



*Bringing Water
Together*

Liquid Intelligence: Lessons Learned from a Decade of Water Data Collaboration

May 8, 2024



- More $\neq$ better
- More $\neq$ more usable
- Know thyself (know the data you have)
- Collaborate on solutions
- Recognize when change is needed

Accounting challenges

Example: Data Quality Issues in Self Reported Diversion Data (Riparian and Pre-1914 Claims)

Watershed	2018 Reported Diversion (AF)	2019 Reported Diversion (AF)
SAN JOAQUIN RIVER (>5,000 AFY diverters only)	3,751,671 (original) 3,229,774 (corrected) 13% reduction	4,999,286 (original) 3,742,052 (corrected) 25% reduction
SACRAMENTO RIVER (>5,000 AFY diverters only)	12,455,707 (original) 3,978,399 (corrected) 68% reduction	29,688,143 (original) 4,063,238 (corrected) 86% reduction



Image from “StarWarsBuffy” on flickr



The CaDC

Adapting to aridification with smart analytics and a winning network

Panelists



Christopher Tull

Chief Data Officer

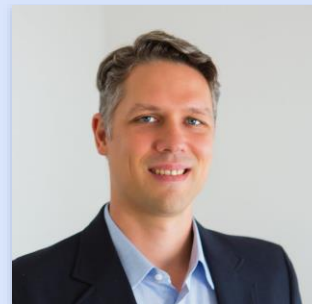
Chris led the development of CaDC's data stack and early data products and he has been leading the organization since 2019. His award-winning work has been recognized by Bloomberg and the State of California. M.S. in Urban Informatics from NYU, B.S. in CS and Math from CSU Channel Islands.



Patrick Atwater

Crescenta Valley Water District

Patrick served as the first CaDC project manager. He currently serves as the Regulatory and Public Affairs Manager for Crescenta Valley Water District, the hometown where he grew up. His data work has been featured in Harpers magazine and KNX news radio as well as numerous industry outlets.



Erik Ekdahl

State Water Board

Erik serves as the Deputy Director for the Division of Water Rights. The Division is in the midst of revising its entire data management system, including digitization of over 7 million physical documents. At the Board, Erik has previously worked on SGMA, conservation, desalination, and financial assistance administration..

Without proactive action, California is headed for hell

Los Angeles Times

Growing fears of 'dead pool' on Colorado River as drought threatens Hoover Dam water

The New York Times

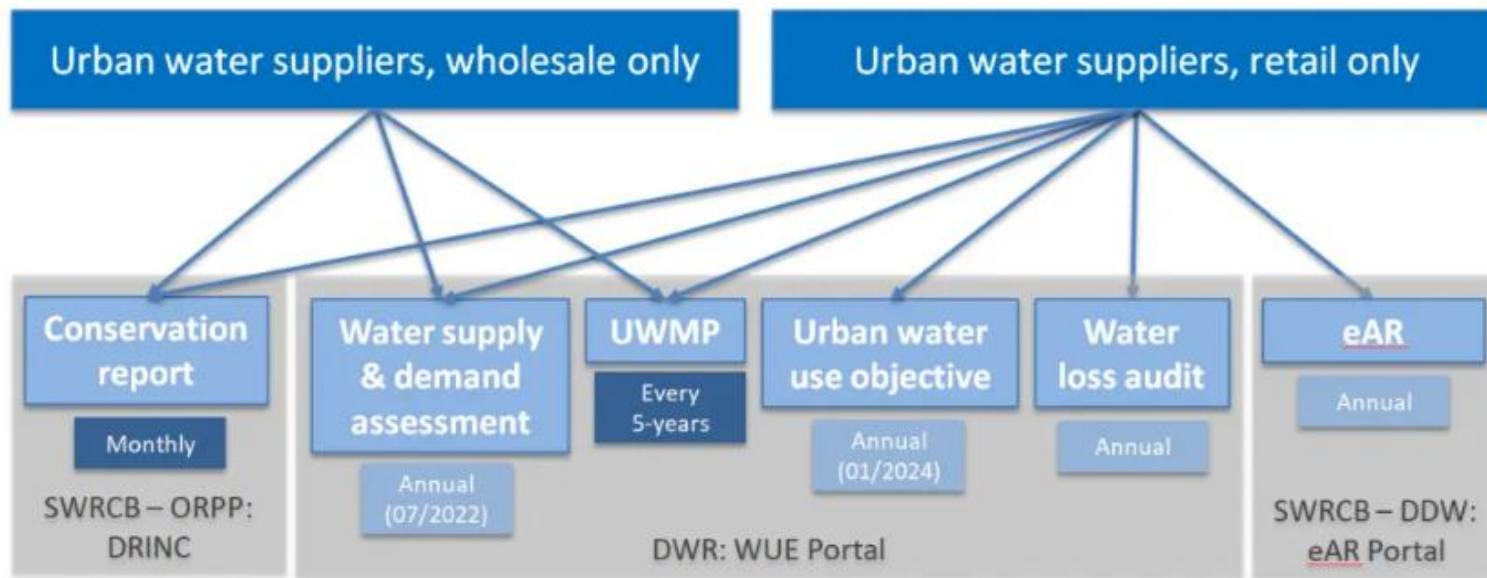
Water Is Broken. Data Can Fix It.

By Charles Fishman

The last 22 years in CA have been the driest in 12 centuries

Better data and leadership helps

Radically common sense opportunity to streamline state reporting



CVWD and Current Software Pilot to Dig into the Root of the Issue - Terrible IT Systems!



20+ hours per week of employee time wasted with routine tasks



Known revenue loss from pricing, DQs, and water loss not addressed



Consumer frustration with limited insights and payment options

The CaDC measures what actually works to increase water efficiency

Water management tools

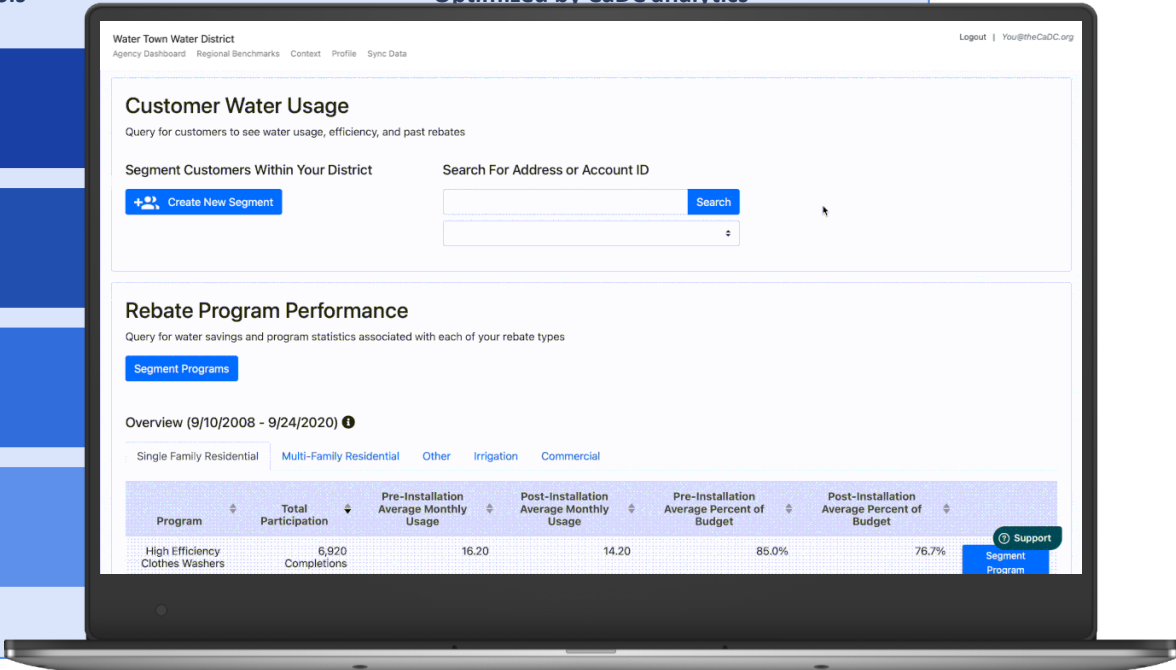

Pricing


Rebates


Marketing


Rules

Optimized by CaDC analytics



Water Town Water District
Agency Dashboard | Regional Benchmarks | Context | Profile | Sync Data | Logout | You@theCaDC.org

Customer Water Usage

Query for customers to see water usage, efficiency, and past rebates

Segment Customers Within Your District Search For Address or Account ID

[+ Create New Segment](#) [Search](#)

Rebate Program Performance

Query for water savings and program statistics associated with each of your rebate types

[Segment Programs](#)

Overview (9/10/2008 - 9/24/2020) ⓘ

Single Family Residential Multi-Family Residential Other Irrigation Commercial

Program	Total Participation	Pre-Installation Average Monthly Usage	Post-Installation Average Monthly Usage	Pre-Installation Average Percent of Budget	Post-Installation Average Percent of Budget
High Efficiency Clothes Washers	6,920 Completions	16.20	14.20	85.0%	76.7%

[Support](#) [Segment Program](#)

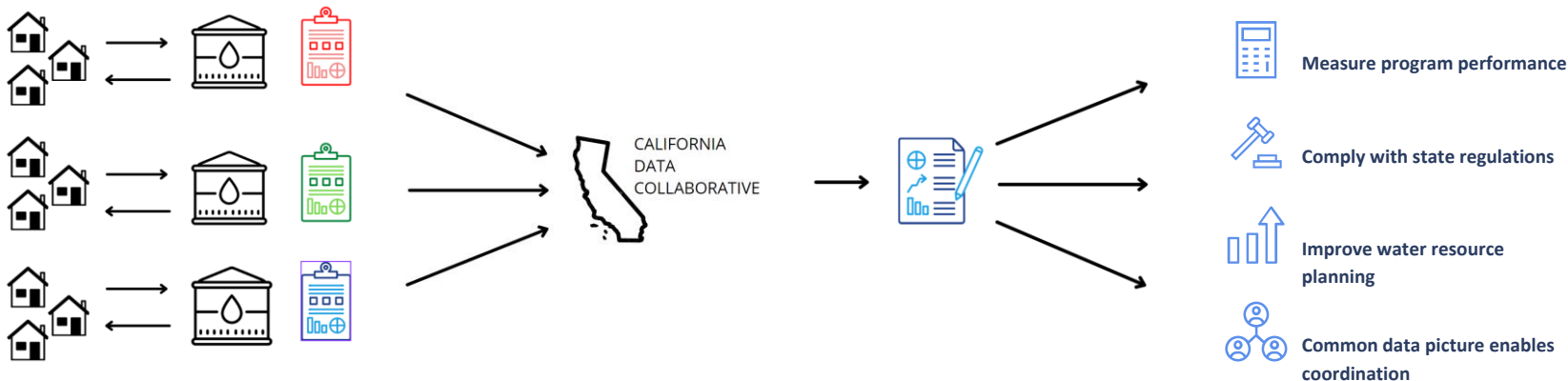
How the CaDC supports water managers in adapting to increased aridification

Member agencies collect their own data

CaDC establishes relationships with agencies and accesses data

CaDC deploys analytics and resources

Multiple water management benefits



CaDC analytics create real impact...

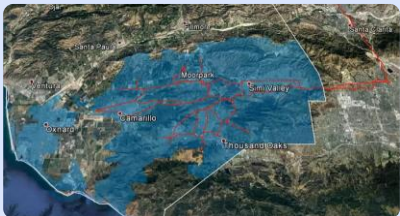
Accomplishments



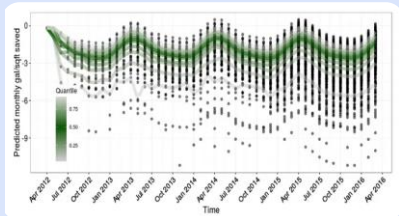
Saving over \$20 million in avoided capital costs



Preparing for changing regulation



Planning for emergencies



Powering applied research

Roadmap

...and we're just getting started.

Target water audits

Benchmark commercial use

Integrate regional planning

Short term demand forecasting

Coordinate energy savings

Leading an industry-wide management transformation.

Current CaDC Analytics Roadmap



Accomplishments

Effective Data Sharing: Beyond Platforms

“The CaDC provides a rare example of a financially sustainable data collaborative. The CaDC plays a dual role: it works akin to a trade association where Agencies come together to share ideas and concerns; and it also works as a technology solution provider, which the Agencies can use by paying for it.”

- United Nations



Highlighted by the
Obama White House



**Moonshot Award
CA Water Data
Challenge**

Funding from:



— BUREAU OF —
RECLAMATION



Contact

Please reach out to CDO Chris@theCaDC.org with any questions.