

DROUGHT RESILIENCE FACT SHEET

Contra Costa County Climate Leaders

A project of Generation Green - a 501(c)3 Nonprofit organization

Find Links to Other Local Government Policy Opportunities at www.cccclimateleaders.org

WHAT?

Upon entering a fifth year of drought, Governor Brown issued [Executive Order B-29-15](#) on April 1, 2015 (1). The Order calls for a 25% water reduction in California, implemented by the State Water Resources Control Board. The Order calls for: saving water, increasing enforcement, streamlining government response, and investing in new technologies:

1. Saving Water

- “Replace 50 million square feet of lawns with drought tolerant landscaping in partnership with local government
- Create a statewide consumer rebate program to replace old appliances with water and energy efficient models
- Require cities to make sure campuses, golf courses, cemeteries and other large landscapes make significant cuts in water use
- Prohibit new homes and developments from irrigating with potable water unless water-efficient drip irrigation systems are used
- Ban watering of ornamental grass on public street medians.” (2)

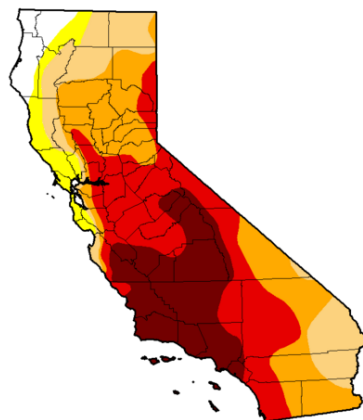
2. Increasing Enforcement

- “Agricultural users will be required to report more water use information to state regulators, increasing the state’s ability to enforce against illegal diversions and unreasonable use of water
- Action will be taken against water agencies in depleted groundwater basins that have not shared data on their groundwater supplies
- New residential standards for toilets, faucets & outdoor landscaping and action against communities that ignore these standards; and
- Permanent monthly reporting of water usage, conservation and enforcement actions by local water suppliers.” (2)
- While cities aren’t directly penalized, water agencies have authority to impose fines on them as was the case for these non-compliant Southern California cities.

3. Streamlining Government Response

- Prioritizes state review and decision-making of water infrastructure projects, especially applications pending for more than 90 days;
- Streamlines permitting & review of emergency drought salinity barriers - necessary to keep freshwater supplies in upstream reservoirs;
- Simplifies the review and approval process for voluntary water transfers and emergency drinking water projects
- State to provide temporary relocation assistance to families who move from homes where wells have run dry. (2)

U.S. Drought Monitor California



Download:

[View drought planning resources](#)

April 26, 2016
(Released Thursday April 28, 2016)
Valid 8 a.m. EDT

Statistics type: Export table:

Week	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current 2016-04-26	4.24	95.76	90.09	74.37	49.15	21.04
Last Week 2016-04-19	4.24	95.76	90.09	74.37	49.15	21.04
3 Months Ago 2016-01-26	0.00	100.00	95.35	86.13	63.96	40.21
Start of Calendar Year 2015-12-29	0.00	100.00	97.33	87.55	69.07	44.84
Start of Water Year 2015-09-29	0.14	99.86	97.33	92.36	71.08	46.00
One Year Ago 2015-04-28	0.14	99.86	98.11	93.44	66.60	46.77

Estimated Population in Drought Areas: 34,225,100

[View More Statistics](#)

Intensity:

D0 (Abnormally Dry) D2 (Severe Drought) D4 (Exceptional Drought)
 D1 (Moderate Drought) D3 (Extreme Drought)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying [text summary](#) for forecast statements.

Author(s):

Richard Heim, NOAA/NCEI

4. Investing in New Technologies

- Incentives for new technology that will make California more water efficient, administered by the California Energy Commission.” (2)

On May 9, 2016, the Governor released [Executive Order B-37-16](#) outlining strategies for water agencies, cities, agricultural users, and residents on “Making Water Conservation a Way of Life.” The Order outlines the following mandates/strategies:



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1. Using Water More Wisely
2. Eliminating Water Waste
3. Strengthening Local Drought Resilience
4. Improving Agricultural Water Use Efficiency and Drought Planning (3)

WHY?

Short Term Impacts to cities and city planning:

- Decreased surface water flows to cities, parks, aquatic and riparian habitats; impacting species, recreation, and navigation.
- Increased reliability on groundwater leads to over pumping, resulting in decreased water availability & poor groundwater quality

Long Term Impacts:

- Land subsidence (sinkholes), infrastructure damage and loss of water storage
- Seawater intrusion into fresh water supplies
- Allocations for wildlife, fish, wetland, and creek restoration projects become reduced or cut completely
- Drier-than-normal conditions lead to severe wildfires. Debris from wildfires can contaminate water supplies and burned areas are subject to mudslides and flash floods (Short term and long term source (4).

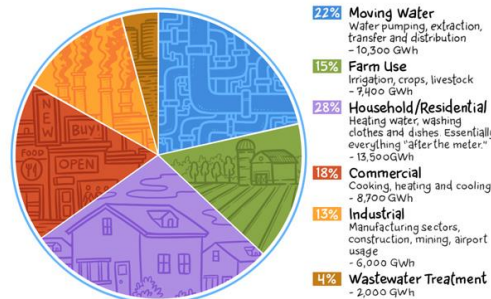
Over the past 40 years, record-setting daily high temperatures have become more widespread than record lows. The past decade had twice as many record highs as record lows; and California's 2015 and 2014 Water Years were the warmest years on record (5).

Predictions call for higher temperatures and reduced precipitation. Droughts will occur more frequently, affect broader areas, and become more severe. Furthermore, rising spring temperatures will lead to earlier melting of snow pack, causing changes in the timing and amount of runoff and further strain water scarcity (5).

The use of groundwater during shortages is not a sustainable option. California's Central Valley aquifer is being depleted at a rate faster than it can be replenished. This affects Californians and the agriculture that supplies almost 7 percent of the United States' food supply (7). In the past, agriculture used to be the primary water consumer. Now, population growth has resulted in 19% of California's electricity being used for water-related uses, with household/residential use being the biggest users (8).

WATER-RELATED ENERGY USE

Nineteen percent of California's electricity goes to water-related uses



Graphic courtesy of

<http://blogs.kqed.org/climatewatch/2012/06/10/19-percent-californias-great-water-power-wake-up-call/>

WHO?

Per the [Urban Water Management Planning Act](#), water suppliers that provide over 3,000 acre-feet of water annually or serves more than 3,000 or more connections are required to assess the reliability of its water sources in the form of an Urban Water Management Plan every 5 years. In 2014, Governor Brown signed [AB 2067](#) which requires water agencies to provide a narrative of their water demand management measures from the past five years and next steps to meet water use targets. The bill allows urban water suppliers to submit their 2015 plans by July 1, 2016. However, it is up to city leaders to develop and implement the specific strategies and ordinances which will increase water use efficiency and enable the proposed reduction goals to be met.

WHERE?

Examples of Local Government drought policies in Contra Costa County:

- [Martinez collaborated with the CCWD](#) to perform water surveys and conservation measures.
- [San Pablo Avenue Green Streets Project](#)
- [Antioch Recycled Water Project](#)
- [Concord Recycled Water Project](#)
- El Cerrito [renovated the San Pablo Avenue](#) streetscape with water efficient plants and "Bay-Friendly" landscaping
- Oakley established a water efficiency ordinance and requires landscape professionals to certify a project's landscape plan complies with that ordinance. [ftp://ftp.water.ca.gov/Model-Water-Efficient-Landscape-Ordinance/Local-Ordinances/Oakley_Ordinance.pdf](http://ftp.water.ca.gov/Model-Water-Efficient-Landscape-Ordinance/Local-Ordinances/Oakley_Ordinance.pdf)



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- Pittsburg's [Recycled Water for Landscapes and City Parks](#) saves 170 million gallons of water a year
- San Ramon developed a [drought management ordinance](#) their town uses water recycling in parks and evapotranspiration data (ET) in irrigation to assist with the 20% reduction by 2020.

Examples of Best practices Local Governments elsewhere:

- Roseville's [extensive public outreach and rebate programs](#) led to its ranking in California's top 12 percent of communities using the lowest amount of water per capita.
- Orange County Water District's [indirect potable reuse program](#) injects treated wastewater into a groundwater aquifer and is later pumped and distributed as tap water.
- Berkeley- [Guide to Rainwater Harvesting and Graywater Reuse](#)
- Los Angeles' [tight restrictions](#) on residential use
- [Oakland Rainwater Harvesting](#): a 3 year program funded by ARRA to provide low to no cost rain barrels and cisterns and technical assistance to Oakland residents
- [Palo Alto's water system improvement projects, Urban Water Management Plan](#), etc:
- San Francisco's [Non-Potable water program](#) has steam lined new developments to collect, treat, and reuse water for non-potable uses.
- Santa Rosa [saves over 1.4 billion gallons a day](#) through best practices such as Grass Removal, Irrigation Upgrades, Rainwater Harvesting
- Santa Clara Valley Water District has won numerous awards for their extensive water conservation and energy efficiency programs, detailed [here](#).
- [Sonoma County Home Garden Challenge](#); [Daily Acts ED Trathen Heckman](#)
- Tucson water conservation and Recharge Strategies have [reduced its per capita water usage by approximately 30%](#) through use of street wells, waterless urinals, recycled water and groundwater recharge.
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HOW?

Local government strategies to reduce water usage and prepare for times of drought include:

- Renovating city landscapes
 - planting drought tolerant plants, installing drip irrigation, or reusing graywater
- Mandating green building ordinances that go beyond CalGreen in public buildings
 - installing efficient flush toilets and fixing leaking appliances
- Encouraging residents to reduce their water consumption
 - creating rebates, and other incentive programs
- Encouraging businesses to find more efficient industrial practices
- Using a centralized irrigation system to prevent overwatering
- California Drought Preparedness provides [funding opportunities](#)
- [California's 2014 Water Bond](#) (Prop 1) provides funding opportunities for water infrastructure projects. See the [Prop 1 fact sheet](#).
- The State Water Resources Control Board provides [financial assistance](#) for water projects.
- [California State Drought Planning](#)

TO LEARN MORE?

- [2015 Urban Water Management Plans](#)
- [Bay Area Integrated Regional Water Management Plan](#)
- [California Action Plan](#)
- [Cases of successful water conservation in cities nationwide](#)
- [Bay-Friendly Landscaping](#)
- [Contra Costa Water District](#) provides [rebates](#) for the installation of water efficient toilets and washing machines
- [East Bay MUD Water Smart Center](#)
- [Central Contra Costa Sanitary District](#)
- [Delta Diablo Sanitation District](#)
- [EPA WaterSense Products](#)
- [LEED Standards](#)



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- [California Department of Water Resources](#)
- [State Water Resources Control Board](#)
- [American Rainwater Catchment Systems Association's](#) (ARCSA) website includes links, resources, laws, codes and more
- [UpCycle rain barrels](#) made from recycled products:
- Baylocalize's [Tapping the Potential of Urban Rooftops](#) study
- [Drought Interest Group](#)
- [Home Water-Energy-Climate Calculator](#)

Sources:

1. https://www.gov.ca.gov/docs/4.1.15_Executive_Order.pdf
2. <https://www.gov.ca.gov/news.php?id=18910>
3. https://www.gov.ca.gov/docs/5.9.16_Executive_Order.pdf
4. <http://ca.water.usgs.gov/data/drought/drought-impact.html>
5. <http://ca.water.usgs.gov/data/drought/index.html>
6. <http://www.epa.gov/climatechange/science/indicators/weather-climate/high-low-temps.html>
7. <http://www.earthzine.org/2012/01/01/groundwater-storage-estimates-in-the-central-valley-aquifer-using-grace-data/>
8. <http://blogs.kqed.org/climatewatch/2012/06/10/19-percent-californias-great-water-power-wake-up-call/>

