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Creative Best Practices Emerging Platforms Opinions Research Social Media Targeting Web Analytics Websites Wireless Word of Mouth

Can Technology Help Solve California's Drought?

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Posted by Neal Leavitt on July 26th, 2015 at 11:48 am

On April 1st, California Gov. Jerry Brown issued an executive order mandating a substantial reduction in urban water consumption compared with 2013 levels. One key element - a 25% reduction in urban water use to help mitigate the state's worst ongoing drought in more than a century.

And while a number of climatologists and meteorologists have predicted a better than 50% chance of an El Nino winter – which means greater than average rainfall- there's no guarantee that the desperately needed rain will arrive.

Enter the Internet of Things (IoT). The drought has spawned a welter of startups and innovative partnerships with public agencies and the private sector that utilize the IoT to find smart solutions to manage both water distribution and electricity use.

A few examples:

The [Monterey Regional Water Pollution Control Agency](#) (MRWPCA) has teamed up with [Candi Controls](#) and [MC Engineering](#) to install a system of low-cost, industrial-class IoT devices. By collecting data from connected sensors, the system is helping to optimize distribution of reclaimed water among farmers and everyday users; it also minimizes energy by tracking usage and power consumption.

According to Tom Kouretas, an MRWPCA engineer, the agency is able to mitigate some of the costs associated with its power consumption by moving water at night when possible, and supplementing with solar energy during daylight. However, he added, the water has to be there, 24/7, and solar energy is a 'dynamic resource' that fluctuates continually depending on weather patterns and time of day.

"Trying to understand how best to optimize these processes and stay below peak energy demands means that the agency must understand when we are using power, what the price is on the grid, what the total load is of each process, how to distribute loads among various pumps, and how much the solar production contributes to power availability in the moment," said Kouretas.

Milwaukee-based [Wellntel](#), launched in 2013, has created a non-invasive sensor system that collects water level information from water wells and produces the data on graphs and charts on a private, personalized website and smartphone app. The system is placed on top of groundwater wells and emits a sonar like ping to measure well water. Wellntel has been conducting an 18-month pilot program in Templeton in California's Central Valley; the system may prove useful in the region as groundwater levels are being depleted at an alarming rate.

San Francisco startup [WaterSmart](#) provides software to water utilities nationwide. The company collects literally hundreds of millions of data points each hour that enable utilities to discover leaks and also identify homes or neighborhoods that are heavy water users. WaterSmart also has a ticker on its website that shows how much users are saving – as this story was getting ready to post, the company claimed that WaterSmart users have saved 1,799,128,431 gallons of water; $9,530,418.58 dollars; 15,834.04 tons of carbon dioxide.

All of the aforementioned isn't a total panacea that will resolve California's drought overnight.

But it's a good start.

Thomas Odenwald, writing in *[Digitalist Magazine](#)* (produced by SAP), summed it up:

"The growing visibility of drought and water challenges in California has created a new urgency and renewed momentum for action by companies, individuals, and elected officials to take action on water stewardship at both the local and state levels."

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