Environmental Justice Concerns in the Northern San Joaquin Valley

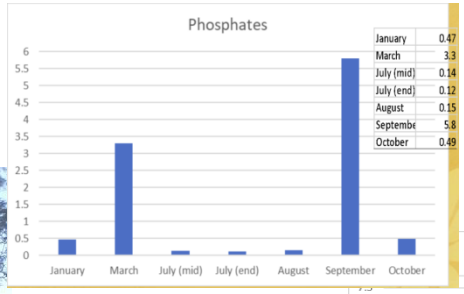
A gathering between community-based organizations and academic researchers to learn about community concerns, and discuss opportunities for networking and collaboration across Northern California

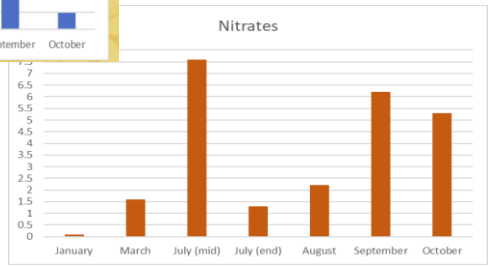
Goals

- Hear issues of organizations working in communities
- Bring together community organizations and academic researchers
- Provide networking opportunities
- Discuss approaches to working towards solutions
- Leverage joint expertise

- Thriving communities in a thriving environment

Example Community-Academic Partnerships – Tuolumne River Water Quality Monitoring



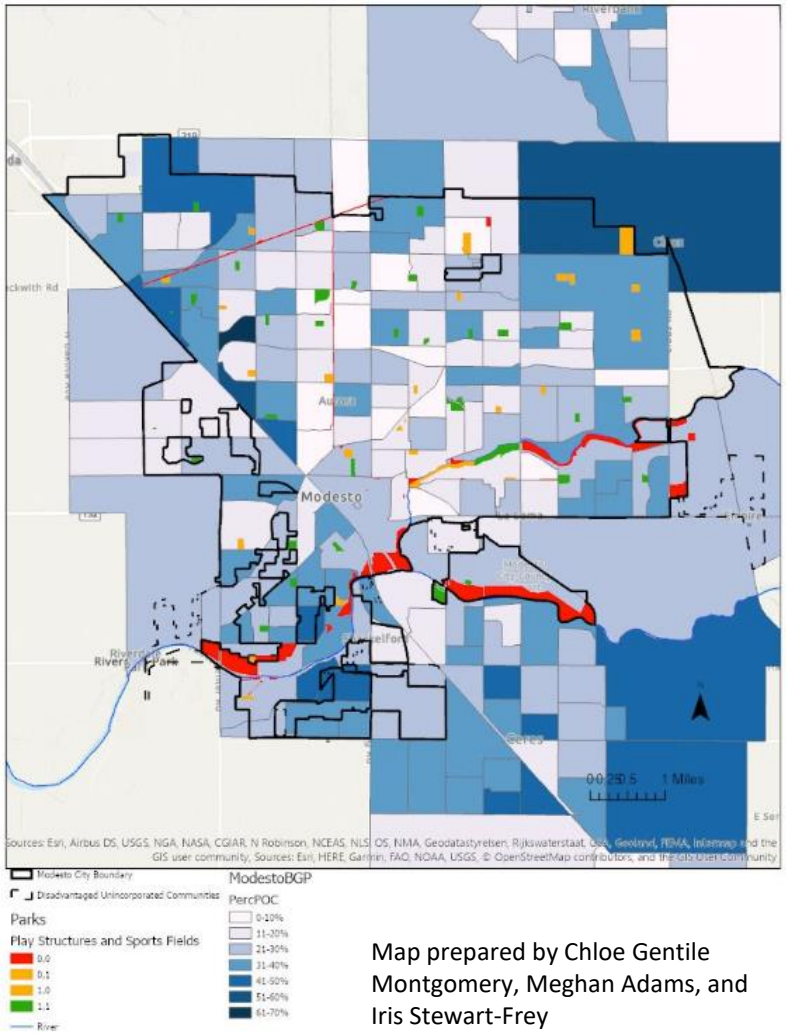


¿Por qué es importante el monitoreo del agua?

- El río Tuolumne está en riesgo por los contaminantes que vienen de las zonas urbanas, granjas, fábricas, la erosión del suelo, y la basura.
- Los programas voluntarios del monitoreo de calidad del agua tienen un papel importante en ayudar a la salud de nuestros ríos y arroyos para el uso de las personas, los peces y la vida silvestre.

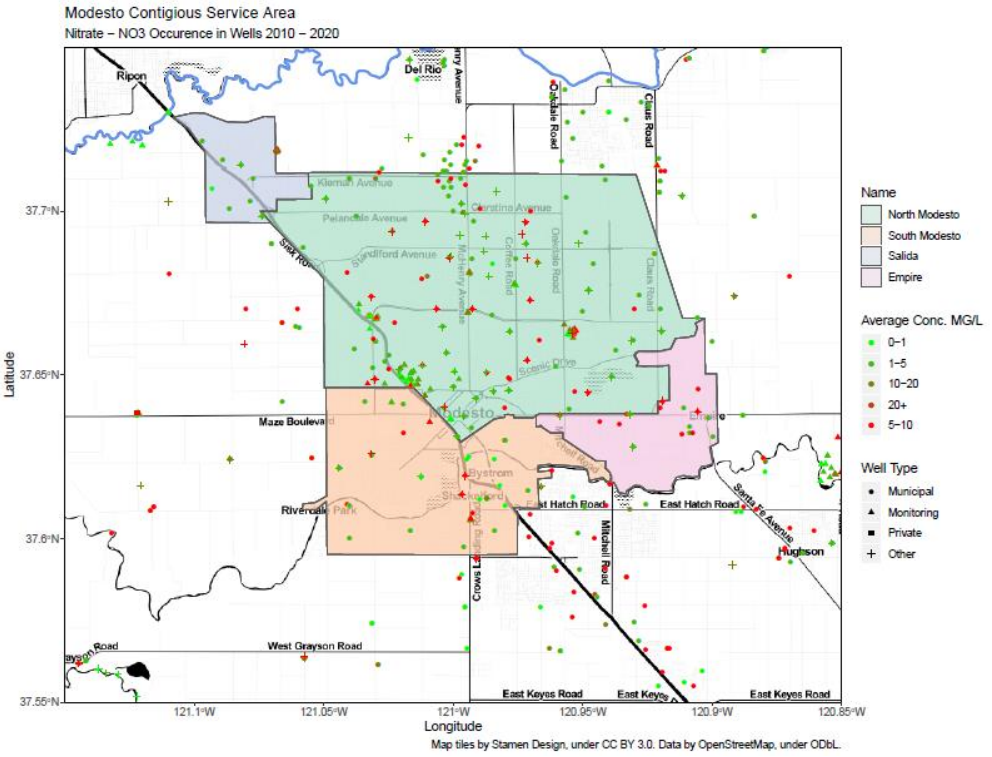
Examples Community-Academic Partnerships: Mapping Park Acess and Water Contamination

Percentage POC and Parks with(out) amenities



Map prepared by Chloe Gentile Montgomery, Meghan Adams, and Iris Stewart-Frey

Nitrate occurrence in wells
Red = above the recommended limit



Map prepared by Andrew Bake and Iris Stewart-Frey

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A gathering between community-based organizations and academic researchers to learn about community concerns, and discuss opportunities for networking and collaboration across Northern California

Agenda

3:00 - 3:10 p.m. **Welcome and Introductions**
Presenter: Martha Armas - Kelly (Catholic Charities)

3:10 - 3:20 p.m. **Meeting Goals, Overview and Opportunities of Community-Academic of Partnerships**
Presenter: Iris Stewart-Frey (Santa Clara University)

3:20 - 4:00 p.m. **Presentations**
Presentation introductions: Martha Armas-Kelly (Catholic Charities)

3:20 - 3:40 p.m. Climate Plan Workshop Summary of Results
Presenter: Amy Hartman (Climate Plan)

3:40 - 3:45 p.m. Community-Academic Partnerships
Presenter: Chad Raphael

3:45 - 4:00 p.m. The Drinking Water Tool of the Community Water Center and UC Berkeley Water Equity Science Shop- An Overview;
Presenter: Clare Pace (UC Berkeley)

4:00 - 4:30 p.m. **Breakout groups**

Facilitator: Iris Stewart-Frey (Santa Clara University)

- Food Access
- Access to Parks and Open Spaces
- Water and Climate Justice
- Air Pollution
- Affordable Housing and Sustainable Transportation
- Economics and green jobs

4: 30 - 4:45 p.m. **Report back on main themes**; Facilitator: Iris Stewart-Frey

4: 45 - 5:00 p.m. **Next steps and closing**, Facilitator: Martha Armas-Kelly:

ClimatePlan

San Joaquin Valley 2020 Listening Session Highlights

Compiled by ClimatePlan - June 24, 2020

Environmental Justice Concerns in the Modesto/Stanislaus Region

March 2020 – Listening Session

Who Attended?

- 10 Modesto / Stanislaus Co. advocates
- Santa Clara University students present

Organizations Represented

Tuolumne River Trust

- Catholic Charities of Stockton
- Care City Mission Network
- Valley Improvement Project
- Stanislaus Co. Health Services Agency
- ClimatePlan

Key Questions

- What are the community's priorities for 2020 in the realms of transportation, land use, housing, and climate?
- How can ClimatePlan support the community and stakeholders in those areas?
- Are there lessons / ideas that ClimatePlan can be taking from a local or regional level and amplifying them to the statewide advocacy network?

2020 Priorities for Modesto & Stanislaus County

Land Use

- Modesto General Plan
- Urban Limit Line measure in Modesto
- Build community capacity and community leadership around understanding and taking action on Modesto General Plan

2020 Priorities for Modesto & Stanislaus County

Housing

- Need for affordable housing – housing conversation is very disjointed between state, region, locals.
- How to address houseless population in Modesto
- What is the connection between houselessness and ACE (Adverse Childhood Experiences)?

2020 Priorities for Modesto & Stanislaus County

Climate

- Bring “climate change” into community / government vernacular. Still a very politicized term.
- Region is primed for innovation around climate change – the weather, agricultural industry, location.
- Need to raise community awareness around climate change and connect it to every day life in region.

2020 Priorities for Modesto & Stanislaus County

Transportation

- Need for public transit that meets community's transit needs
- Need for substantive community engagement to find out community's transit needs
- Prioritize connectivity and accessibility
- Prioritize the connection between clean air quality and public transit
- Is there an opportunity to uplift a mobility justice framework in Modesto?

2020 Priorities for Modesto & Stanislaus County

Building Community Capacity

- Invest in local leadership – encourage community to join commissions / engage civically.
- People of color make up 47% of population but very few people of color on boards, commissions, in elected office.
- How do we create more accountable, transparent governance?
- Could Greenprint tool be used to democratize data and make conversations more transparent?

ClimatePlan

Questions? Thoughts?

Amy Hartman
ClimatePlan
amy@climateplanca.org
climateplan.org

Community-Academic Partnerships

Chad Raphael

Reminders
(for academics)

Commitments
(to community partners)

Cultural Humility

Academics have work to do

Personal + social transformation

Changing power relations between academics and communities into relations of respect, reciprocity, and affection

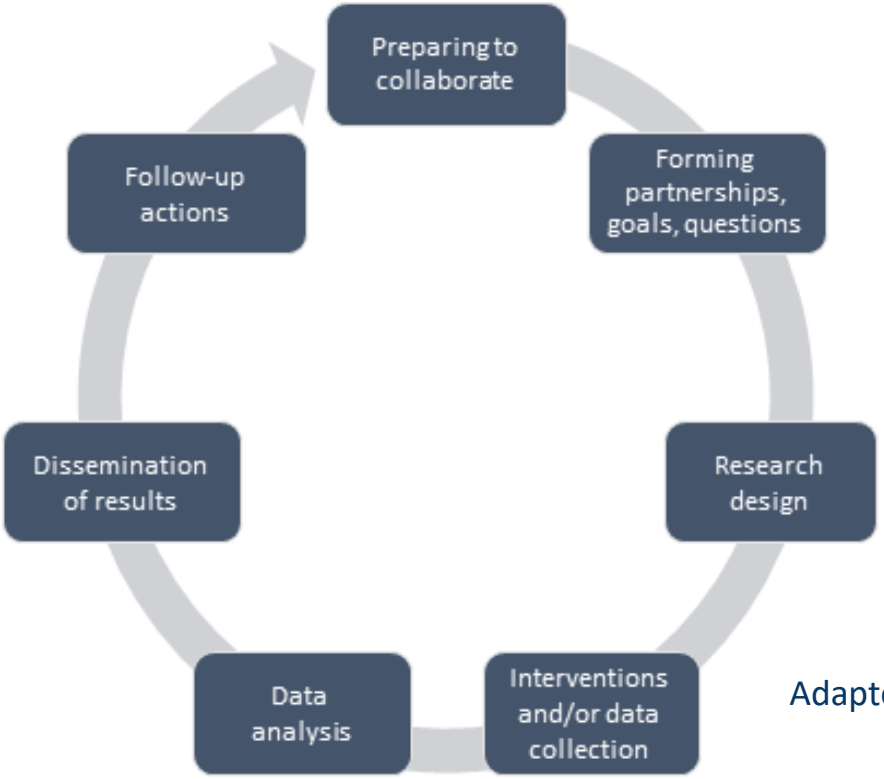
Research as a Means

Research is one means to achieve EJ, not an end in itself

"I was asked to serve on a [academic] panel on environmental justice. Those people have conferences,
and they just sit around and talk on it! And that's it, baby—you don't get any more help!"

-Unnamed EJ Activist
interviewed by Sherry Cable

Equitable Partnerships



Clear and fair agreements on sharing resources, control, data, dissemination, credit

Adapted from Bacon et al. (2013)

Reminders and Commitments

Reminders	Commitments
Cultural humility	Respect, reciprocity, affection
Research is a means to EJ	Research for action on EJ
Equitable partnerships	Agree to share resources, control, data, dissemination, credit

"We must be the values that we say we're struggling for and we must be justice, be peace, be community" - Jemez Principles

The Drinking Water Tool:
An Overview

Clare Pace, PhD, MPH
UC Berkeley
Water Equity Science Shop
6-24-2020

Water Equity Science Shop (WESS)

Support community organizations, research, and policy

Water Equity Science Shop Center

Rachel Morello-Frosch
UC Berkeley (UCB)
Co-lead

Carolina Balazs
OEHHA
Co-lead

Lara Cushing
San Francisco State University, UCB
Co-lead

Clare Pace
UCB
Postdoc

Community Water

Adriana Renteria
CWC

Amanda Fencl
CWC

Rob Gailey
Hydrogeologist

WESS is a community-academic partnership that conducts research and multi-level public health actions to address the health risks associated with drinking water contamination

Funder: NIEHS Superfund Program, Community Engagement Core

Collaborators:
Community Water Center
San Francisco State University
CA Office of Environmental Health Hazard Assessment

Drinking water quality concerns in CA's Tulare Lake Basin

- One of the most productive agricultural regions in the country
- Some of the poorest counties in California
- Estimated 250,000 people at risk of drinking water nitrate levels ≥ federal safety threshold of 10 mg N/L
- Other water quality problems: arsenic, uranium, pesticides
- No regular monitoring or regulation of private wells and small systems (~10% of the population)

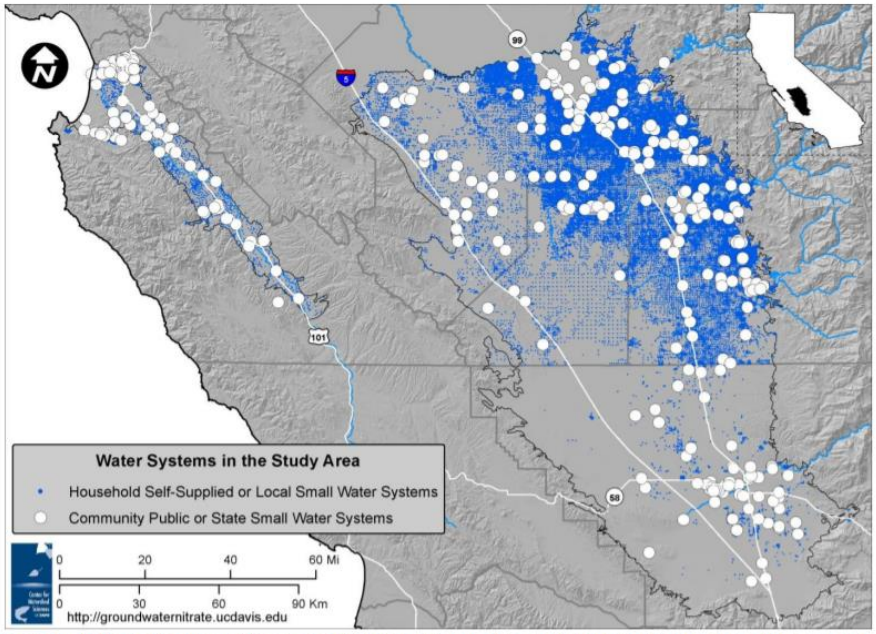


Figure 6. Estimated location of the area's 74,000 unregulated self-supplied water systems and the 402 regulated community public and state-documented state small water systems. (Source: DWR and County Assessor Parcel Land Use Codes and CDPH PICME 2010.)

Honeycutt et al. (2012) T.R. 7 of the State Water Resources Control Board Report to the Legislature; http://groundwaternitrate.ucdavis.edu/files/139108.pdf

California's Human Right to Water

- Governor Brown signs AB 685 in 2012, making California the first state in the nation to legislatively recognize the human right to water.
- The law asserts universal access to safe water by declaring that "every human being has the right to safe, clean, affordable, and accessible water."
- AB 685 identifies a specific list of factors that agencies must consider in regulatory activities and policies related to domestic water use
  - safety, affordability, and accessibility
- Examples include efforts to
  - establish a permanent funding source for impaired water systems (SB 623)
  - establish a Low Income Rate Assistance program (AB 401)
  - track progress towards universal access (SWRCB & OEHHA)

Goals of the Drinking Water Tool

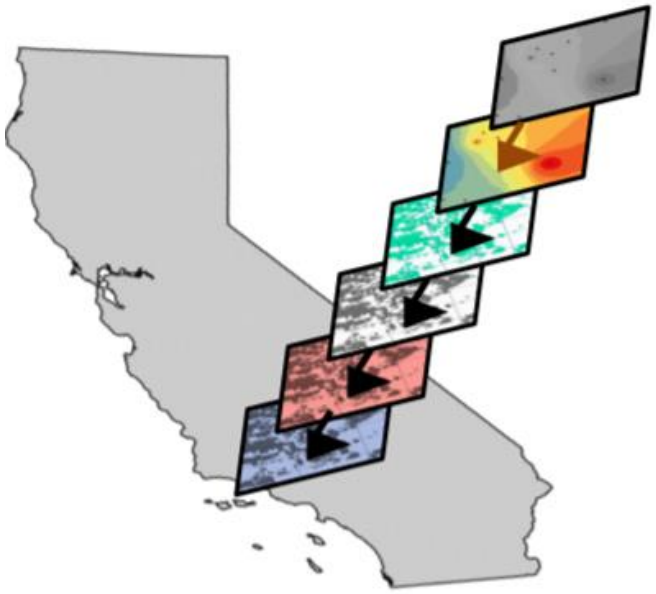
Pull together data in one centralized location, where users can access data on water source, water quality, and drought risk

Create a publically available, statewide tool for:

community members, researchers, and those implementing CA water policy

Fill data gaps related to the location and water quality of areas served by domestic wells

Drinking Water Tool Available Data



Main Data Layers

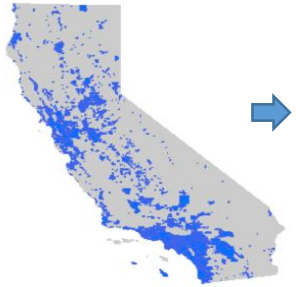
- Drought impacted water supply in Central Valley: 1) small CWS; 2 domestic wells [Gailey 2020]
- Groundwater quality estimations [Pace et al. 2019]
- Domestic Well Communities [Pace et al. 2019]
- Community Water Systems Boundaries + system characteristics [Pace et al. 2019]
- Disadvantaged and severely disadvantaged communities (2017 MHI) [2017 ACS Census Data]
- Groundwater Sustainability Agencies and other administrative boundaries [state agencies]

Integrating data to locate domestic well communities

Populated areas

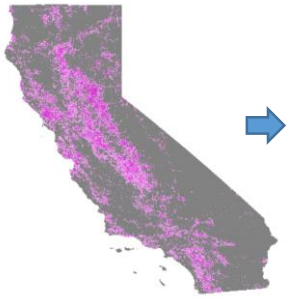
1. Started with populated census blocks (2010 Census)

Community water system (CWS) boundaries



2. Subtracted CWS boundaries (Tracking CA water system service areas)

Domestic well locations

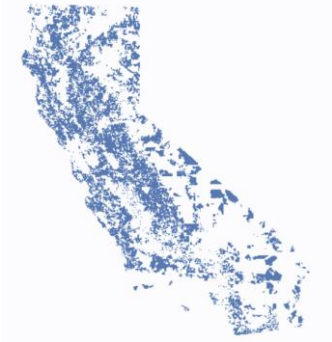


3. Added locations of domestic wells (OSWCR)

Residential parcels

4. Incorporated the location of residential parcels (LandVision)

Likely domestic well areas (DWAs)

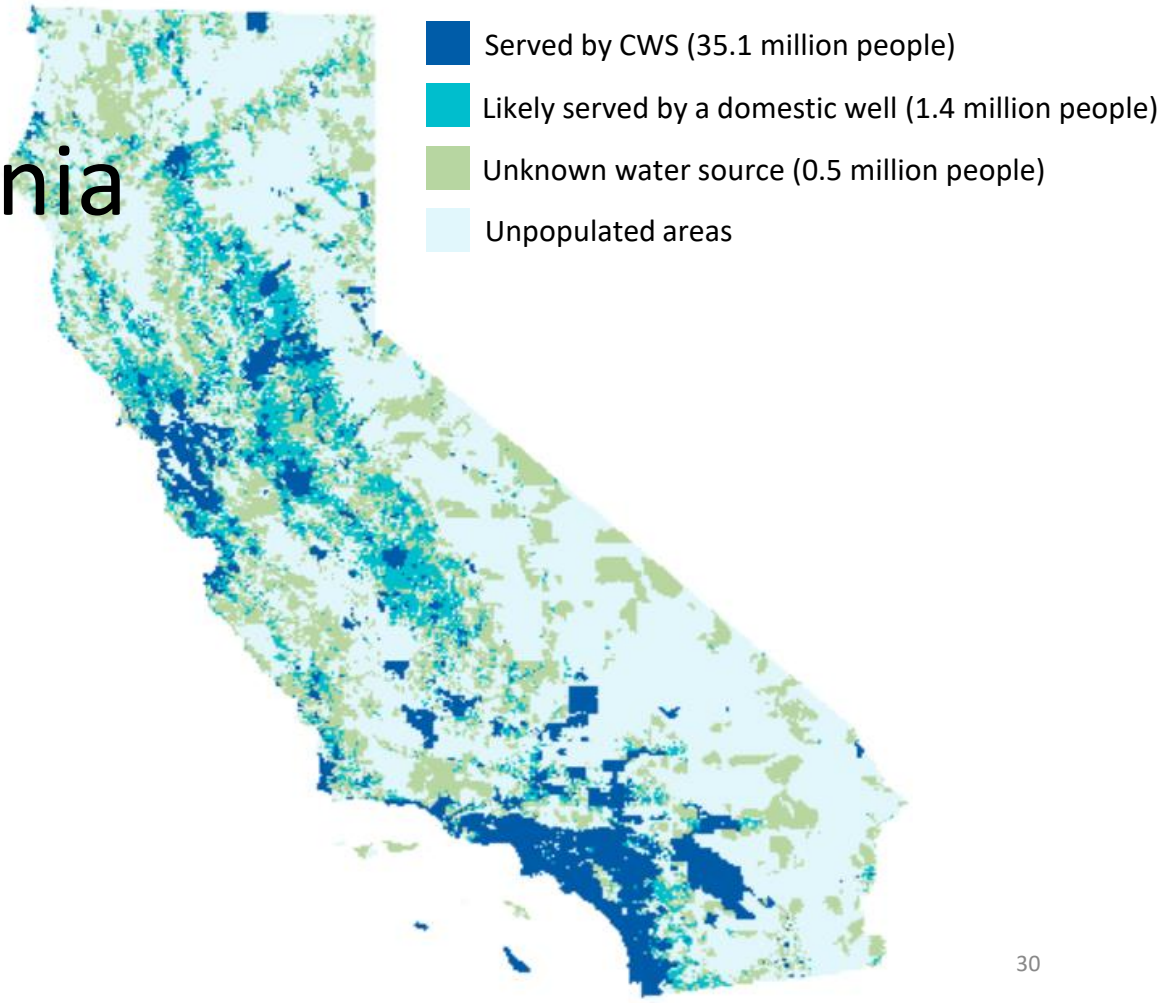


"likely DWA"

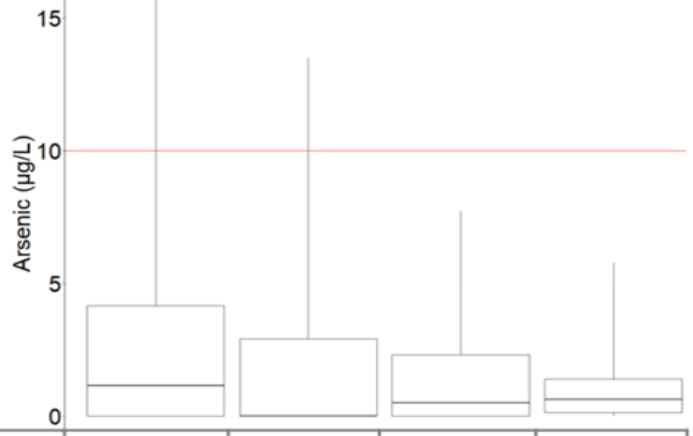
- PLSS sections containing wells, people, and residential parcels

- US Census Bureau. (2010). TIGER/Line Shapefiles. *Tabblock2010_06pophu*. https://www.census.gov/geo/maps-data/data/tiger-data.html
- Tracking California Water System Service Areas Tool (2018). https://trackingcalifornia.org/water/map-viewer
- Online System for Well Completion Reports. (2018) Department of Water Resources. https://civicnet.resources.ca.gov/DWR_WELLS/
- Residential Parcels – LandVision digital map products. https://www.digmap.com/platform/landvision/

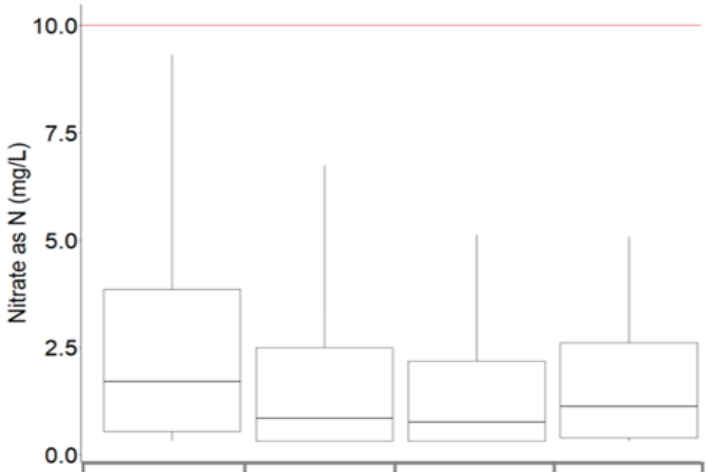
Water Source Type in California



Water quality estimates by water source type in CA



	Likely DWA	Small CWS	Medium CWS	Large CWS
Median	1.1	0.0	0.5	0.6
95th	16.0	13.5	7.7	6.1
Total N	3,226	1,773	858	220
% missing	31.2	8.5	2.7	0.9
Total Pop (Mill)	1.4	0.2	5.7	29.2
Pop ≥ MCL	111,193	9,557	40,626	36,317
Pop% > MCL	7.7	4.8	0.7	0.1

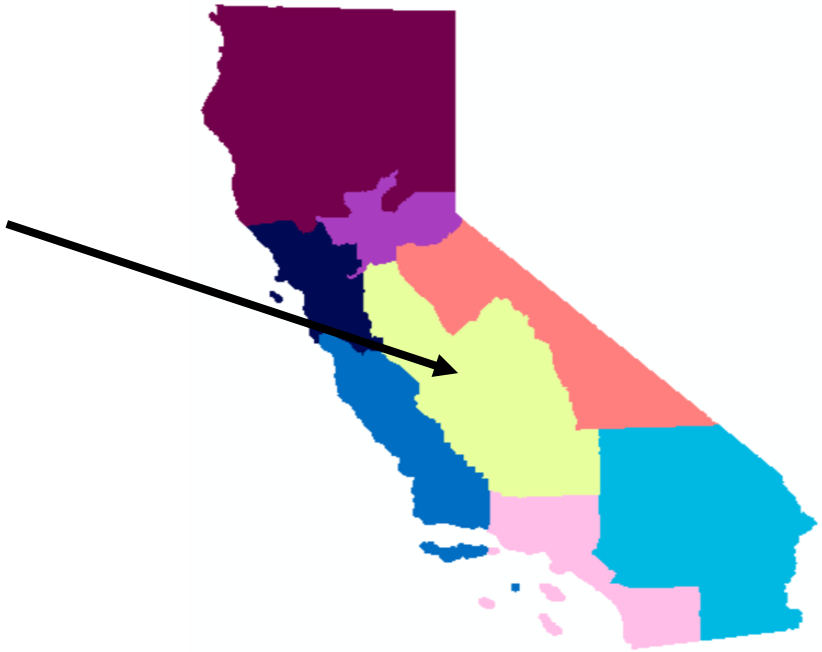


Likely DWA	Small CWS	Medium CWS	Large CWS
1.7	0.8	0.7	1.1
9.4	6.8	5.2	5.1
3,226	1,774	858	220
28.5	4.6	2.0	0.9
1.4	0.2	5.7	29.2
53,616	1,899	0	68,142
3.8	0.9	0.0	0.2

(DWA = domestic well area, MCL = maximum contamination level Small CWS <200 connections, medium CWS = 200-9,999 connections, large CWS = 10,000+ connections)

Example regional results: water quality estimates among domestic well communities in the San Joaquin Valley

	As (µg/L)	N (mg/L)
MCL	10	10
San Joaquin Valley (Estimated population: 486,917)		
Median (IQR)	2.7 (5.4)	3.4 (3.9)
95th percentile	18.6	12.2
Pop > MCL	46,657	33,279
Pop% ≥ MCL	9.6	6.8



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EN ES

USING THESE TOOLS GETTING INVOLVED DATA & METHODS ACKNOWLEDGMENTS

Community-Driven Water Solutions Through Organization, Education, and Advocacy

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 consume it. Decreases in groundwater levels can cause wells to go dry.

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Drinking Water Tool

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

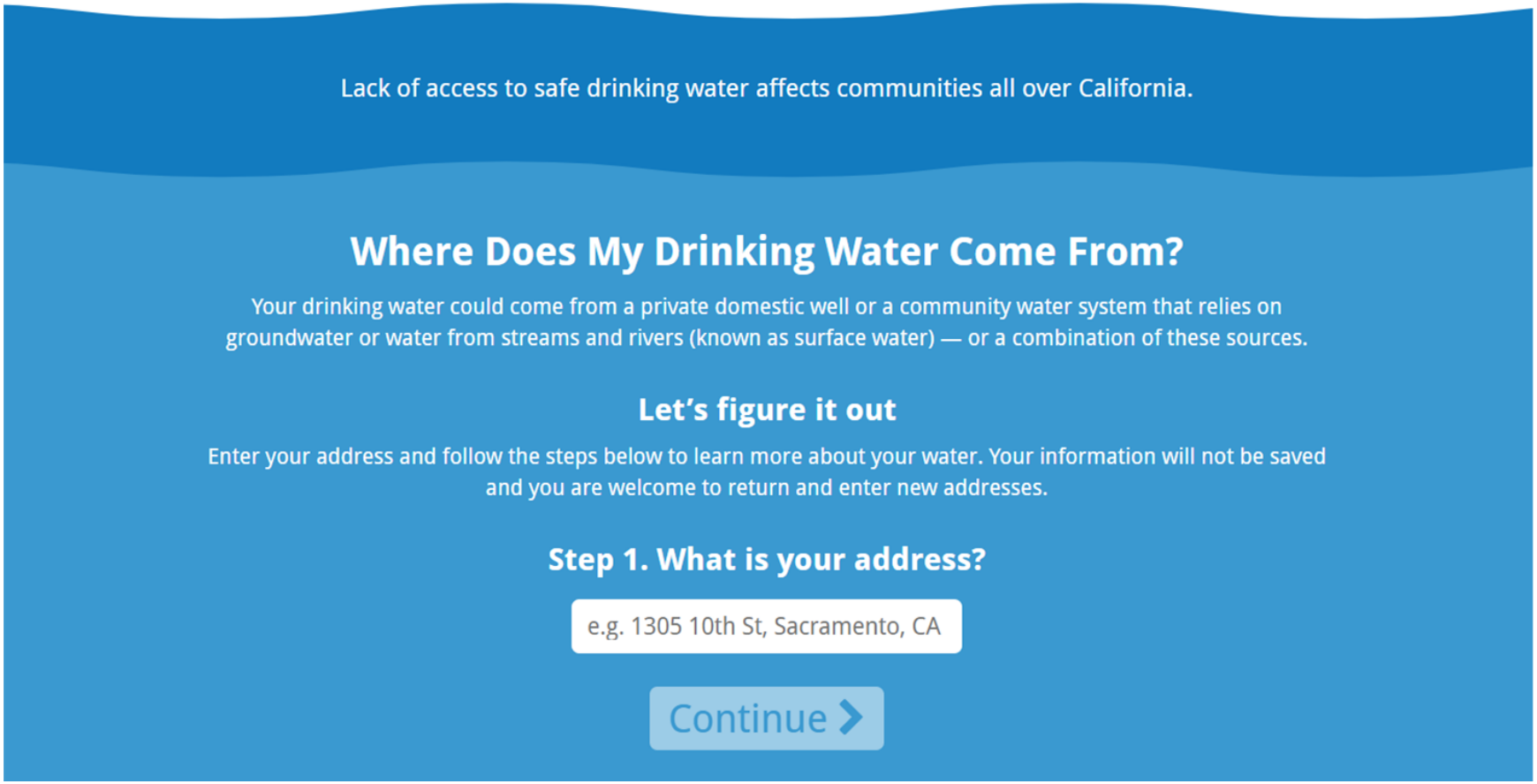
Visit Getting Involved to learn how to use this information to take action in your community. To provide feedback, contact the Community Water Center.

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.

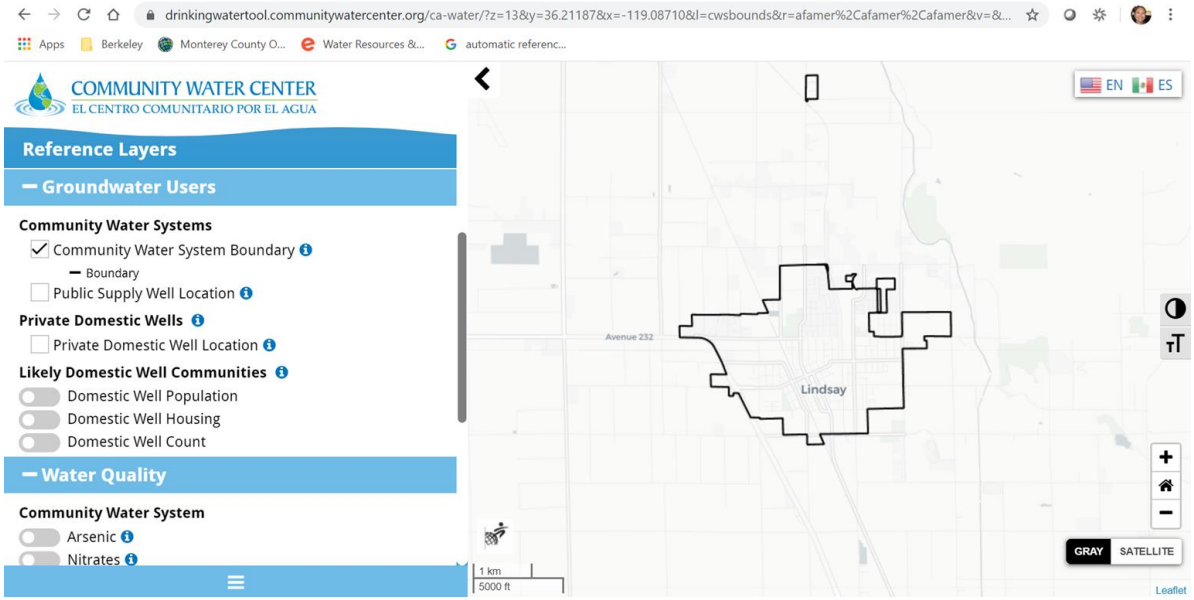
California Water Data

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.


Lack of access to safe drinking water affects communities all over California.
Where Does My Drinking Water Come From?
Your drinking water could come from a private domestic well or a community water system that relies on groundwater or water from streams and rivers (known as surface water) — or a combination of these sources.
Let's figure it out
Enter your address and follow the steps below to learn more about your water. Your information will not be saved and you are welcome to return and enter new addresses.
Step 1. What is your address?
e.g. 1305 10th St, Sacramento, CA
Continue

Tulare County
City of Lindsay
East Kaweah Groundwater Sustainability Agency (GSA)

Community Water System Boundaries in Lindsay, CA

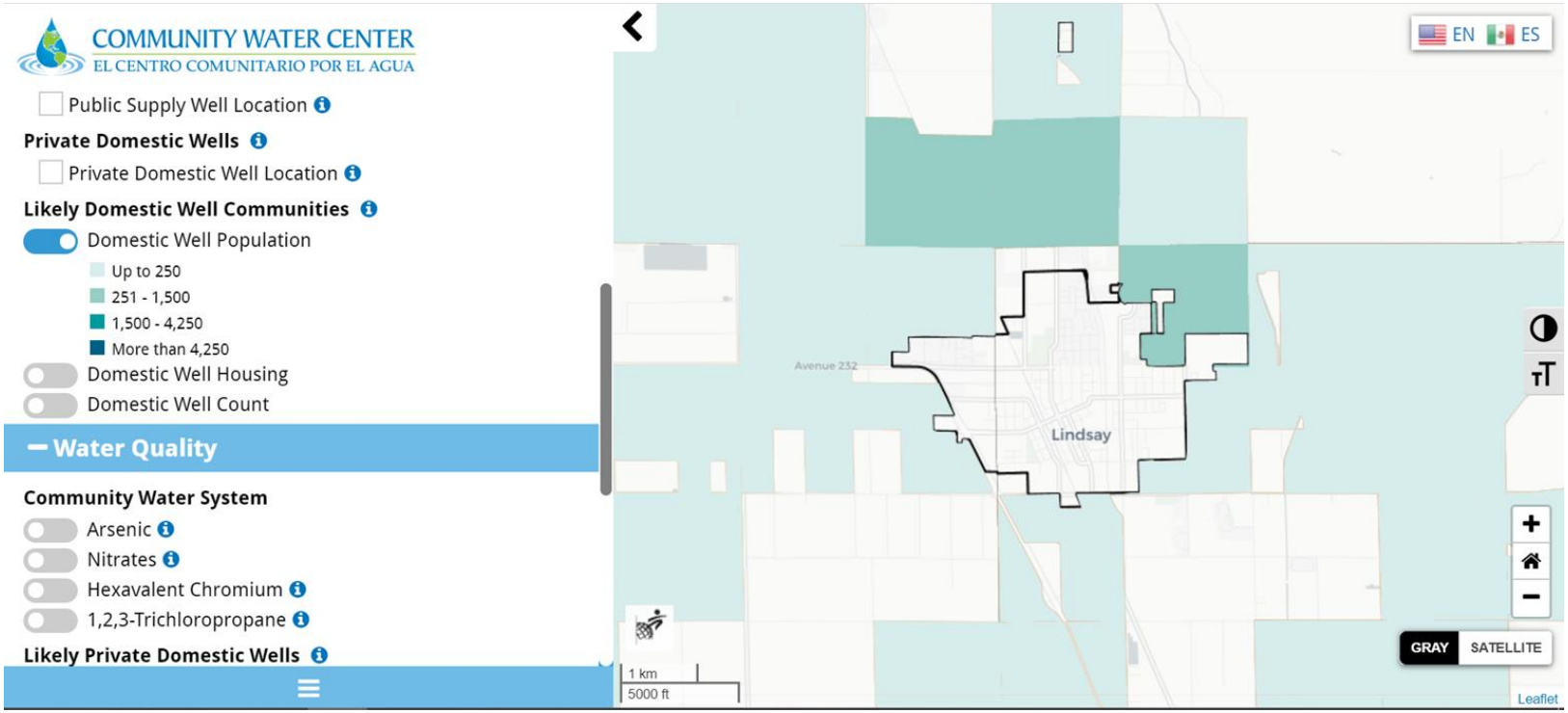


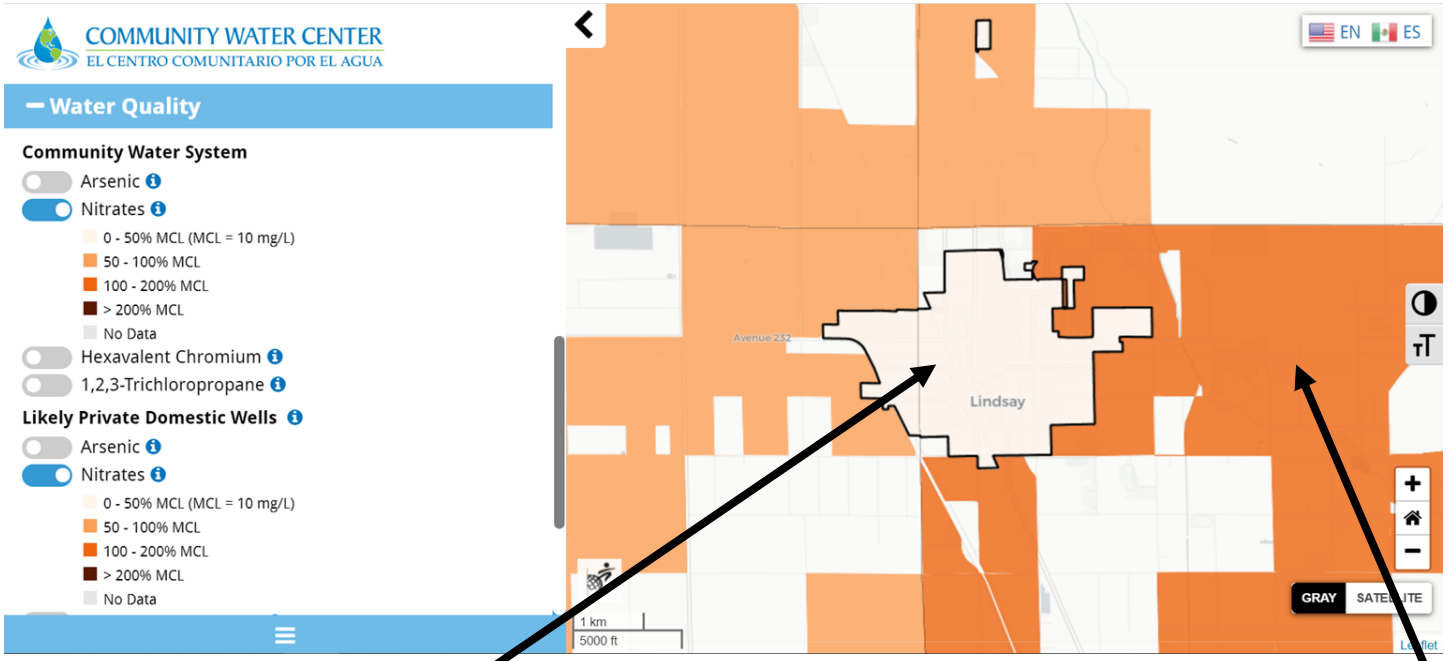
Some important jurisdictions in your area include:

- Community Water System: **LINDSAY, CITY OF**
- Groundwater Sustainability Agency: **East Kaweah Groundwater Sustainability Agency**
- County: **Tulare**

- **1.8 ug/L Arsenic (As)**, the MCL is 10µg/L.
- **5.0 mg/L Nitrate as Nitrogen (N)**, the MCL is 10mg/L.
- **0.000 µg/L 1,2,3-Trichloropropane (1,2,3-TCP)**, the MCL is 0.005 µg/L.
- **0.0 µg/L Chromium VI (Cr6)**, the previous MCL is 10 µg/L and California is in the process of establishing a revised one.

Domestic well population estimates in area surrounding Lindsay





- **1.8 ug/L Arsenic (As)**, the MCL is 10µg/L.
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- **0.0 µg/L Chromium VI (Cr6)**, the previous MCL is 10 µg/L and California is in the process of establishing a revised one.

- **0.9 ug/L Arsenic (As)**, the MCL is 10µg/L.
- **14.1 mg/L Nitrate as Nitrogen (N)**, the MCL is 10mg/L.
- **0.000 µg/L 1,2,3-Trichloropropane (1,2,3-TCP)**, the MCL is 0.005 µg/L.
- **0.0 µg/L Chromium VI (Cr6)**, the previous MCL is 10 µg/L and California is in the process of establishing a revised one.

Strengths

- Example of community driven research translation
- First statewide publically available tool to identify domestic well communities
- Use of parcel data to define locations of domestic well populations
- Basis for future research to protect vulnerable households

Limitations

- Lack of information about state smalls (5-14 service connections)
- Uncertainty about exact location of domestic wells
- Assumption of evenly distributed populations across large census blocks in rural areas
- Underestimated reliance on domestic wells (i.e. excluded wells within CWS boundaries)

Next steps

- Environmental justice analysis of drinking water quality by source type (paper in prep)
- Improve population estimates of domestic well community layer
- Fold in improved drinking water quality estimates

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Community-driven water solutions through organizing, education, and advocacy

Links

Feb. 12, 2020 Drinking Water Tool Webinar Download and watch at home (.mp4;160MB)

Drinking Water Tool drinkingwatertool.communitywatercenter.org

WESS White paper Pace et al. 2019

Pace, C., Balazs, C., Cushing, L., Morello-Frosch, R. (2019). UC Berkeley Water Equity Science Shop. Domestic Well Community Boundaries Version 1.0.

Contact: Clare Pace, Ph.D., MPH, cpace@berkeley.edu, UC Berkeley, Environmental Science Policy and Management, Water Equity Science Shop