

Water, Climate, and Equity: Collaborations for Environmental Justice



Thurs. July 8, 11-12:30 p.m.

Organized by the Northern California Network for Community-Academic Partnerships in Environmental Justice

This virtual workshop will share experiences and best practices from organizations working through meaningful collaborations to document and reduce inequities in water access and affordability, flood risk, and uneven exposures to water pollution on the local to regional scale.



Land Acknowledgement

We would like to recognize the Indigenous peoples and lands in the places where each of you are joining from.

As the event co-organizers, we acknowledge that Stanford University, Santa Clara University, San Jose State University and UC Berkeley sit on the ancestral and unceded lands of the Muwekma Ohlone peoples. Our universities have played distinct roles in displacing and exploiting Indigenous peoples. At the same time we recognize the continuing presence and leadership of the Muwekma Ohlone, and the opportunity to work in solidarity towards reparations and a more just future — in part through our gathering today.

Icebreaker Polls

Who are you representing today?

How many Californians are exposed to unsafe water in their homes, schools, churches and parks every year?

Agenda

11 - 11:15am: Welcome and icebreakers

11:15 - 12:15am: Panel presentations

12:15 - 12:25pm: Q&A and Discussion

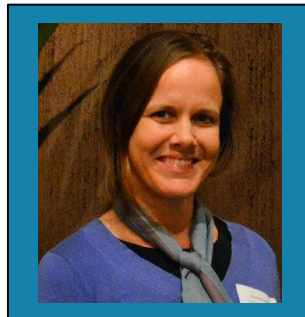
12:30: Closing

12:30 - 1pm: Optional coffee chat

Today's Speakers



Darcy Bostic
Pacific Institute

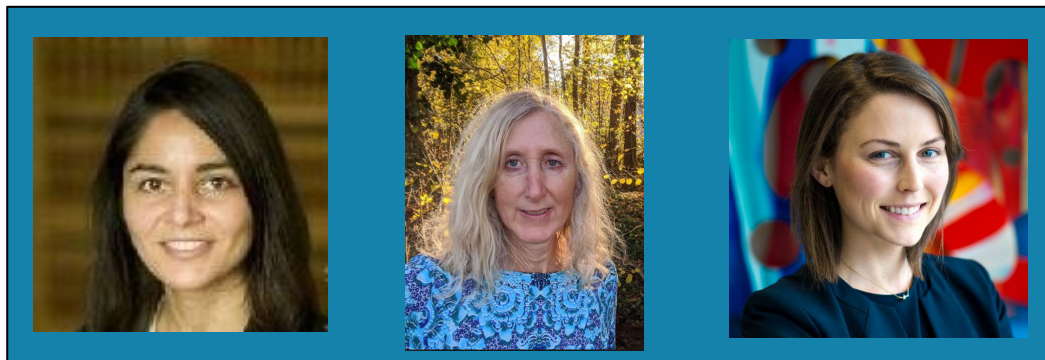


Heather Lukacs
Community Water Center



Costanza Rampini
San Jose State University

Tiffany Wise-West
City of Santa Cruz



Marisol Aguilar
CA Rural Legal Assistance

Iris Stewart-Frey
Santa Clara University

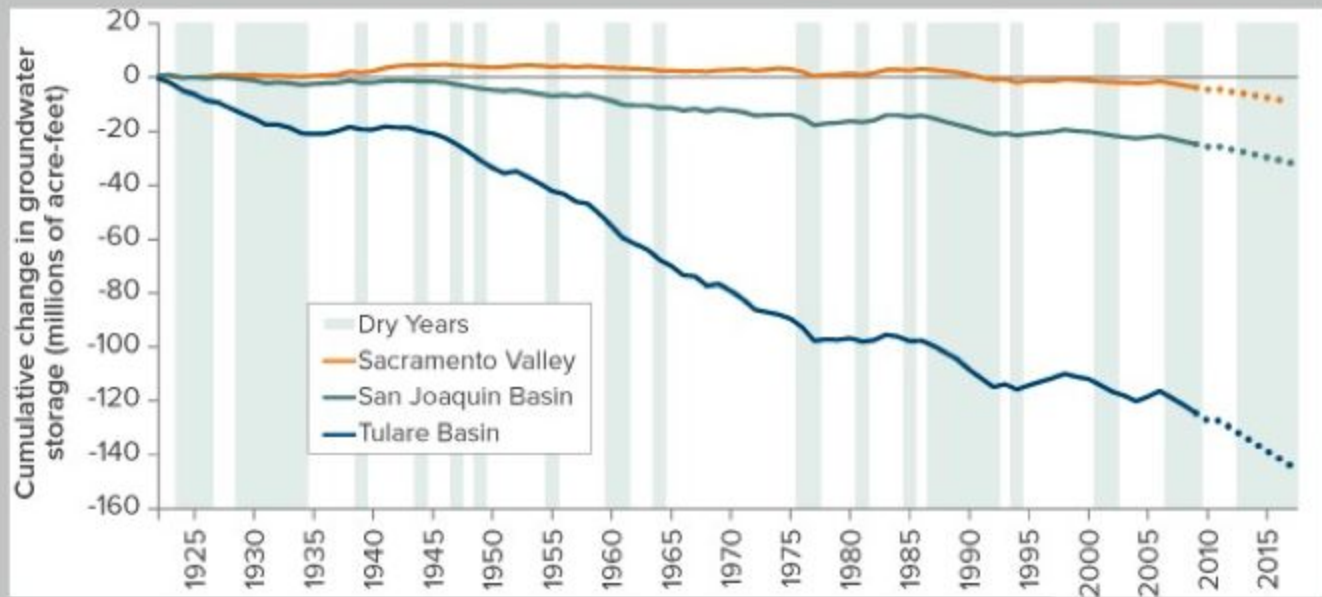
Kathryn Robinson
CA Rural Legal Assistance

Drinking water well vulnerability under groundwater sustainability planning

Darcy Bostic, Pacific Institute



Unsustainable groundwater management, exacerbated by drought, threatens shallow wells



Source: PPIC 2016

2,600 household wells were reported dry during the 2012 - 2016 drought. This is a '*substantial undercount*' for the state ([CRNA 2021](#)).

1.5 times more well failures were reported by households in *disadvantaged communities* compared to those at or above the Median Household Income. ([Fencil 2018](#))

SGMA requires
local agencies to
prevent
'undesirable
results.'

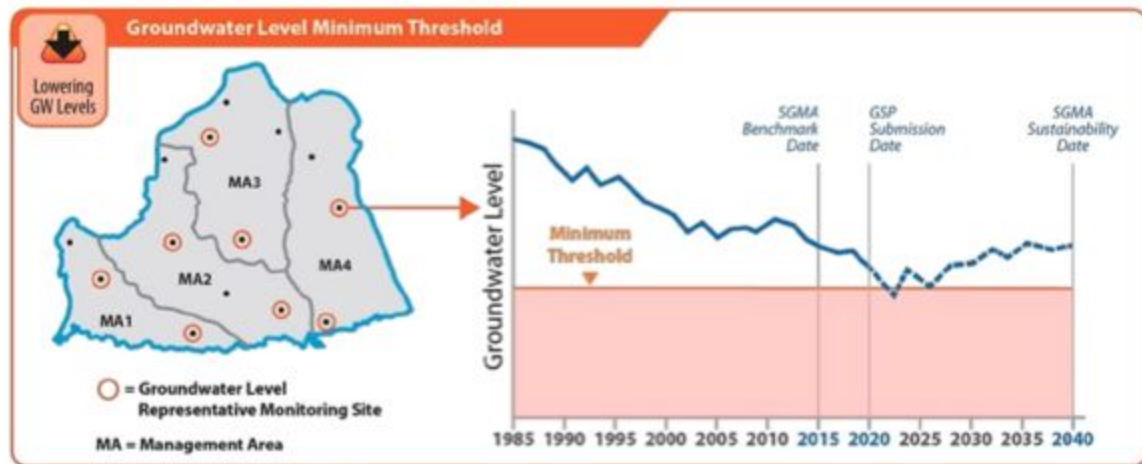
"...we're not required to pull the water level back up to 2015, so we're not. It's just not practical in our area.

We're going to continue to decline, as long as we aren't causing undesirable results, and that's the key."

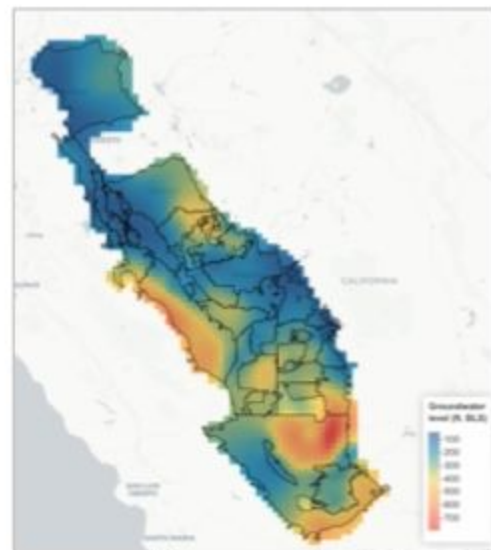
- Ronnie Samuelian, consultant for the Kings Basin ([Maven's Notebook 2019](#))

Minimum thresholds are the *deepest* groundwater levels can go before 'undesirable results' occur.

In the San Joaquin Valley, minimum threshold groundwater levels are **100 feet below present day levels**, on average.

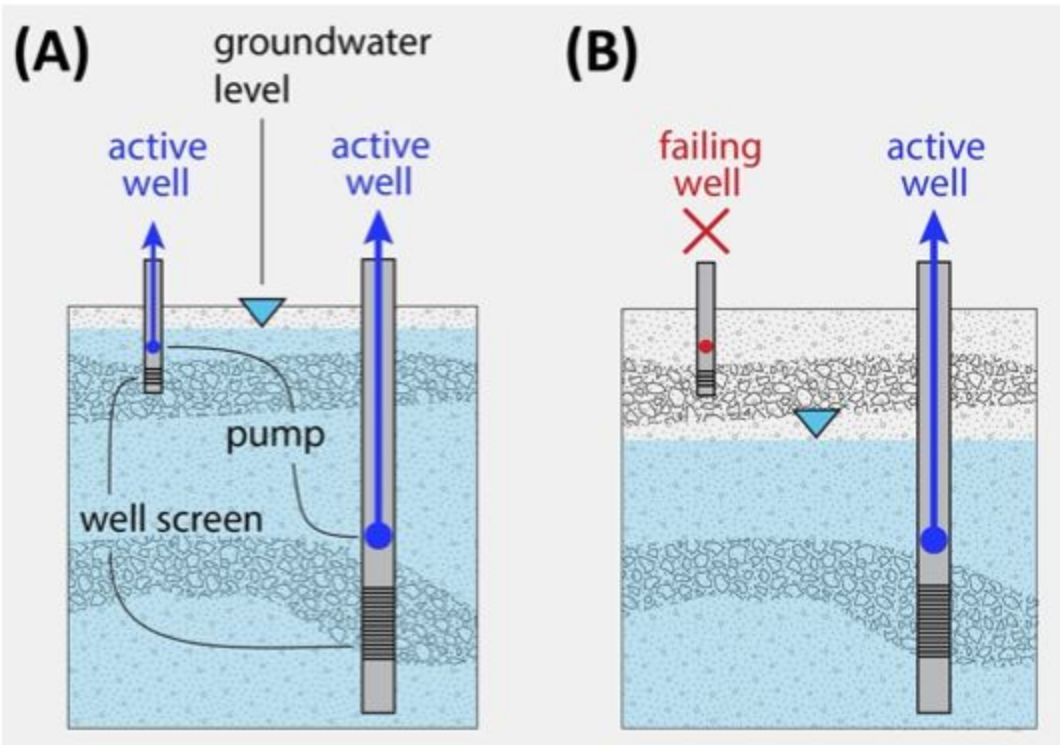


Source: DWR 2019



Source: gspdrywells.com

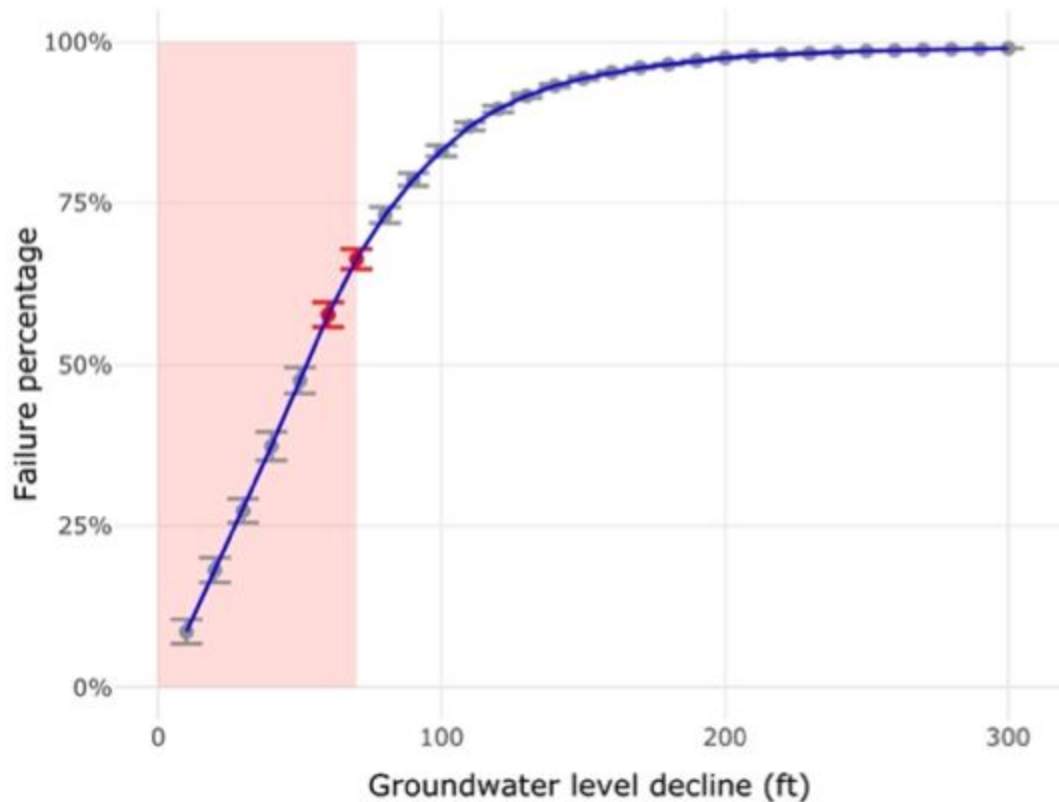
Well depths are compared to the minimum threshold groundwater level



About 9,500
domestic wells
have vulnerable
pumps

(~60% of active
wells in the SJV)

? Forecasted percentage of dry wells for all critical priority GSPs



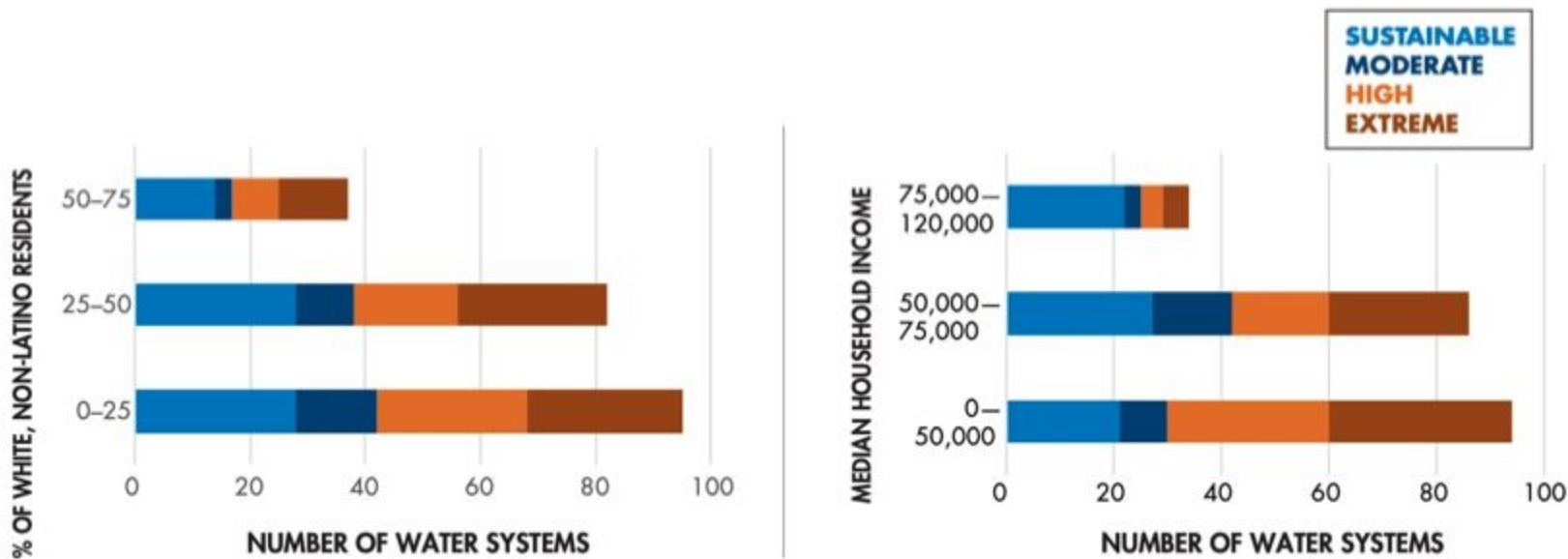
Source: gspdrywells.com

Category	Percent of Wells Fully or Partially Dry	Number of Systems	Population Served
Sustainable	0	70	227,378
Moderate Vulnerability	1-30%	27	1,464,239
High Vulnerability	31-70%	52	876,152
Extreme Vulnerability	71-100%	65	472,931

Public supply wells, and the water systems they serve, are also vulnerable

- **503 of the 1,200** public supply wells, or **42%**, are likely to be impacted or go dry
- **Most water systems have at least one impacted well**
- **65 water systems have more than 70%** of their wells impacted

Small water systems with majority POC and low-income customers are most likely to be impacted



Plans are under review and can be changed!

In Cuyama and Paso Robles GSP reviews:

“DWR criticized the (minimum threshold) groundwater levels established for the basins—

asking local officials for more specificity and discussion about *why those levels were picked* and what their **impacts could be on** different water users, especially on **shallower and domestic wells.**”

– [New Times Slo](#)

Yet these plans can't help people reliant on shallow wells through our current drought.

Climate Change and Coastal Risks in Santa Cruz, California

Dr. Tiffany Wise-West, Sustainability and Climate Action Manager,
City of Santa Cruz

Dr. Costanza Rampini, Environmental Studies Dept., San José
State University

City's work on natural + climate hazards

Local

City of Santa Cruz CLIMATE ADAPTATION PLAN

An update to the 2007 Local Hazard Mitigation Plan
2012 - 2017



CITY OF SANTA CRUZ Local Hazard Mitigation Five Year Update 2018-2023



Hazard Mitigation is any action taken to reduce or avoid the long-term risk to human life and property from natural hazards.
~ Title 44 Code of Federal Regulations

Adopted by the



CLIMATE ADAPTATION PLAN UPDATE 2018-2023

AN APPENDIX TO THE 2018-2023 LOCAL HAZARD MITIGATION PLAN



**BUILDING RESILIENCE
TO SEA LEVEL RISE**

● **Addressed:**

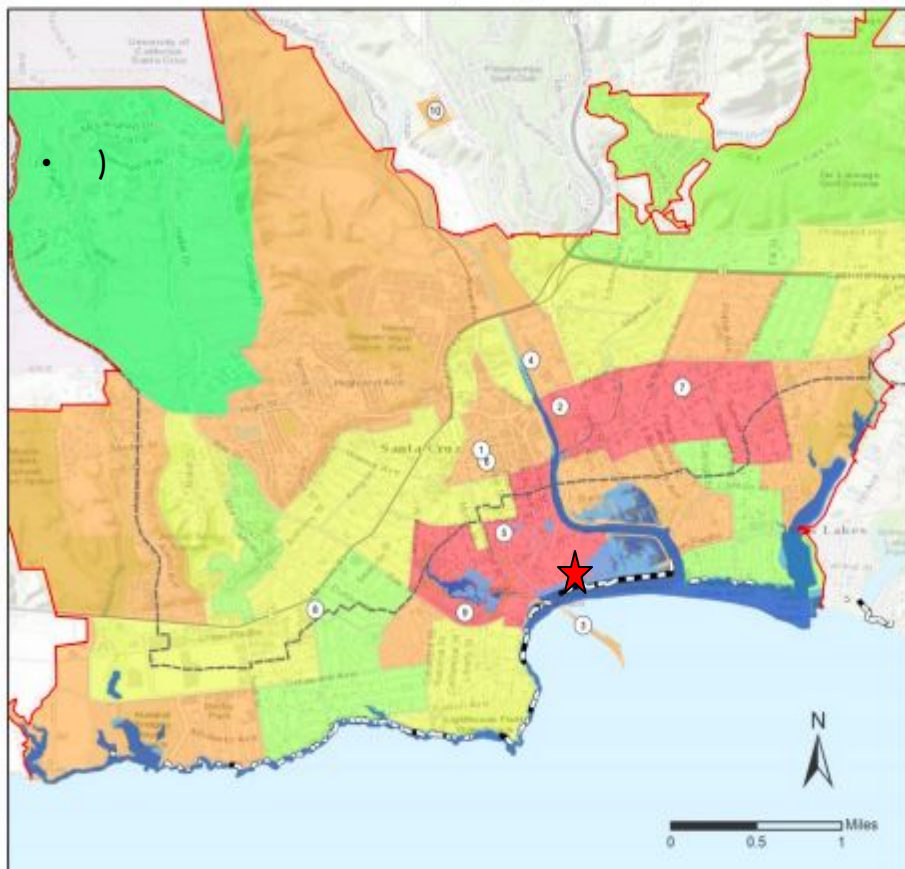
- COASTAL ACCESS
- TOURISM + RECREATION
- TRANSPORTATION
- ECOSYSTEMS
- COASTAL INFRASTRUCTURE + POLICY
- SENSE OF PLACE + CULTURAL IDENTITY
 - EQUITY

...and created...

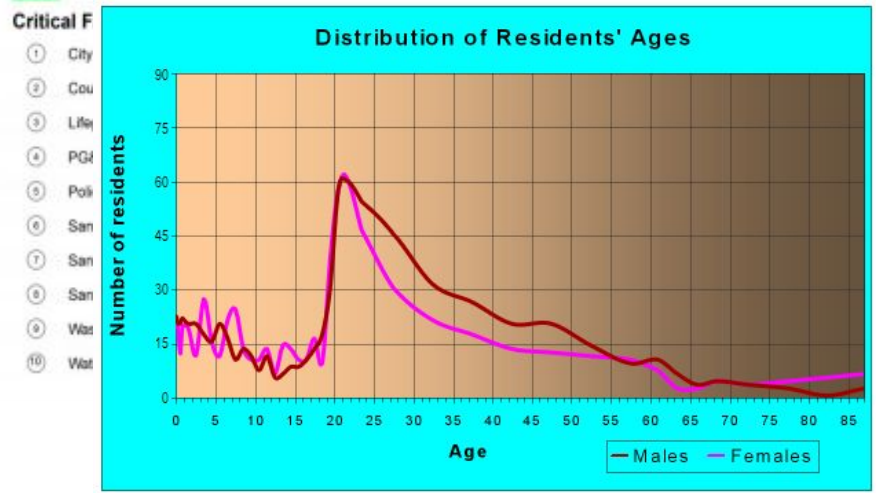
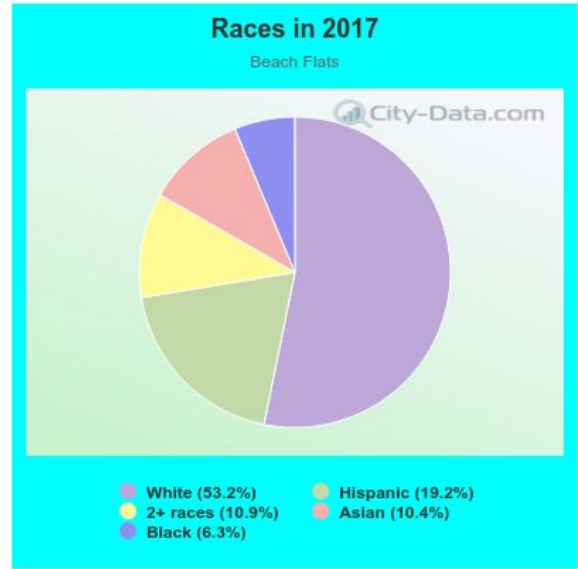
- AN INCLUSIVE CONVERSATION
- A COMMUNITY VISION
- A LONG TERM SOLUTION

**And hopefully...A RESILIENT + EQUITABLE
FUTURE COASTLINE**

CITY OF SANTA CRUZ COASTAL HAZARD ANALYSIS
SOCIAL VULNERABILITY SCORES WITH COMBINED HAZARDS ZONES
 (hazard zones include areas that are currently managed by pumps or protected by levees)



BEACH FLATS COMMUNITY





THE SPECTRUM OF COMMUNITY ENGAGEMENT TO OWNERSHIP



Centering Equity

- Spending time building trust with frontline community leaders
- Leveraging academic partnerships
- 1-on-1 meetings with historically underrepresented communities & follow ups
- Exploring how we can let underrepresented communities lead

BUILDING TRUST THROUGH EXTENSIVE OUTREACH

Open Streets

8 Focus Groups

950 West Cliff Drive Surveys


126 Interviews in Beach Flats/Lower Ocean Frontline Neighborhoods

50+ talks w/ community groups and students

One-on-one meetings with Under represented groups

Virtual Reality App Phase 1 @ Library+ (>350 people)

TAC & DH Workshops



VR Phase 2: Mobile Phone App

Open House 1 & 2 (including Beach Flats)

Check backs with Under represented Groups

BUILDING TRUST THROUGH EXTENSIVE OUTREACH

- Technical Advisory Committee participation
- 6 1-on-1 meetings with community leaders
- 2 community meetings in garden – distributed reverse 911 text sign ups
- Presence at other cultural & community events
 - Guelagetza Festival
 - La Posadas
 - Community clean up days

RESILIENT COAST SANTA CRUZ
BUILDING RESILIENCE TO SEA LEVEL RISE

Costa Resiliente Santa Cruz
CONVOCATORIA
ABIERTA A TODOS – Beach Flats

¿Cuál es el futuro de nuestras costas?

¿CUÁNDO: sábado 7 de marzo 2020; de 10:00 a 1:00 pm
¿A DÓNDE: Beach Flats Community Park
160 Raymond St. Santa Cruz

¿QUÉ: aparezca a cualquier hora entre las 10:00am y la 1:00pm a una reunión abierta a toda la comunidad para ver el progreso sobre la iniciativa sobre la resiliencia de la Costa de Santa Cruz. Esto será una oportunidad para los miembros de la comunidad de Beach Flats para aprender sobre el cambio costero y la planificación de adaptación en sus patios traseros, además de recibir sus comentarios sobre el tema. Materiales y presentaciones serán en español. Averigüe más acá: cityofsantacruz.com/ResilientCoast

SANTA CRUZ
Climate Action Program

Visitante recibirá una plantilla and semilla gratis!

Vea en 5 minutos el levantamiento del nivel del mar de forma virtual con el Reality Explorer mientras esté acá!

Habrá un evento abierto a toda la comunidad el jueves 5 de marzo de 3 a 8 pm en el Loudon Nelson Community Center. Los mismos temas serán cubiertos pero esta vez en inglés.

WHAT WE ARE HEARING FROM BEACH FLATS COMMUNITY

- Residents are largely unprepared for flooding events
- Short term, people want storm drain maintenance and mold removal
- Medium to long term, people want structural solutions (seawalls, elevated buildings) and to ensure equitable relocation/retreat if or when necessary
- Strong interest in green/natural infrastructure for coastal adaptation
- Other issues – housing insecurity, lack of access to green and open space, homelessness, litter, crime – should be considered alongside coastal adaptation
- Community is divided based on home country affiliation/cultural differences



Challenges

- Compensating community partners
 - During outreach effort
 - Through results of collaboration
- Building trust takes time, ongoing exercise
- Relating our work to other issues folks care about
- Covid and capacity

Funding Opportunities

- California Ocean Protection Council, **Proposition 68 Coastal Resilience Grant Program**. In partnership with the Middlebury Institute of International Studies and Point Blue Conservation Science.
- National Oceanic and Atmospheric Administration, Climate Program Office, Climate and Societal Interactions Division, **Adaptation Sciences (AdSci) Program, Advancing Climate Adaptation and Coastal Community Resilience**. In partnership with the Middlebury Institute of International Studies and Point Blue Conservation Science.
- National Science Foundation, **Civic Innovation Challenge** Track B. In partnership with UC Santa Cruz and 10 other academic and non-academic partners.
- **California Strategic Growth Council**, Governor's Office of Planning and Research. In partnership with the Middlebury Institute of International Studies and Point Blue Conservation Science.

Community-based research partnerships in environmental justice communities in the Central Coast and San Joaquin Valley

Heather Lukacs, Community Water Center





COMMUNITY WATER CENTER
EL CENTRO COMUNITARIO POR EL AGUA

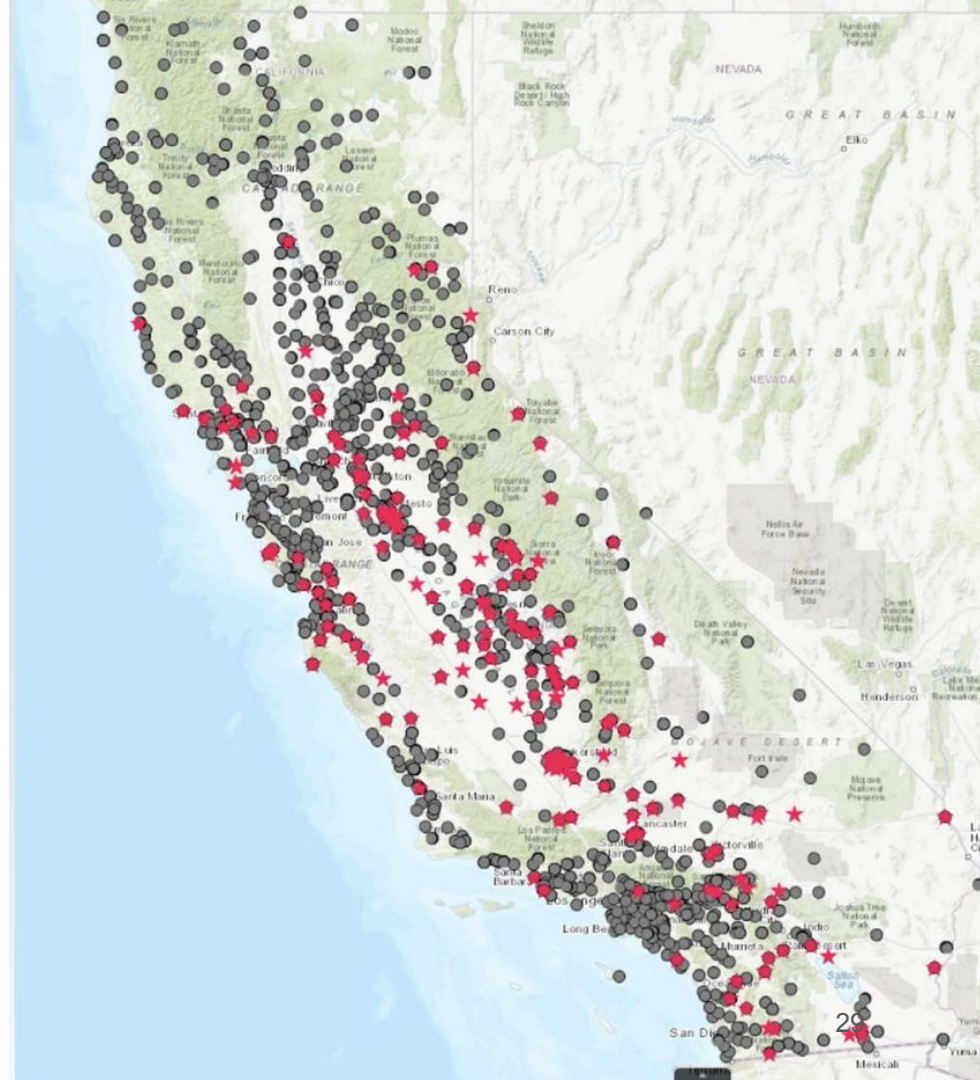
Advancing community-driven water solutions through organizing, education, and advocacy




Over 1M people in CA are impacted by unsafe drinking water each year

Public water systems out of compliance with drinking water standards (as of Feb 2019) are denoted by a star.

Source: Human Right to Water Portal, CA State Water Resources Control Board





Arsenic and nitrate drinking
water contamination
disproportionately impacts
**low-income and Latino
communities**

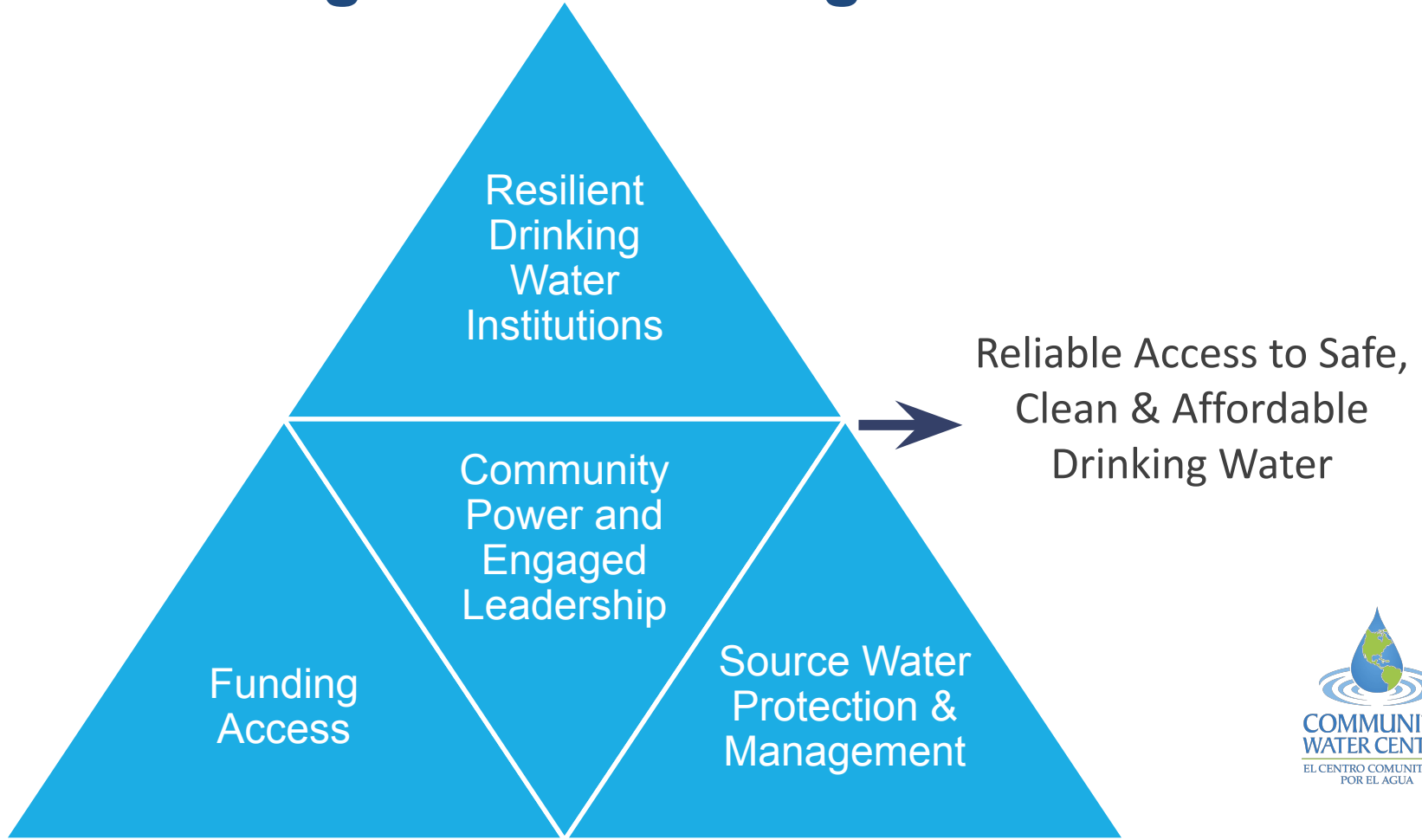
Balazs et al. 2011

Many residents
spend up to 10% of
their household
income on drinking
water.

Pacific Institute 2011



Securing the Human Right to Water



What Are We Looking For In a Partnership?

- **Is this a partnership of equals?**
 - What is driving the research question?
 - Were community groups involved in proposal development?
 - How will community feedback be incorporated?
 - How will data or products be shared?
 - Is there sufficient funding to cover community group staff time?
- **Does the potential impact of the research project align with our existing work and justify the commitment of resources?**



Examples of Research and Other Partnerships

Framework for a Drinking Water Well Impact Mitigation Program



Written by Self-Help Enterprises, Leadership Counsel for Justice and Accountability, and the Community Water Center

Drinking Water Tool

The Drinking Water Tool provides information about the ways that communities across the state might be vulnerable to groundwater challenges that could affect their access to long-term safe and affordable drinking water. This tool tells you:

- Who manages or makes decisions about your water supply;
- Groundwater quality in the area where you live;
- Potential impacts to groundwater supply from future droughts;
- How to get involved in local groundwater management decisions.

Each year, over one million Californians are exposed to unsafe drinking water from the taps in their homes, schools, churches, parks, and community centers. Although unsafe tap water can be found in nearly every county of the state, areas like the San Joaquin Valley are disproportionately impacted. Groundwater, which is found in the spaces between the soil and rocks beneath the earth's surface, is the primary drinking water source for over 95% of communities in the San Joaquin Valley. Many communities are 100% reliant on groundwater. Groundwater faces many threats. Contamination of groundwater from industrial and agricultural sources causes poor drinking water quality that harms the health of people who consume it. Decreases in groundwater levels can cause wells to go dry.

Based on analyses developed for this tool, 1.6 million Californians live in areas served private domestic wells. Many of these residents live in the Central Valley and would be affected by future droughts. For example, we estimated that 4,500 domestic wells could be impacted in a future drought. Impacts could cost the state an estimated \$115 million to remediate, present a serious public health crisis, and undermine California's efforts to secure the Human Right to Water for everyone in our state.

As Groundwater Sustainability Agencies develop and revise Groundwater Sustainability Plans under the Sustainable Groundwater Management Act, decision makers must address the needs of vulnerable communities. For groundwater to be managed and used responsibly and equitably, Californians need to know which communities are most vulnerable and use that information to help drive groundwater management policies led by those most impacted. We created the Drinking Water Tool to provide access to this information.

Use the tools below to learn more about groundwater issues in your area and throughout California.

Visit [Getting Involved](#) to learn how to use this information to take action in your community. To provide feedback, [contact the Community Water Center](#).



Your Water Data



Discover where your water comes from based on your address. Learn about water quality and water supply in your area and how to get involved with local water issues.

California Water Data



Use our web mapping tool for a deeper dive into California's many water data layers. Features include the ability to overlay data layers like Drought Scenarios and print reports.

CORONA ENVIRONMENTAL CONSULTING

Developing Equitable and Effective Early Action Plans

The Cost of Interim Drinking Water Solutions and Public Outreach for Nitrate Contaminated Drinking Water

Analysis for Kings Basin, Kaweah Basin, Tule Basin, Turlock Basin, Modesto Basin, Chowchilla Basin and Tulare Lake Basin – San Joaquin Valley, CA

January 1, 2021

Revised: January 28, 2021

Prepared for Community Water Center

Prepared by Corona Environmental Consulting, LLC



Current and Future (Research) Projects

- Updates to the Drinking Water Tool
 - Primarily incorporating data being developed by the state
 - System Area Boundary Layer Tool
 - GAMA Aquifer Risk Mapping
- New Research Project Development
 - Looking for PFAS & other non-regulated contaminants – targeted and non-targeted sampling
- Community Solutions Pilot Projects
 - **123-TCP Point-of-Entry Treatment Pilot Project**
 - Alternatives Analysis of Long-Term Drinking Water Solutions

Community Water Center: Because clean water is a right, not a privilege.



Join the movement and
find out more online!

Heather.Lukacs@
CommunityWaterCenter.org





SANTA CLARA UNIVERSITY
**Environmental Justice
and the Common Good**

Iris Stewart-Frey
SCU, Associate Professor



CALIFORNIA RURAL LEGAL ASSISTANCE, INC.

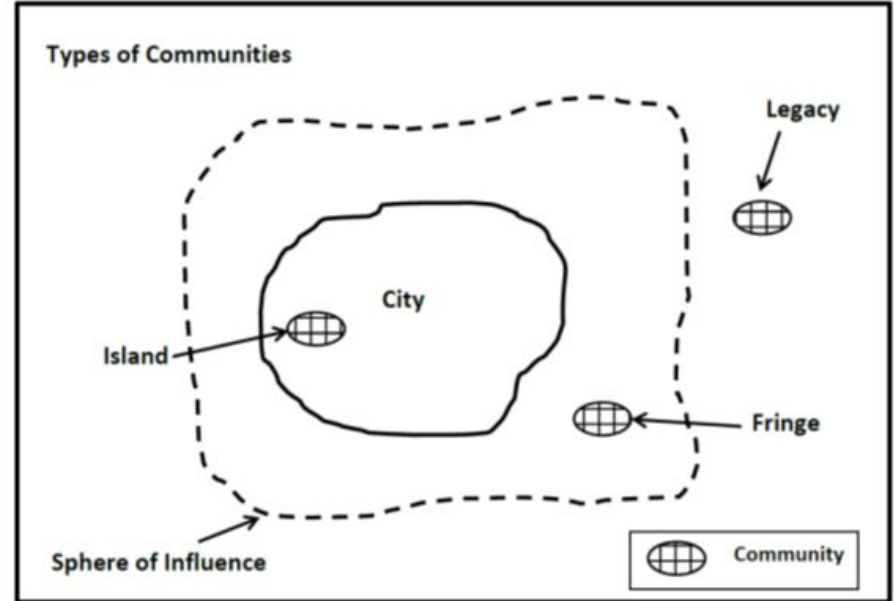
Marisol Aguilar
CRLA, Legal Director

**Driving policy changes in addressing nitrate
pollution in Central Valley domestic wells
through the CV-SALTS program**

California Rural Legal Assistance's Water Work

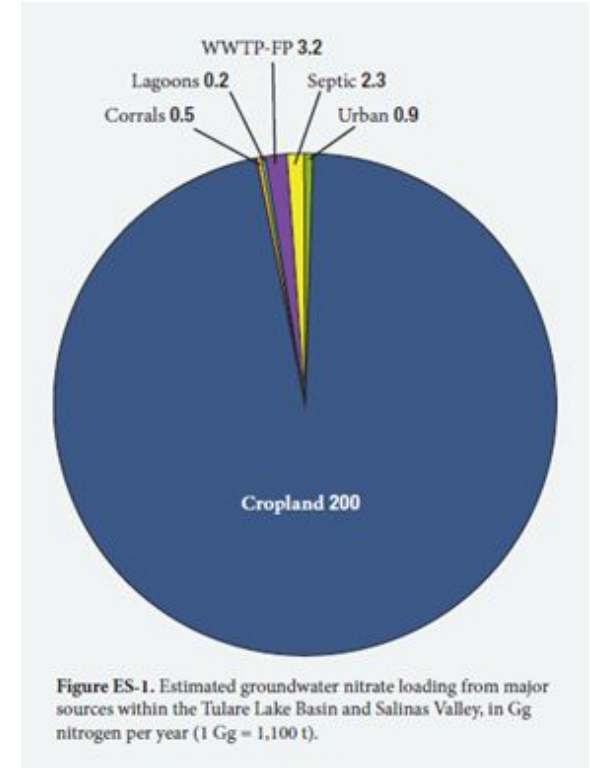
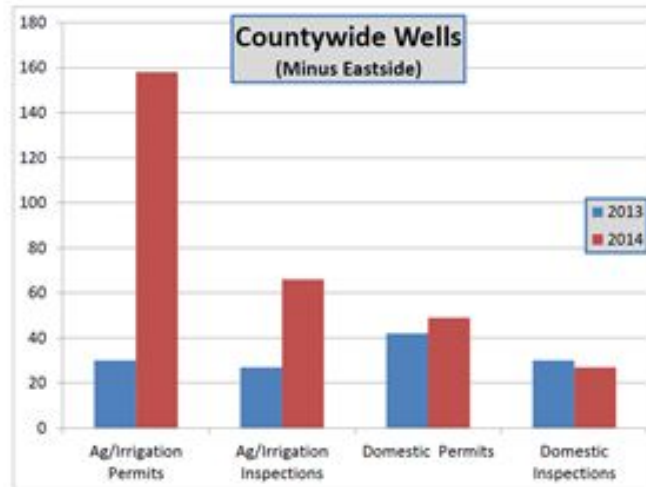
Community Equity Initiative

- Built Environment
- Planning
- Public Participation
- **Water Insecurity**
 - Quantity
 - Quality
 - Cost



Issues facing low-income and unincorporated SJV

- Lax regulation of agriculture
- Lack of data transparency
- Low-income minorities disproportionately affected
- Power imbalance



CV-SALTS (Central Valley Salinity Alternatives for Long Term Sustainability)

- Dischargers in management zones to develop short and long term solutions to nitrate and salt pollution
- Managed by Central Valley water board
- Start in 2020, 35 year horizon

Compliance Path

Dischargers collaboratively work together to ensure clean water.

Early Action Plan

Develop short-term, immediate solutions.

- Well testing
- Bottled water
- Point-of-use

Management Zone Implementation Plan

control nitrates by

- best treatment
- achieve balance
- restore groundwater.

CV-SALTS program as opportunity for advocacy and partnership

Early Action Plan

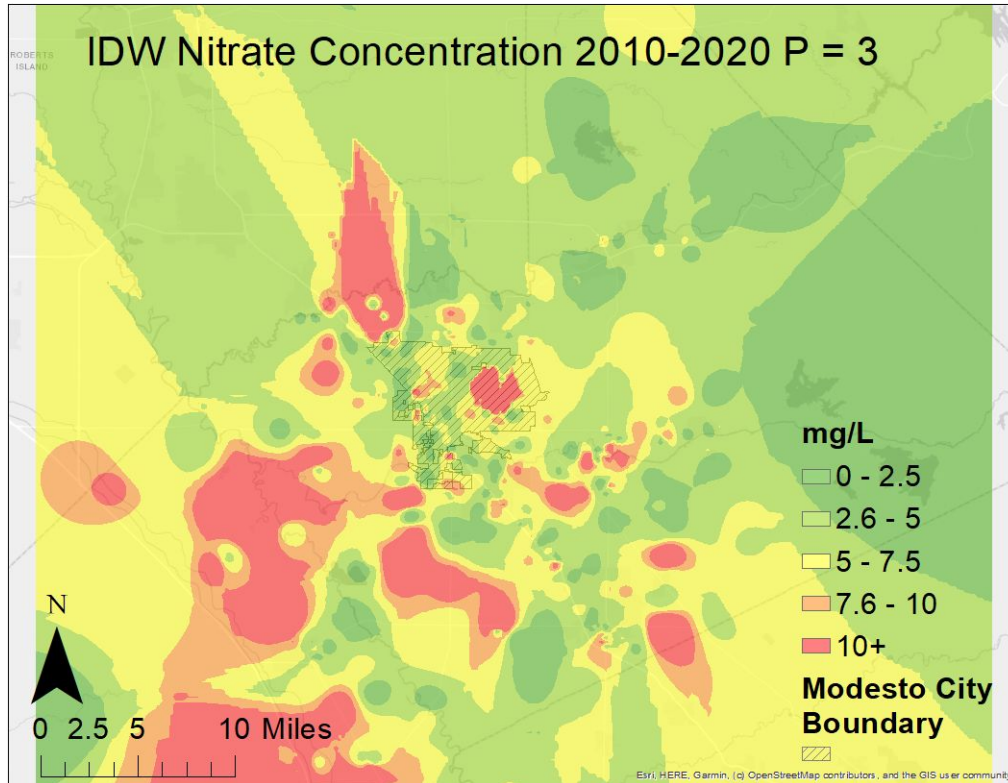
Develop short-term, immediate solutions.

- Well testing
- Bottled water
- Point-of-use

1. Ensure the program will work for those affected
 - a. Legally compliant
 - b. Language access
 - c. Robust public outreach
 - d. Eliminate barriers
2. Ensure the program is as protective as possible
 - a. Data analysis
 - b. Well testing best practices
 - c. Understanding nitrate contamination
 - d. Data needed to monitor progress
 - e. Explain the need for data transparency

Connecting with an academic partner

Findings from well-data analysis

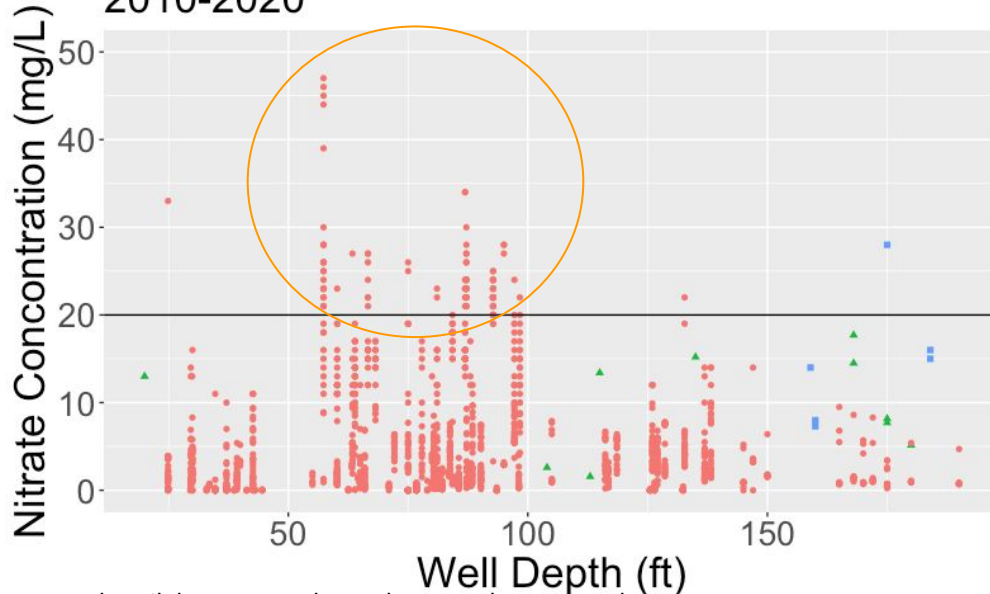


- Prior work in Modesto region on (much with TRT)
 - mapping pollution sources
 - access to green spaces/ EJ principles into the general plan
 - Pesticide Application
 - Groundwater contamination
- EAPs based on 'available data'
- Data and parameters determine areas of high risk

Map: Lilah Foster, undergraduate student researcher

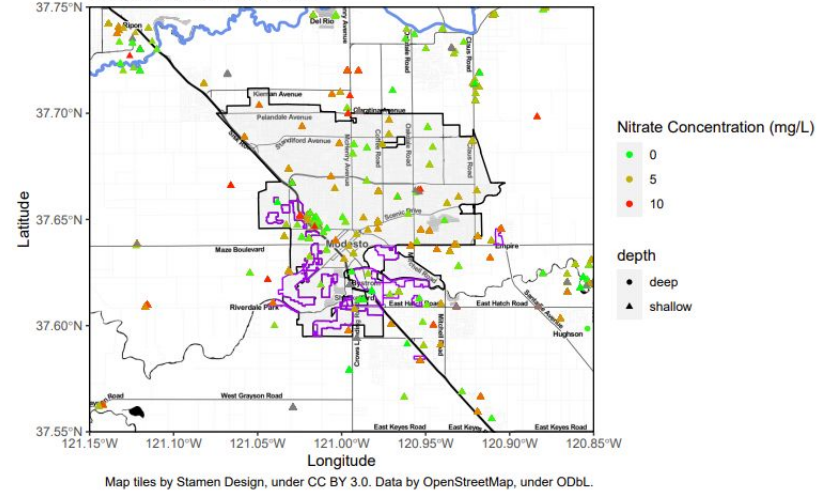
Highest nitrate concentrations are in shallow wells

Stanislaus County GAMA Well Data 2010-2020



Graphs: Lilah Foster, undergraduate student researcher

Nitrate Pollution Occurrence in Wells 2010 - 2020



Map tiles by Stamen Design, under CC BY 3.0. Data by OpenStreetMap, under ODbL.

WELL.TYPE

- Monitoring
- ▲ Municipal
- Private

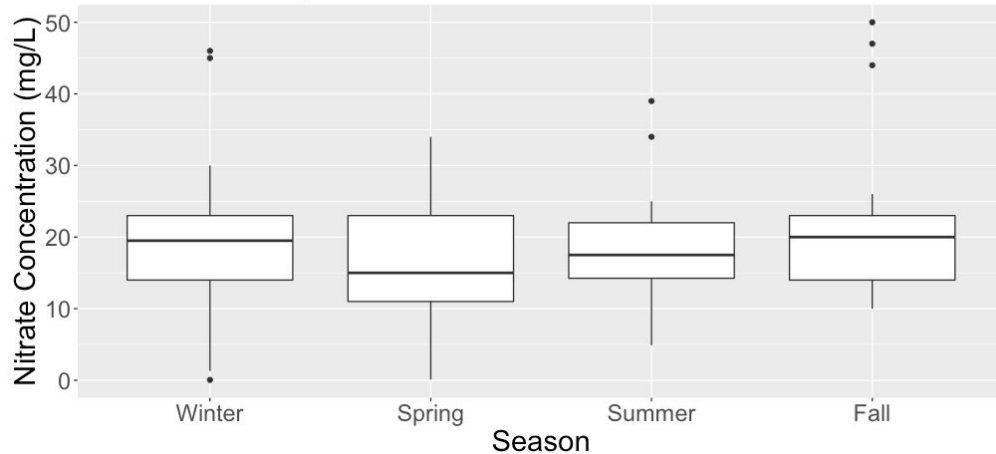


SANTA CLARA UNIVERSITY
**Environmental Justice
 and the Common Good**

Science: Nitrate concentration in shallow wells have a seasonal signature

Policy Implication: Yearly testing insufficient

Nitrate Results by Season in 4 Shallow Wells
Stanislaus County GAMA 2010-2020

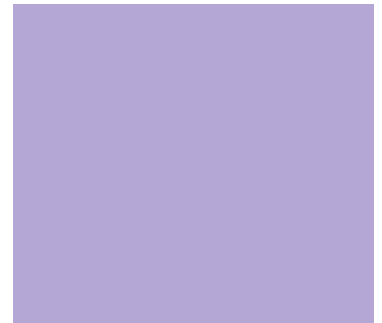
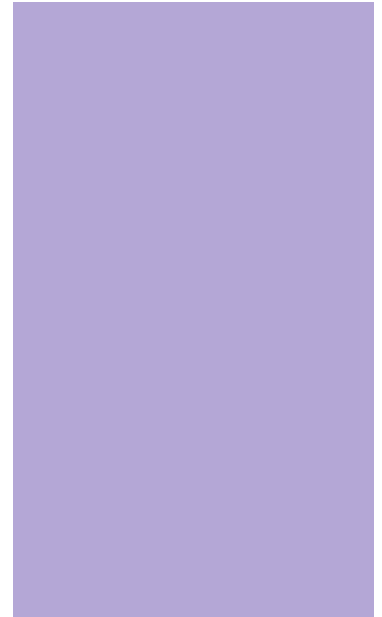


Nitrate Results over time in 4 Shallow Wells



CRLA & SCU PUBLIC COMMENTS IDENTIFIED ISSUES

1. **Data Transparency:** full transparency of data sources used and analysis from MZs
2. **Frequent Well Testing:** more frequent and robust well testing should be made available
3. **Nitrate Loading:** nitrate loading information should be provided
4. **Owner Consent:** current EAP/PMZP provisions prevent tenants from receiving the benefits of sampling and water filtration programs
5. **Water-Fill Stations:** should be provided throughout rural areas within the first 60 days of EAP implementation
6. **Community Engagement:** MZs should be required to meaningfully consult with the community during EAP implementation.
7. **Compliance and Enforcement:** additional compliance and enforcement mechanisms are needed to ensure management zone accountability



Results from joint advocacy

- **Data Transparency**: all data involved will be publicly available, description of procedures, full data sets
- **Well Testing**: retest wells at 7.5 mg/L, developing plan for co-contaminants testing, seasonal fluctuations will be considered along with other trends
- **Owner Consent**: commitment to use enforcement power, continued dialogue to evaluate options
- **Public Participation**: Amplified voices, more robust and mandatory public participation
- **Accountability**: more frequent and more comprehensive reporting, real-time tracking

Continued opportunities

- Follow-up advocacy on CV-SALTS
 - Implementation of CV Salts Program over 35 years
 - Preliminary Management Zone Plans for long-term solutions
- Advocacy on related issues:
 - Currently: State Water Resources Control Board Board Racial Equity Resolution
- Potential of joint projects and fundraising
- Networking with other community organizations, communities, academics

CONTACT



CALIFORNIA RURAL LEGAL ASSISTANCE, INC.



SANTA CLARA UNIVERSITY
**Environmental Justice
and the Common Good**

Marisol F. Aguilar
Legal Director, Community Equity
Initiative
CRLA, Inc.
maguilar@crla.org
(209) 577-3811

Iris T. Stewart-Frey
Associate Professor
Santa Clara University
Department of Environmental
Studies and Sciences
Environmental Justice and
the Common Good Initiative
istewartfrey@scu.edu
(408) 551-7186

Discussion

Please unmute yourself or put your questions in the chat



Closing

Thank you!

- We will be sharing participant contact information of those that agreed
- To join the Northern California Environmental Justice Networking google group email istewartfrey@scu.edu
- Email the organizers with ideas for future presentations, or if you are interested in presenting your work
- Upcoming events (next workshop at Stanford on Sept 15th) Join the google group to receive updates
- Informal networking session after a 5 minute break

5 minute break followed by a virtual coffee

*Get your drink of choice and join us
for some informal conversation on
networking around water, climate,
and equity*

