Opinion: Water data is for fighting

By Joe Mathews

If you thought California's famously bitter water wars were hard-fought, just wait until you see our water data wars.

Digital tools have expanded the ability of governments, companies and nonprofits to measure the uses of California water, and build more water-efficient products, boost water conservation, and replace expensive and inefficient infrastructure.

Joe Mathews

But the abundance of water data—in combination with the scarcity of water—effectively makes every piece of land and every drop of water in California the subject of measurement—and potential conflict. The data also exposes the fragmentation and deficiencies of California's system of water management.

The state's new conservation requirements add to the stakes of the arguments over data. As Californians struggled to save every drop of water during the recent five-year drought, the state for the first time imposed mandatory restrictions on water use—requiring that 400 local water agencies figure out how to reduce usage by 25 percent in 2015. That shift, which followed 2009 legislation setting a goal of reducing per

capita water use in urban areas by 20 percent by 2020, is changing the way that Californians fight over water—away from historic battles over dams and infrastructure, and toward new battles over how to maximize the water we already have.

Among the questions to which new data is being applied: What incentives will convince most people to remove their grass lawns and, if they do, how much water do those removals save? How much water do efficient toilets and appliances really save? Exactly how much water are we losing to leaks—and where can we make the most efficient investments to stop them?

And these questions are small compared to a bigger-picture quandary: can data help us to integrate our water use with our electricity and gas use—making ourselves so efficient that we effectively mitigate the effects of climate change?

The good news is that there is data—from governments, universities, nonprofits and private researchers—to begin answering such questions. The bad news is that there is not yet enough such data, and there are all kinds of questions about the accuracy of the data we do have. How precisely are we measuring, for example, evapotranspiration—the process by which water is transferred from the land to the atmosphere both by evaporation from soil and by transpiration from plants?

Another question is whether we are accurately able to measure land, say with landscaping or dry brush on it, to determine how much could be replaced by more water-efficient plantings.

This is not easy work. When a state pilot project tried to measure landscape, it found that among 20 water agencies, there was no consensus on defining landscape areas or how to calculate them.

These issues are not petty—they are also questions of justice. How much water savings can we demand from farm worker housing that draws on groundwater in the fields? Or how do you measure

the right use of water on a large public park with multiple water meters?

In this context, the highly publicized controversy over the California Water Fix—Gov. Jerry's Brown proposal to build tunnels under the Delta to convey water to the San Joaquin Valley and Southern California —feels like an anachronistic repeat of decades-old dramas about dams and peripheral canals. Instead, California's water world is more likely to divide over who controls the data and what it justifies. The state government and statewide interests, like the environmental lobbies, want more centralized control, while local water agencies want to use data to enhance local flexibility.

The state vs. local tensions are playing out in an ongoing fight over two related pieces of legislation—SB606 and AB1668—that seek to establish a management regime to realize the governor's framework for "making water conservation a California way of life."

The legislative battle has offered an opening for tech-savvy enterprises—including nonprofits led by younger water war combatants. One L.A.-based nonprofit, ARGO, argues that much of the data undergirding California water use is old or faulty.

In an open letter to Brown this summer, ARGO's Patrick Atwater pointed out that California is watering mostly blind. State water agencies don't have accurate land use information, don't have landscape area definitions, and don't have accurate service area boundaries for local water retailers.

"There is an urgent need to modernize how California's water agencies manage data," Atwater wrote. ARGO called for a one-year task force to address these issues, with an emphasis on open-source data gathering, a centralized data repository, and more local control of both water management and data gathering.

This sounds hopeful, but it also begs the question: whose data and whose standards?

Soon we may be re-litigating virtually every piece of California's already well-litigated water system. In the long run, perhaps it could lead to a major restructuring—including consolidation of agencies.

But for now, disruption means war. Leave your guns at home, please, but bring your data.

Joe Mathews writes the Connecting California column for Zócalo Public Square.