreversible changes increase as the magnitude of the warming increases. The Intergovernmental Panel on Climate Change in its Fifth Assessment Report indicates that limiting global average temperature increase to below 2 degrees Celsius is necessary in order to minimize the most catastrophic climate disruptions. The California Climate Change Assessments have provided a strong foundation of research addressing the impacts of climate change on the state, as well as potential response strategies.
4. Mitigation, in the context of climate change, refers to actions taken to reduce concentration of greenhouse gases in the atmosphere. The most effective way to reduce greenhouse gas concentrations in the atmosphere is to reduce emission sources.

Climate Resolutions 2007 & 2017

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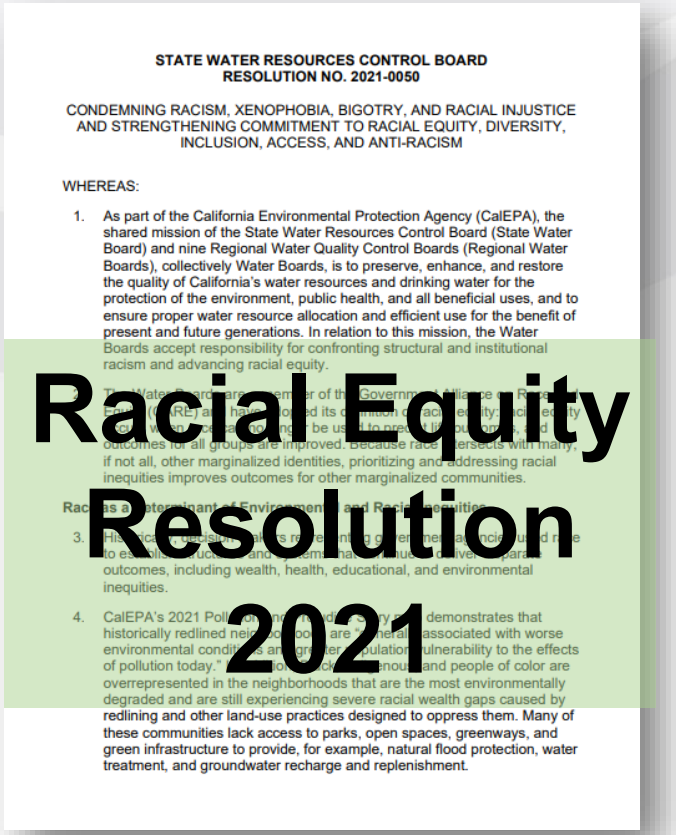

STATE WATER RESOURCES CONTROL BOARD
RESOLUTION NO. 2021-0050

CONDEMNING RACISM, XENOPHOBIA, BIGOTRY, AND RACIAL INJUSTICE AND STRENGTHENING COMMITMENT TO RACIAL EQUITY, DIVERSITY, INCLUSION, ACCESS, AND ANTI-RACISM

WHEREAS:

1. As part of the California Environmental Protection Agency (CalEPA), the shared mission of the State Water Resources Control Board (State Water Board) and nine Regional Water Quality Control Boards (Regional Water Boards), collectively Water Boards, is to preserve, enhance, and restore the quality of California's water resources and drinking water for the protection of the environment, public health, and all beneficial uses, and to ensure proper water resource allocation and efficient use for the benefit of present and future generations. In relation to this mission, the Water Boards accept responsibility for confronting structural and institutional racism and advancing racial equity.
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outcomes for all groups are improved. Because race intersects with many, if not all, other marginalized identities, prioritizing and addressing racial inequities improves outcomes for other marginalized communities.
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3. His
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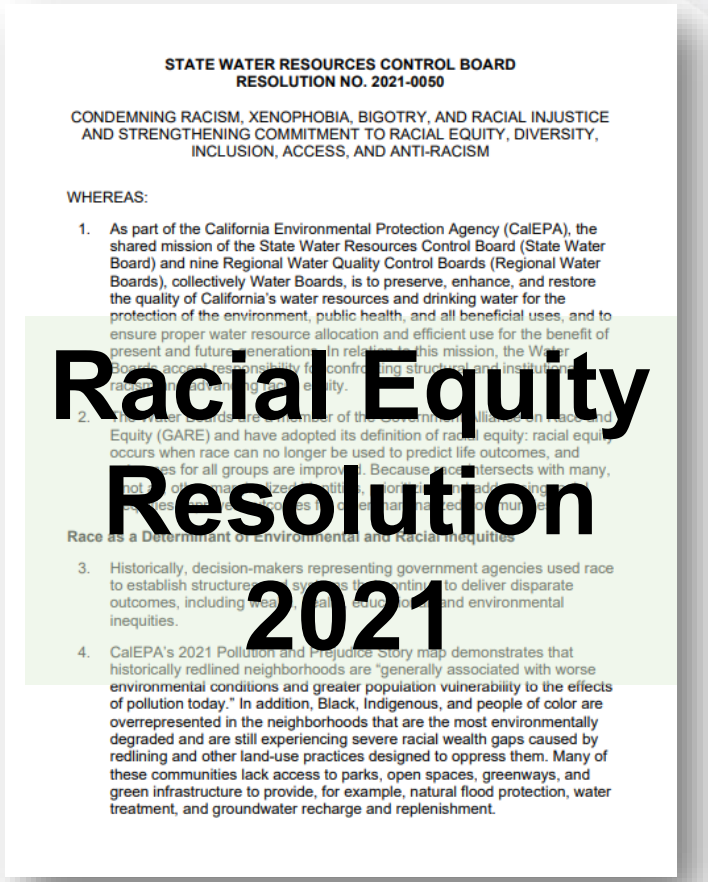
outcomes, including wealth, health, educational, and environmental inequities.
4. CalEPA's 2021 Poll
historically redlined ne
environmental condi
of pollution today."
overrepresented in the neighborhoods that are the most environmentally degraded and are still experiencing severe racial wealth gaps caused by redlining and other land-use practices designed to oppress them. Many of these communities lack access to parks, open spaces, greenways, and green infrastructure to provide, for example, natural flood protection, water treatment, and groundwater recharge and replenishment.

Racial Equity Resolution 2021

Jan 2023: Staff release Racial Equity Action Plan



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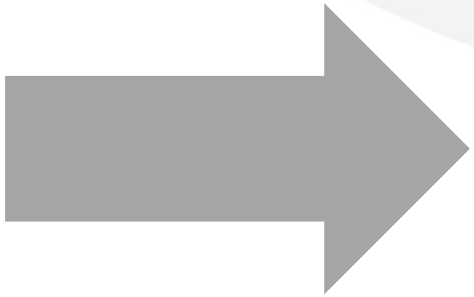
2. [illegible] Equity (GARE) and have adopted its definition of racial equity: racial equity occurs when race can no longer be used to predict life outcomes, and outcomes for all groups are improved. Because race intersects with many, [illegible]

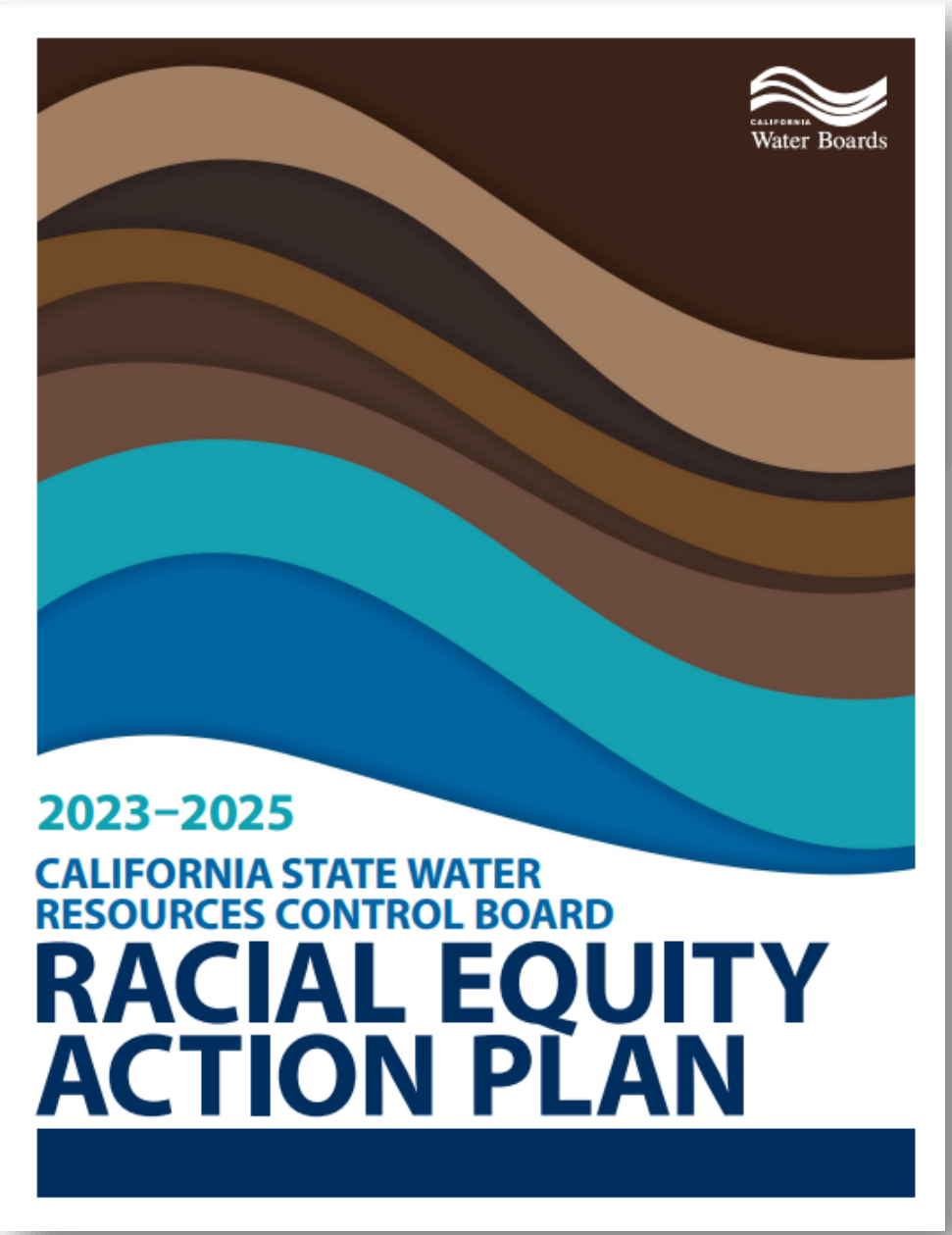
Race as a Determinant of Environmental and Racial Inequities

3. Historically, decision-makers representing government agencies used race to establish structures and systems that continue to deliver disparate outcomes, including [illegible] and environmental inequities.

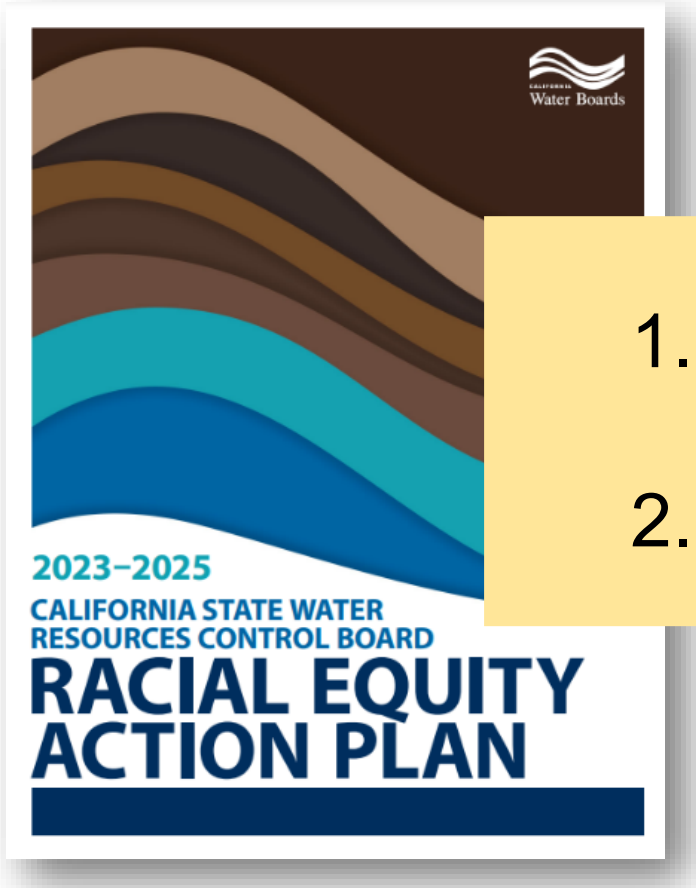
4. CalEPA's 2021 Pollution and Prejudice Story map demonstrates that historically redlined neighborhoods are "generally associated with worse environmental conditions and greater population vulnerability to the effects of pollution today." In addition, Black, Indigenous, and people of color are overrepresented in the neighborhoods that are the most environmentally degraded and are still experiencing severe racial wealth gaps caused by redlining and other land-use practices designed to oppress them. Many of these communities lack access to parks, open spaces, greenways, and green infrastructure to provide, for example, natural flood protection, water treatment, and groundwater recharge and replenishment.

Racial Equity Resolution 2021





July 2023: Staff start public process to develop Climate and Racial Equity Strategy



1. Identify disproportionate climate effects
2. Recommend solutions

Climate
And
Racial
Equity
Strategy

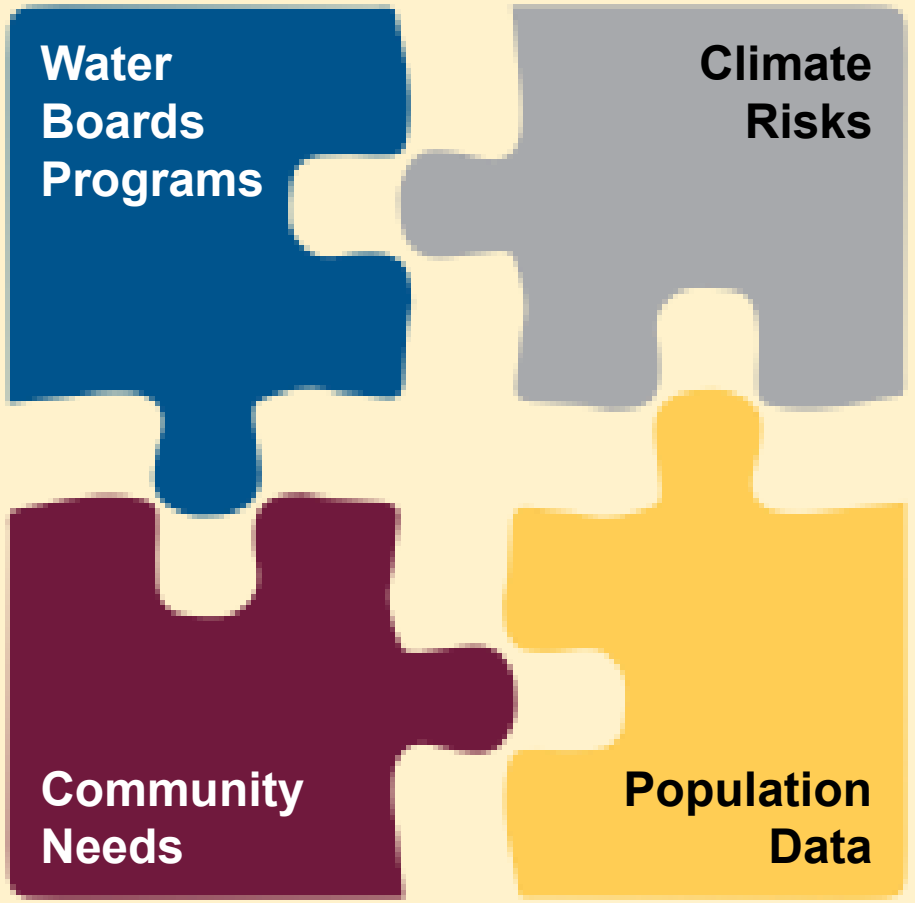
CARES Principles

1. Climate impacts are urgent
2. Set realistic goals (don't overpromise)

CARES: Climate and Racial Equity Strategy

Decision Framework

- What are disproportionate climate impacts?
- Which needs should we focus on?



Public Engagement Goals

- Early engagement
- Highly impacted communities
- Underrepresented voices

Panels

Research

- UCLA & UC Berkeley
- Stanford University
- UC Davis
- Union of Concerned Scientists

Advocacy

- Tribal Climate Health Project & CA Indian Environmental Alliance
- Sierra Club California
- Community Water Center
- Nuestra Casa

10-Minute Break

Panel Discussion

Audience Q&A

Opening Remarks

Shereen D'Souza

Deputy Secretary for Climate Policy and Intergovernmental Relations
CalEPA

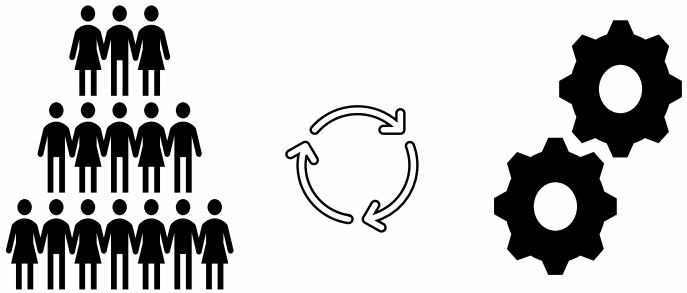
CALIFORNIA
Water Boards

Research Panel

Moderator: Chris Hyun (State Water Board)

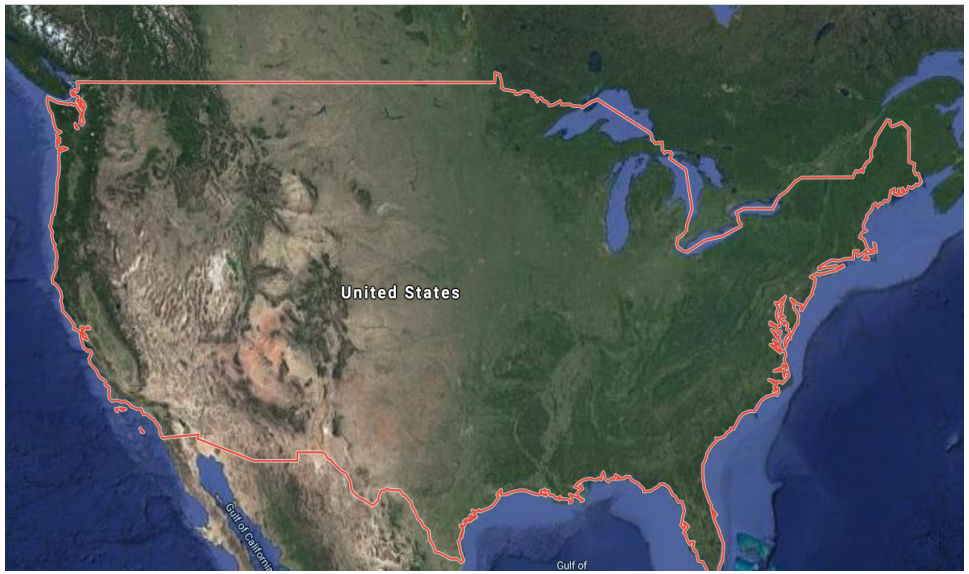
- Khalid Osman (Stanford)
- Sam Sandoval Solis (UC Davis)
- Lara Cushing (UC Los Angeles) &
  Seigi Karasaki (UC Berkeley)
- Amanda Fencl (Union of Concerned Scientists)

Water Systems are Socio-Technical Systems



Design that considers human, social, and organizational factors + technical factors (Baxter & Sommerville, 2011)

How do Water Providers Define Equity?



Source: Google Maps

1. How does your organization define equality and/or equity in the context of water sector services?
2. How do you define equality and/or equity in the context of water sector services?
3. Do you consider equality or equity in your water sector infrastructure decision-making? If so, how?
4. Can you describe any barriers in your organization to incorporating equality or equity considerations in decision-making processes?

Osman and Faust, 2021

Emergent Codes & Definition

"Equity = Access, Benefit, Resilience"

"Equity accounts for past and current disposition in relationship to everyone"

"In South Africa, equity is every human has the right to a minimum amount of water for free"

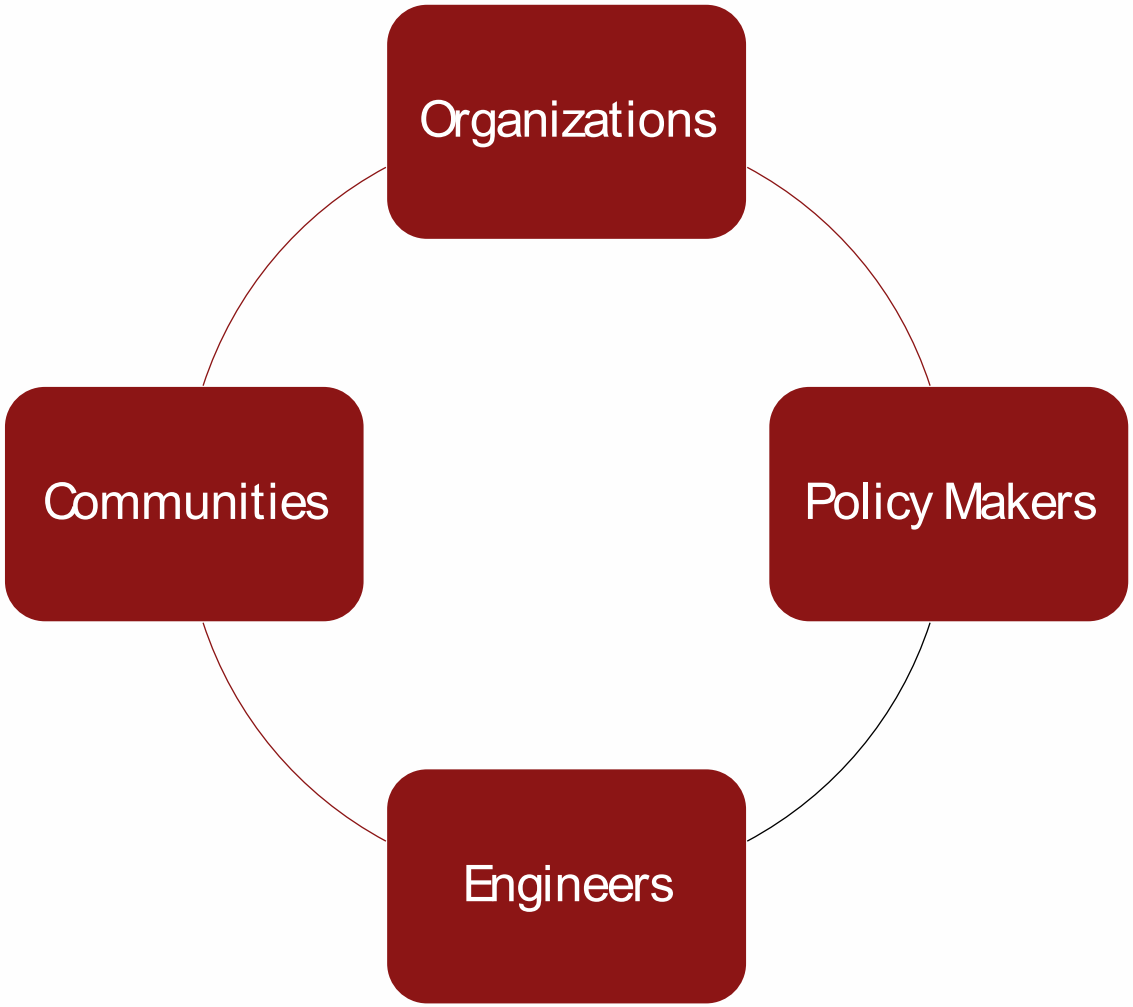
"View equity across both social and capital benefits"

Inductive Coding & Secondary Deductive Sentiment Analysis | Emergent Key Equity Codes	
Media Analysis - Fiscal environment - Organizational management - Regulatory environment - Health and safety - Workforce	**Survey & Semi-Structured Interviews** - Project-level decision-making - Physical Infrastructure attributes - Community engagement - Socio-demographic significance - Equity not considered/not defined
Triangulation of Results | Proposed Definition	
The provision of a consistent minimum quality and quantity of water service to all end-users, determined at the local level.	

Osman and Faust, 2021

How do Water Providers Consider Equity?

From Anecdotal to Empirical



- Efforts vary from city to city → localization of equity is critical for successful implementation
- Tools to address inequity
- Water challenges require immediate attention to prevent chronic public health reactions
- Ensure that underserved communities have the knowledge and capacity necessary to apply for funding resources

Forum on Climate and Racial Equity

Social and Environmental Justice Implications

Dr. Samuel Sandoval Solis
Professor and Specialist in Water Management
University of California, Davis

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources

UCDAVIS WATER MANAGEMENT LAB

WATER TALK

California Institute for Water Resources

The invisibles

Food and Income Access

Food Sovereignty: Aquaponics

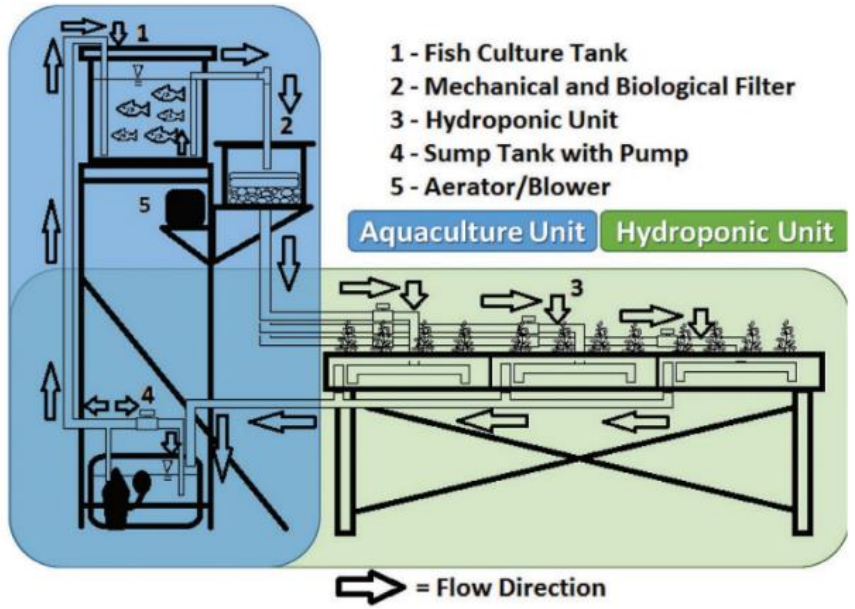


Figure 1. Schematic representation of the aquaponic units used at Iowa State University.

CENTRAL CALIFORNIA ENVIRONMENTAL JUSTICE NETWORK

UC DAVIS WATER MANAGEMENT LAB · UNIVERSIDAD AUTÓNOMA CHAPINGO · UC DAVIS UNIVERSITY OF CALIFORNIA · University of California Agriculture and Natural Resources · Union of Concerned Scientists

Social and Environmental Justice

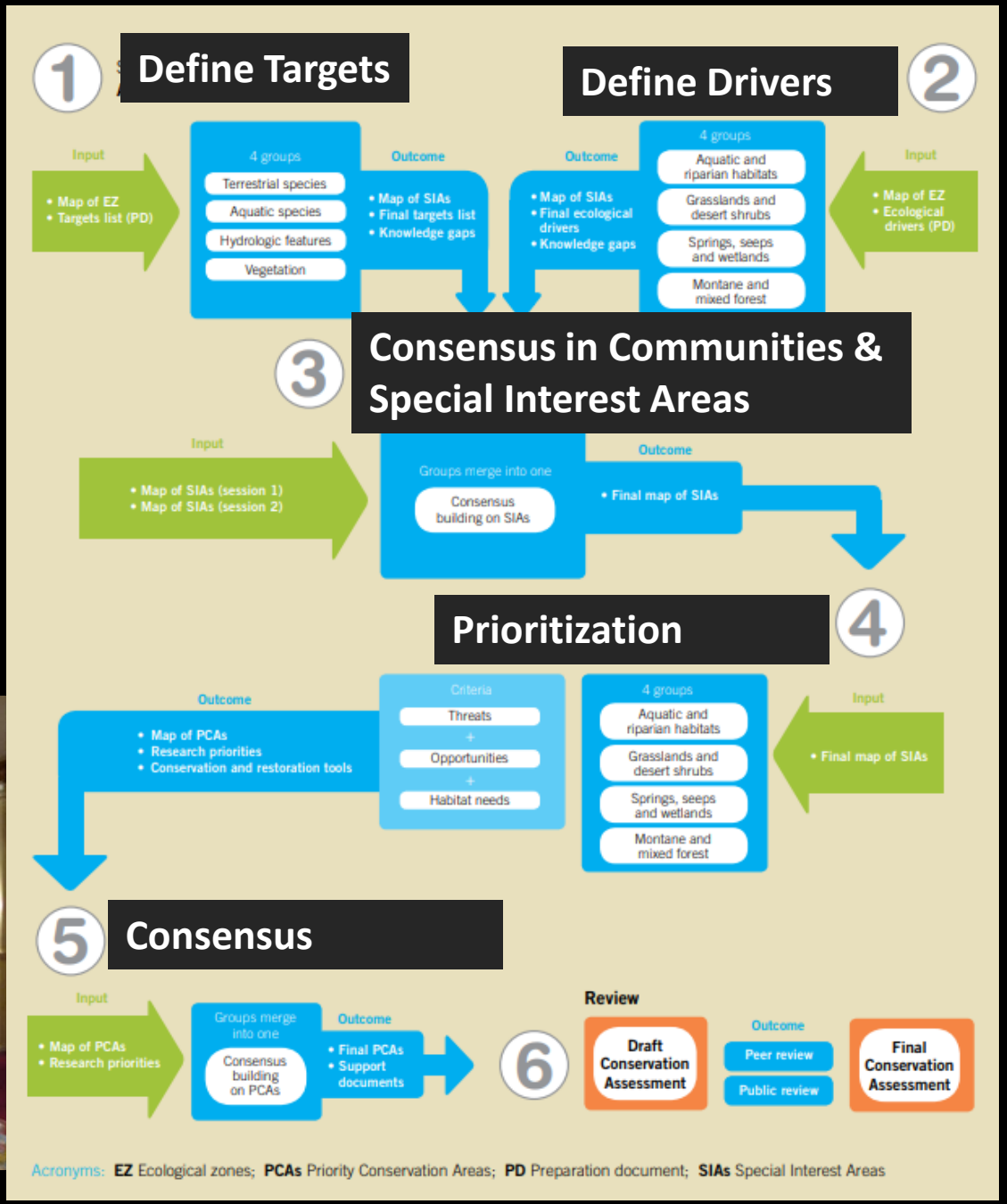
Human Right to Sanitation

Wastewater Needs Assess

- UCLA – Luskin Center
- UC Davis
- UC ANR
- Sac State

Water Education for Latino Leaders DEI Workforce Training

Prioritization



Most importantly …

"People don't care how much you know …

people want to know how much you care"

samsandoval@ucdavis.edu

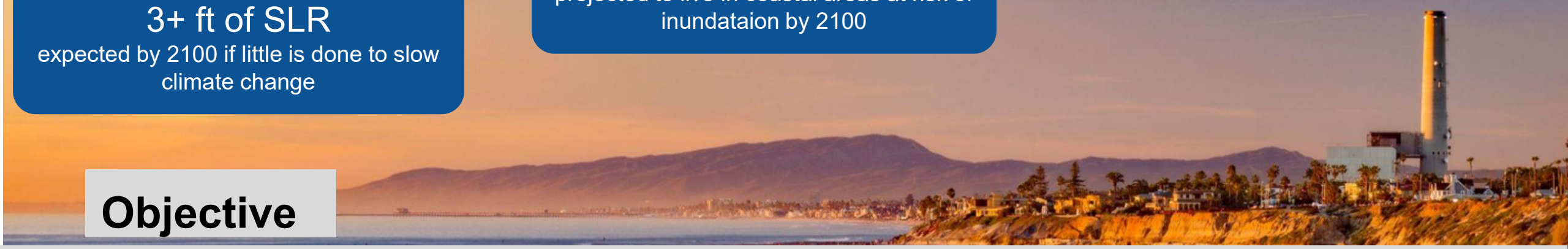
watertalkpodcast.com

Toxic Tides: Sea level rise, hazardous sites & environmental justice

Hundreds
of potentially hazardous sites are located within 3 ft. of mean high tide lines

~150,000 Californians
projected to live in coastal areas at risk of inundataion by 2100

3+ ft of SLR
expected by 2100 if little is done to slow climate change



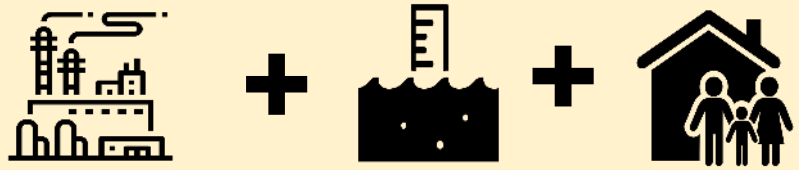
Objective

1) Estimate **flood risks at hazardous sites due to sea level rise**
2) Identify **threated communities** statewide
3) Share findings via customizable, bilingual online **visualization tools and webinars**

Supported by:

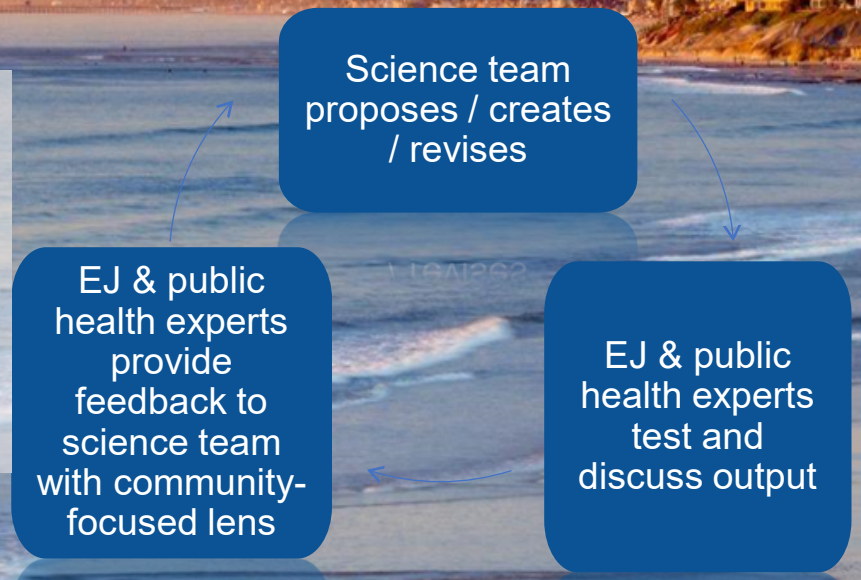
Collaborative research approach

Community partnership process



1) Science team and **environmental justice (EJ) & public health partners** conceive of project and secure funding
2) Get existing secondary data to derive **flood risk projections** and **indicators of community marginalization**
3) **Iterative feedback** between research team and community EJ / public health collaborators

Science team



EJ & public health experts

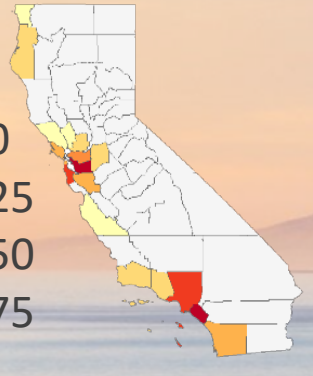
Findings & two-tiered dissemination strategy

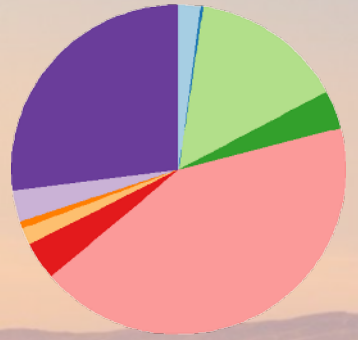
At least 425 sites at risk of surface flooding by 2100

High emissions scenario (RCP 8.5), ensemble mean SLR projection

Number of sites at risk

- 0
- 1 to 5
- 6 to 10
- 11 to 25
- 26 to 50
- 51 to 75
- >75

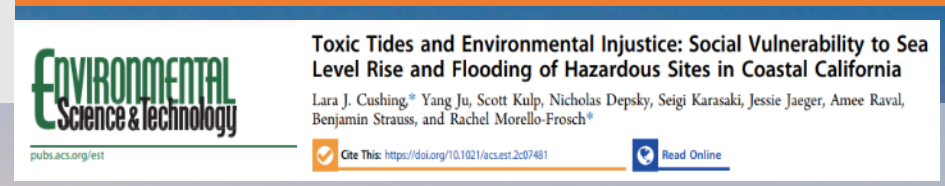


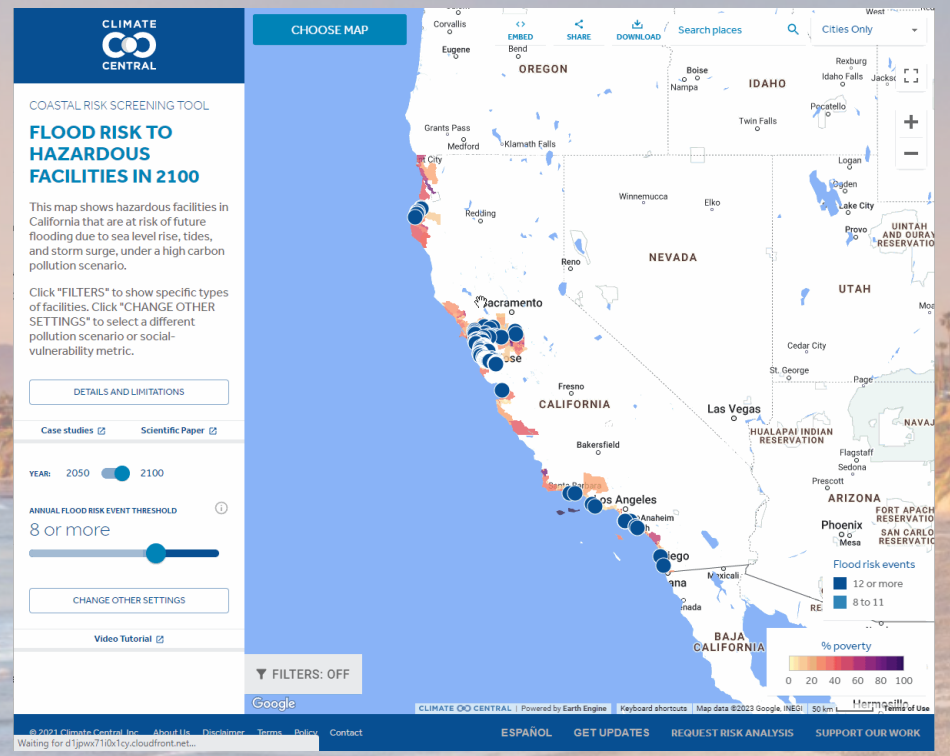


Facility Type

- Power plants
- CAFOs
- Sewage treatment
- Hazardous waste treatment & disposal
- Industrial facilities (TRI)
- Landfills & incinerators
- Cleanup sites
- Refineries
- Ports & terminals
- Oil & gas wells

https://coastal.climatecentral.org





Marginalized communities are more likely to live near at-risk sites

6 times higher odds of an at-risk site within 1km for disadvantaged communities as identified by CalEnvioScreen

Survey Responses

Climate risks (sensitivity, exposure, adaptative capacity) vary by region.
Community / water system led climate risk prioritization.
Expand existing data collection systems include equity from intersectional lens.

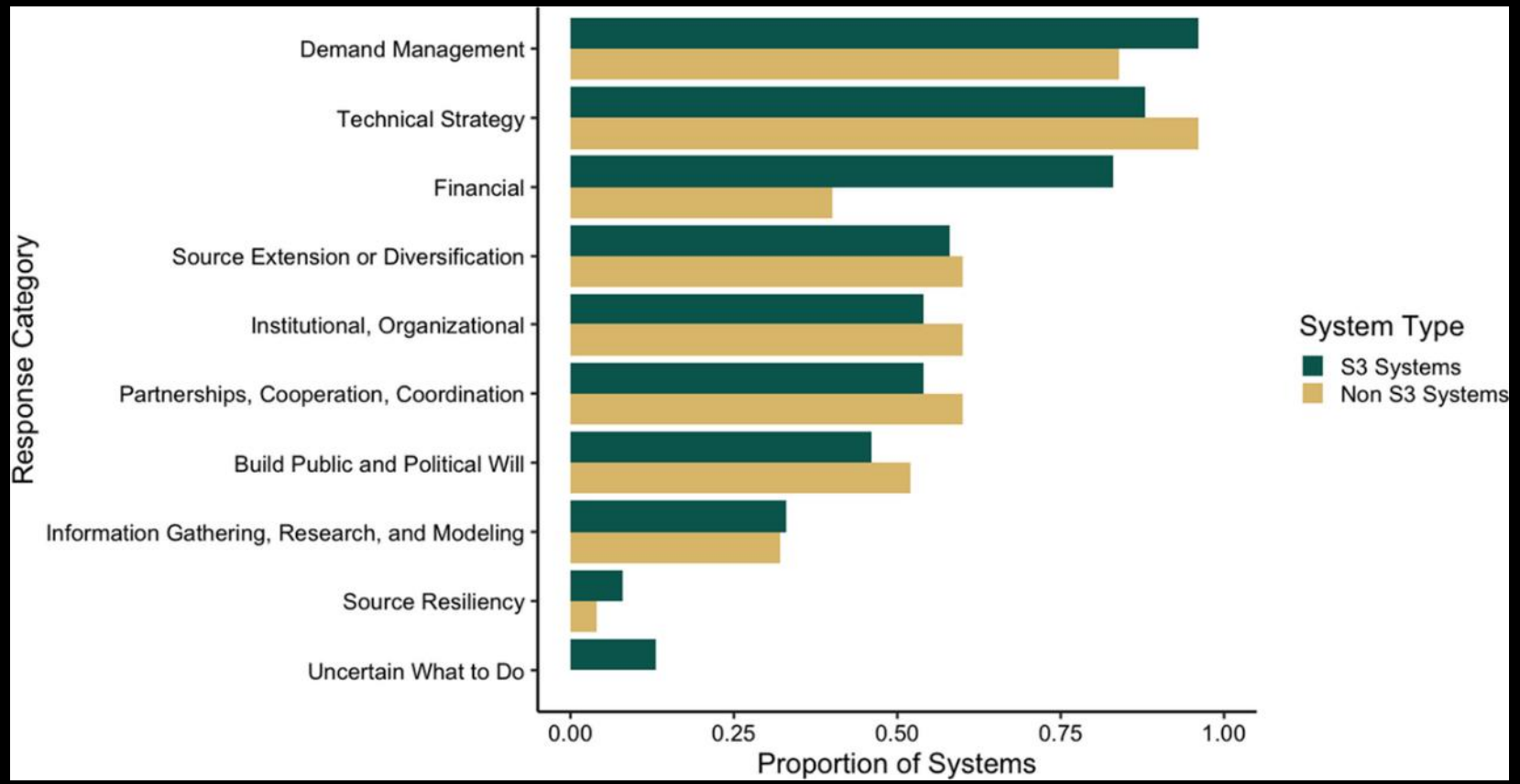
Union of Concerned Scientists

Dr. Amanda Fencl (she/they)
Senior Climate Scientist
afencl@ucsusa.org
@alfencl (personal)/ @WestUCS

Map of 2021 survey responses by the most frequently reported extreme event type: a) drought; b) wildfire; c) heatwaves. (Dobbin et al. 2023)

Invest in climate resilience for water systems in communities historically under(dis)invested *and* climate vulnerable

- Ensure public funds for long-term solutions a) prioritize BIPOC communities
  b) consider climate risks in their design
- Many CWSs already identified unfunded/ aspirational strategies to manage climate risks



Union of Concerned Scientists

See Klasic et al 2022 or Full report: Ekstrom et al 2018

References + Resources 1/2

Community and water system led climate risk prioritization given geographic differences.

- Klasic et al. (2022) Adapting to extreme events: small drinking water system manager perspectives on the 2012–2016 California Drought
- Full Report on small water system drought adaptation needs by Ekstrom et al. 2018 (link)

Understanding water system customers/household climate risk perception

- *Dobbin et al. (2023) Understanding perceived climate risks to household water supply and their implications for adaptation: evidence from California. (link)*
- UCS BLOG: How to Californians perceive risks climate risks to household water supplies?

References + Resources 2/2

Racial equity analysis of federal investment in rural water infrastructure

- *Community Water Center, Rempel, Fencl (2023) The Rural Water Gap (link)*
- UCS Blog: More Federal Funding Can Close the Rural Water Gap. Will Congress and the USDA Step Up?

Other relevant scholarship:

- Klasic et al. (2022) Adapting to extreme events: small drinking water system manager perspectives on the 2012–2016 California Drought + Full Report by Ekstrom et al. 2018 (link)
- Méndez-Barrientos et al. (2022) Race, citizenship, and belonging in the pursuit of water and climate justice in California

Advocacy Panel

Moderator: Mike Mendez (LA Water Board)

- Shasta Gaughen (Pala Environmental Department) & Sherri Norris (California Indian Environmental Alliance)
- Charming Evelyn (Sierra Club California)
- Justine Massey & Kija Rivers (Community Water Center)
- Rosa Nelson (Nuestra Casa)

Sierra Club's Environmental Justice Values

In 2001 the all volunteer Board of Directors adopted 3 Environmental Principles:

1. **We support the right to a clean and healthful environment for all people**
2. **We support an end to pollution**
3. **We support the precautionary principle**

Through these Principles, we intend that Earth's wild places should be protected so that all people and future generations may explore and enjoy nature's beauty; that the Earth's ecosystems and resources should be used responsibly and sustainably so that all people and future generations may share nature's bounty; that the natural and human environment should be restored to the benefit of all people and for other living things, and their future generations; and that no community should bear disproportionate risks of harm because of their demographic characteristics or economic condition.

What does water & environmental injustice look like?

- Exide communities contaminated with lead poisoning, soil and water contamination
- Flint, Michigan
- Housing the unhoused on unmitigated Brownfields
- Factories, warehouses, water treatment facilities built in under-resourced communities
- EPA designated superfund sites
- The human right to clean, accessible, affordable water
- Lack of access to water for the unhoused
- Lack of outreach in many languages
- Lack of seen and unseen disability access
- Failure to engage the public
- Cost - who benefits, who pays
- Environmental degradation for wildlife, marine life, flora and fauna

Sea Level Rise & Managed Retreat

What is the function of managed retreat?

Managed retreat involves the purposeful, coordinated movement of people and buildings away from risks. This may involve the movement of a person, infrastructure, or community. It can occur in response to a variety of hazards such as flood, wildfire, or drought. - Wikipedia

This involves moving the boundary inland.

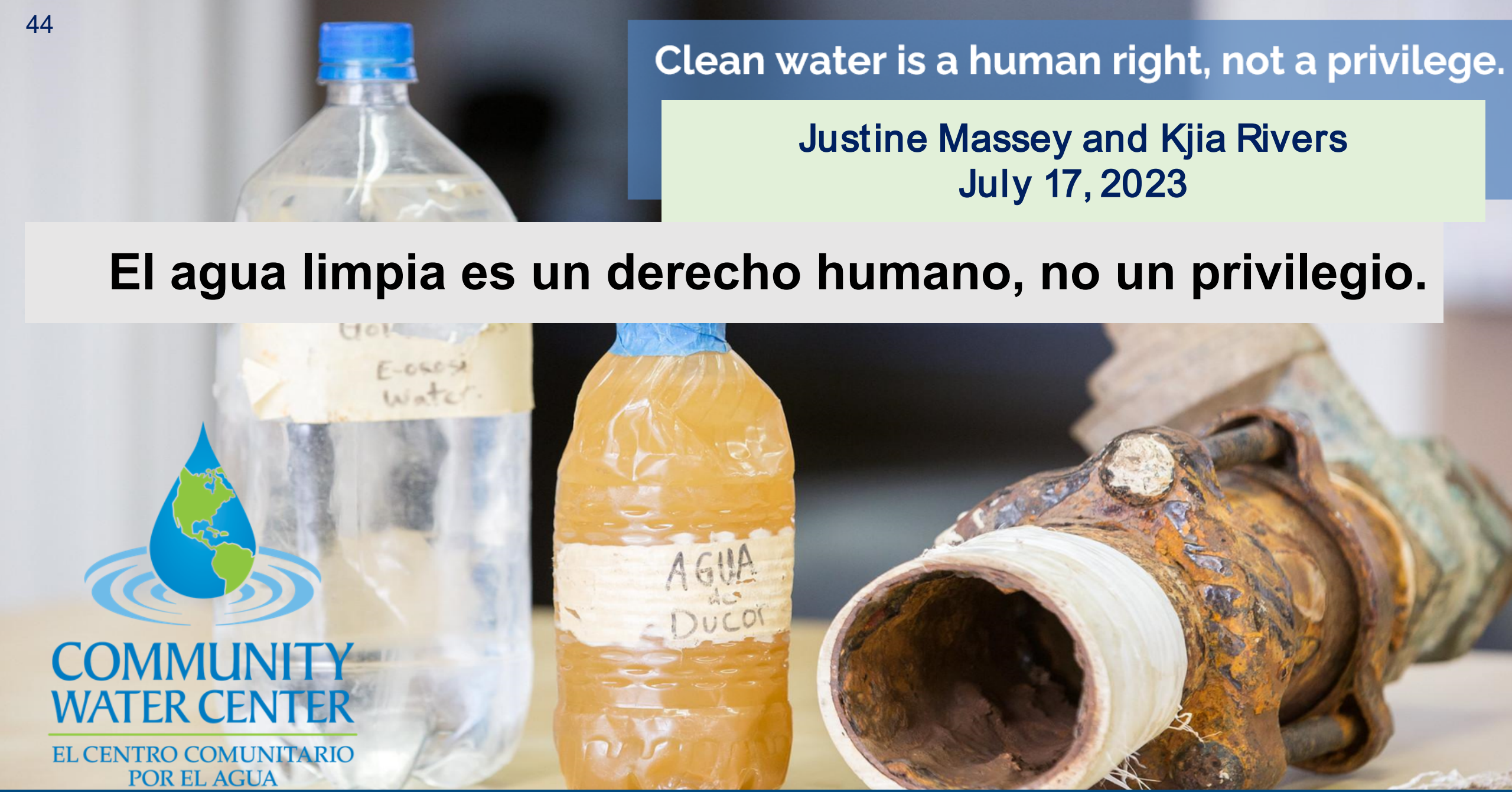
Coastal managed retreat is a strategy used to protect coastal communities and infrastructure from the impacts of coastal erosion, sea level rise and other coastal hazards, such as storms and flooding.

'Managed retreat' is a code word for give up—on our homes and the town itself.

Clean water is a human right, not a privilege.

Justine Massey and Kjia Rivers
July 17, 2023

El agua limpia es un derecho humano, no un privilegio.



COMMUNITY WATER CENTER
EL CENTRO COMUNITARIO POR EL AGUA

How Can Climate Change Impact Drinking Water Availability?
¿Cómo Puede el Cambio Climático Afectar la Disponibilidad de Agua Limpia?

Drought
Dry wells & water quality

Severe flooding events
Contamination, blocked access for delivery

Extreme heat
Dry wells, danger at work, electricity problems

Sea level rise
Contamination, crops fail

Sequía
Pozos secos y calidad del agua

Inundaciones graves
Contaminación, acceso bloqueado para la entrega

Calor extremo
Pozos secos, peligro en el trabajo, problemas de electricidad

Elevación del nivel del mar
Contaminación, los cultivos fallan

12,000

Domestic wells in the Central Valley could go dry by 2040 due to groundwater over pumping, which tends to increase during drought. This would impact drinking water for up to 126,000 residents.

Los pozos domésticos en el Valle Central podrían secarse para 2040 debido al agua subterránea sobre el bombeo, que tiende a aumentar durante la sequía. Esto afectaría el agua potable para hasta 126.000 residentes.

2020 Water Foundation Report

Questions?

Sign-up to receive monthly newsletters on water justice: **CommunityWaterCenter.org**

Follow us on social media!

¿Preguntas?

Inscríbase para recibir boletines mensuales sobre la justicia del agua: **CommunityWaterCenter.org**

¡Síguenos en las redes sociales!

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COMMUNITY WATER CENTER

Water Justice

FOR EAST PALO ALTO & BEYOND

Rosa Nelson, Water Justice Coordinator

Nuestra Casa

Demographics of East Palo Alto

EPA 59.9% LatinX

SMC 24% LatinX

EPA 12% Poverty Rate

SMC 6.8% Poverty Rate

Nuestra Casa

Our Programs

Promotoras & Community Outreach

Environmental Justice Academy

Food Rescue & Distribution

Nuestra Casa

Water Justice

I have such pride that we can bring this information to the community. It is beautiful to be a part of this group… we are working to bring the gift of knowledge to everyone.

- Nuestra Casa Promotora

Why the Focus on Water

DACTIP Tap Water Testing

Water Filter Distribution

Creating Community Water Task Force

Nuestra Casa

Equity in Water

- Nada sobre nosotros sin nosotros
- Outreach by trusted community members
- Driving research agenda
- Community members and organizations are compensated
- Programming in both Spanish and English
- Translation services

Nuestra Casa

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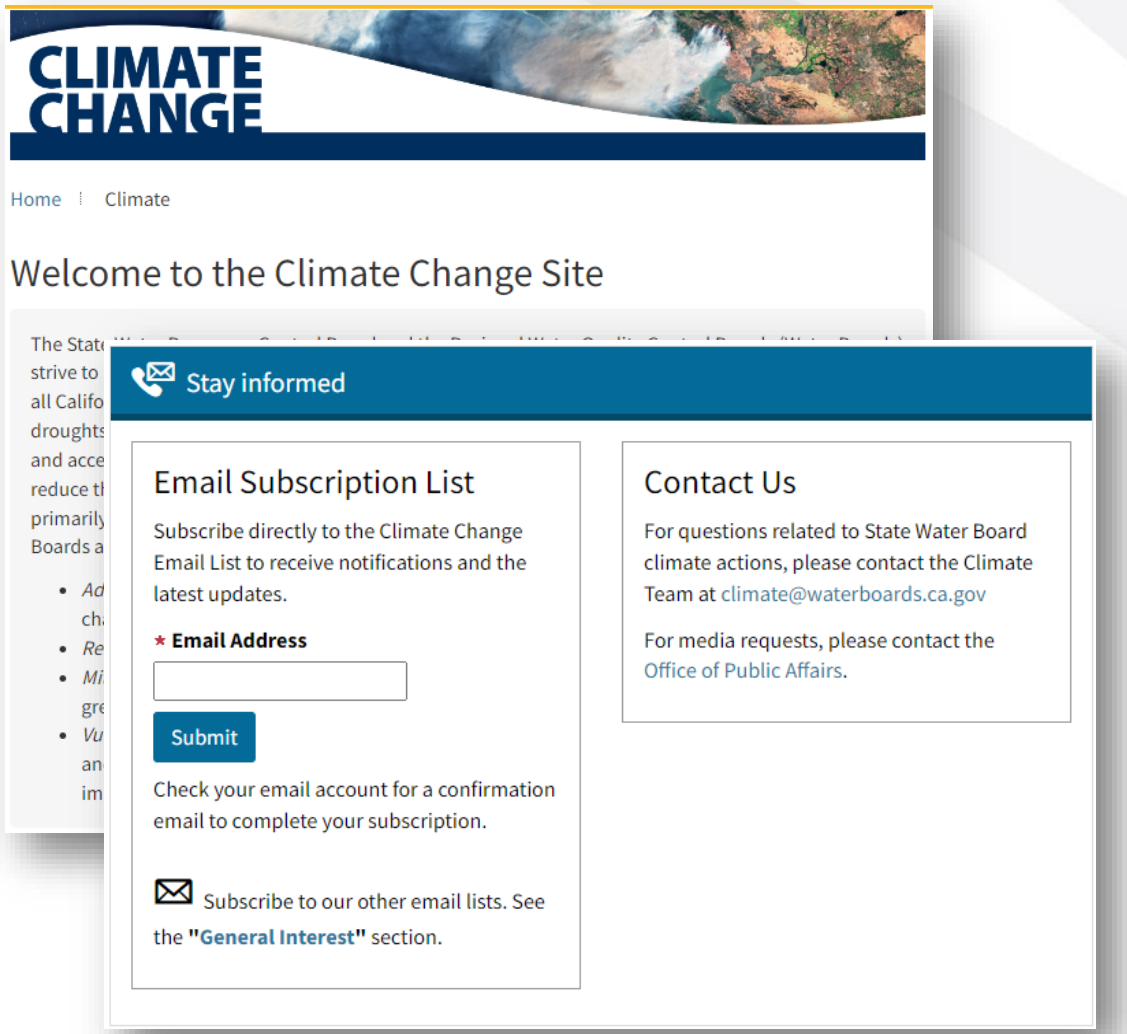
East Palo Alto, CA 94303

Nuestra Casa

Subscribe to the Climate Email List: **waterboards.ca.gov/climate**



To involve your organization contact:
climate@waterboards.ca.gov

Share feedback by
Tuesday, July 18

tinyurl.com/
SWBClimateForum2023

10-Minute Break

Molly Williams
Environmental Scientist
State Water Resources Control Board
“California Water Boards”

Panel Discussion

Chris Hyun & Mike Mendez
State Water Resources Control Board
“California Water Boards”

Q&A

James Nachbaur
Director of Research, Planning, and Performance
State Water Resources Control Board
"California Water Boards"

To join Zoom: bit.ly/cre-zoom

Use Raise Hand feature to ask a question verbally

Use Q&A box to ask written questions

Change audio channel by clicking the globe