



Saving Water in

# California



California is a mosaic of diverse culture, climate, and geography from its hot, dry deserts to its snowcapped peaks and foggy shores. The state’s varying water needs and resources are both a reflection and a consequence of this diversity. Balancing water supply and demand is a perennial problem for California. This has made the state a national leader in water efficiency and conservation initiatives.

### SOURCES OF WATER

California relies on three main, interconnected water sources: mountain snowpack, reservoirs, and aquifers:<sup>1</sup>

- The Sierra Nevada snowpack, which melts in the spring and summer, provides runoff to rivers and reservoirs. In normal years, melted snowpack typically supplies about 30 percent of the state’s water supply.<sup>2</sup>
- The state’s reservoirs store water from precipitation events and receive the runoff from melting snowpack. Less precipitation and snowpack results in decreased reservoir storage.
- When the supply of surface water is unable to meet demand, groundwater is pumped from aquifers, accounting for nearly 60 percent of the state’s water supply in a dry year.<sup>3</sup>

### SUPPLY ISSUES

- Beginning in 2012, California experienced not only its driest three consecutive years, but also historically high temperatures. This resulted in well-below-average snowpack. A survey of the Sierra Nevada snowpack in April 2015, when snowpack is typically highest, revealed that there was no snow.<sup>2</sup>
- Due to declining snowpack, the supply of water in the state’s reservoirs has also decreased. In August 2015, the major reservoirs were at 17 to 62 percent of their historical average storage levels.<sup>4</sup>
- As a result, Californians have increased their reliance on groundwater, causing the depletion of aquifers. Seventy-four percent of the groundwater well levels declined by more than 2.5 feet from the fall of 2011 to the fall of 2014.<sup>5</sup>
- California is the most populous state, home to 38.7 million people as of January 2015.<sup>6</sup> Since about half



2011



2014

Drought conditions have caused water levels in California’s Lake Oroville to consistently decline over the years, as seen by the change in visible land surroundings highlighted above between 2011 and 2014.

of municipal water use is devoted to landscaping and a third to residents’ home use, there are significant opportunities for conservation.

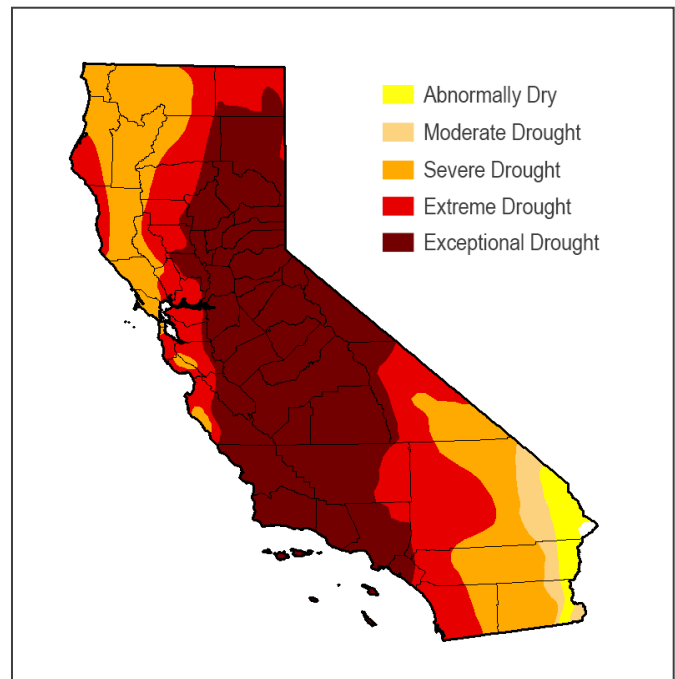
## WATER USE CONCERNS

- The U.S. Geological Survey's 2010 water use survey estimated that Californians used an average of 108 gallons of water each day for indoor and outdoor domestic use.<sup>7</sup>
- Due to severe drought conditions:
  - Governor Jerry Brown declared a state of emergency in California in January 2014.<sup>8</sup> More than 71 percent of the state was experiencing an extreme drought as of August 2015.<sup>9</sup>
  - More than 400,000 acres of farmland in the Central Valley, Central Coast, and Southern California were left fallow in 2014.<sup>10</sup>
- Governor Brown mandated an overall 25 percent reduction in water use, compared to 2013, by March 2016.<sup>11</sup> This measure is expected to save approximately 1.5 million acre-feet of water through the following measures:
  - State and local governments want to replace 50 million square feet of lawn and ornamental turf with drought-tolerant landscapes.
  - New homes and developments cannot use potable water for irrigation.
  - Local water providers have begun enforcing restrictions focused on outdoor water use.
  - Campuses, golf courses, cemeteries, and similar entities face water use restrictions.
  - The state has passed new standards for plumbing products.

## WHAT ARE CALIFORNIANS DOING TO SAVE WATER?

Many municipalities and utilities in California are partners with WaterSense®, the U.S. Environmental Protection Agency program that offers people a simple way to identify products and homes that use less water and perform well. Since 2010, the number of WaterSense partners in California has doubled to more than 600. Some notable water conservation efforts by partners include the following:

- The Sonoma-Marín Saving Water Partnership hosted a series of one-day “Drought Drive-Up” events in April 2014 to provide more than 5,100 households with a free, customizable drought kit containing WaterSense labeled showerheads and bathroom faucet aerators, kitchen faucet aerators, shower timers, and other products.



California drought conditions as of August 2015. (Source: U.S. Drought Monitor)

- The San Diego County Water Authority partnered with The Home Depot to offer residents low water-using plants at discounted prices at the San Diego County Garden Friendly Plant Fairs in spring 2015 and designed free WaterSmart Landscape Makeover Series classes and events.
- Through its Orange County Garden Friendly initiative, the Municipal Water District of Orange County co-hosted educational booths at three Home Depot garden centers in April and May 2014 to educate more than 700 customers about water-efficient landscapes and the importance of “sprucing up” their irrigation systems. Rebates were also offered on WaterSense labeled irrigation controllers.
- The East Bay Municipal Utility District is offering qualified applicants rebates to install irrigation upgrades and convert their lawns to sustainable landscapes. Single- and multi-family homes (e.g., four units or less) are eligible to receive rebates up to \$2,500, while commercial and larger multi-family properties can receive up to \$20,000.

For more information, visit [www.water.ca.gov](http://www.water.ca.gov) and [saveourwater.com](http://saveourwater.com).

<sup>1</sup> [www.water.ca.gov/waterconditions/waterconditions.cfm](http://www.water.ca.gov/waterconditions/waterconditions.cfm)

<sup>2</sup> [www.water.ca.gov/news/newsreleases/2015/040115snowsurvey.pdf](http://www.water.ca.gov/news/newsreleases/2015/040115snowsurvey.pdf)

<sup>3</sup> [www.water.ca.gov/waterconditions/docs/Drought\\_Response-Groundwater\\_Basins\\_April30\\_Final\\_BC.pdf](http://www.water.ca.gov/waterconditions/docs/Drought_Response-Groundwater_Basins_April30_Final_BC.pdf)

<sup>4</sup> [cdec.water.ca.gov/cdecapp/resapp/getResGraphsMain.action](http://cdec.water.ca.gov/cdecapp/resapp/getResGraphsMain.action)

<sup>5</sup> [www.water.ca.gov/groundwater/maps\\_and\\_reports/MAPS\\_CHANGE/DOTMAP\\_F2014-F2011.pdf](http://www.water.ca.gov/groundwater/maps_and_reports/MAPS_CHANGE/DOTMAP_F2014-F2011.pdf)

<sup>6</sup> [ca.gov/drought/pdf/How-Water-Used-In-CA-Urban.pdf](http://ca.gov/drought/pdf/How-Water-Used-In-CA-Urban.pdf)

<sup>7</sup> [pubs.usgs.gov/circ/1405/](http://pubs.usgs.gov/circ/1405/)

<sup>8</sup> [gov.ca.gov/news.php?id=18368](http://gov.ca.gov/news.php?id=18368)

<sup>9</sup> [droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA](http://droughtmonitor.unl.edu/Home/StateDroughtMonitor.aspx?CA)

<sup>10</sup> [news.ucdavis.edu/search/news\\_detail.lasso?id=10978](http://news.ucdavis.edu/search/news_detail.lasso?id=10978)

<sup>11</sup> [gov.ca.gov/news.php?id=18910](http://gov.ca.gov/news.php?id=18910)