

look for



Overview of WaterSense Resources

ISWG Workgroup Meeting
Veronica Blette, EPA WaterSense
March 2016



Overview



- EO Requirements
- WaterSense Resources
- Other Resources
- Suggestions for Action



look for



EO 13693 Section 3(f) requirements for water

Requirements extend targets from EO 13514, added new requirements related to water meters and water balance analyses. Implementing instructions from 13514 still apply.

Reduce Potable Water Intensity 2% per year

2025 target – reduce 36% from 2007 baseline

Install water meters and collect facility water balance data to improve management

Include water balance analyses in contract language

Reduce ILA Water Use 2% per year

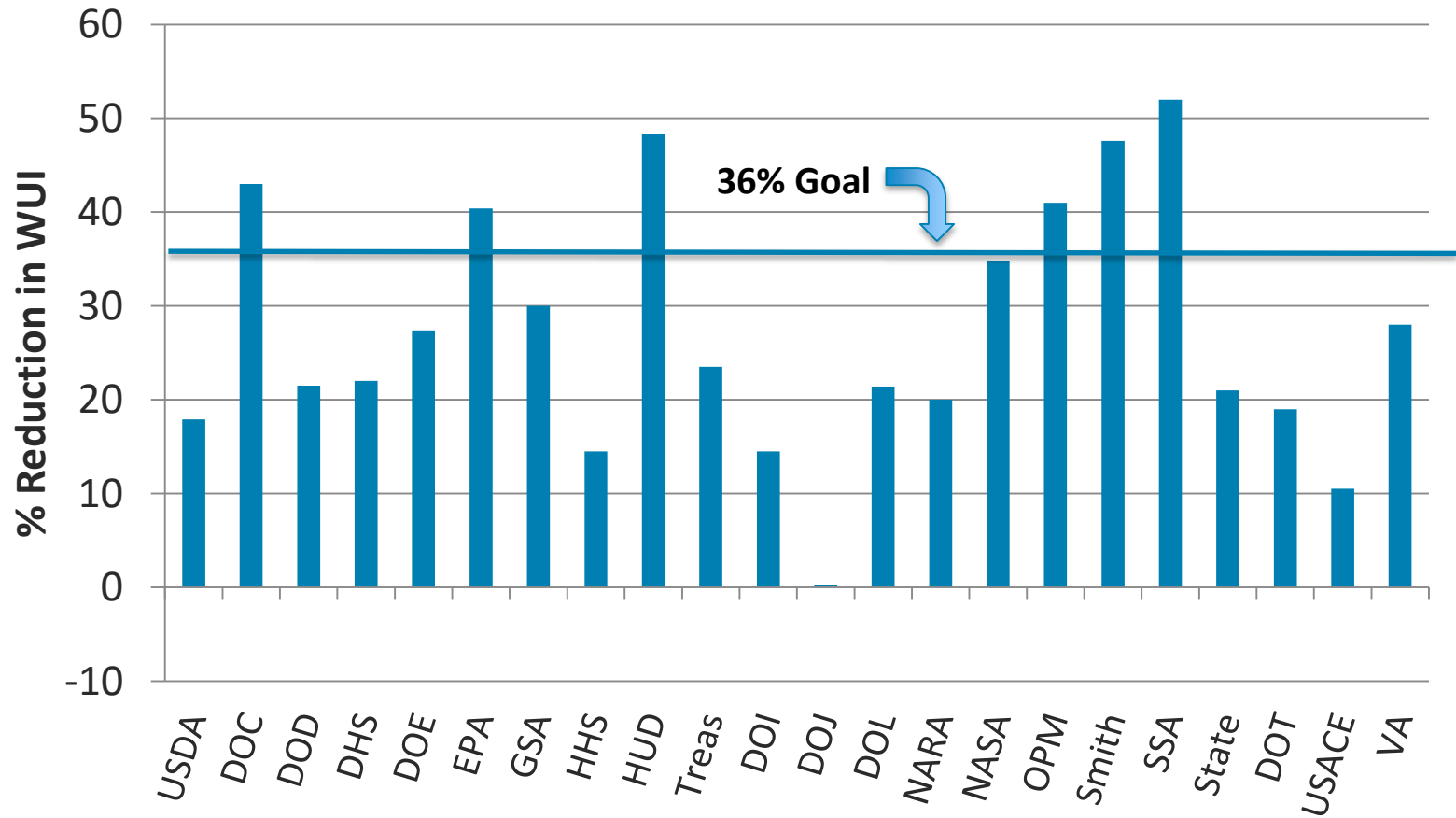
2025 target – reduce 30% from 2010 baseline

Green infrastructure for stormwater and wastewater management

Consistent with EISA Sec. 438 guidance



Agency Potable Water Use Intensity Reductions (2015 Scorecards)

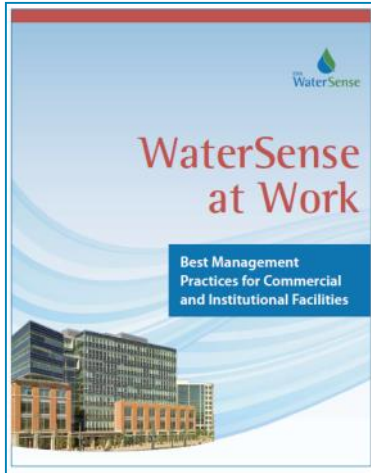


Pulled from 2015 reports at

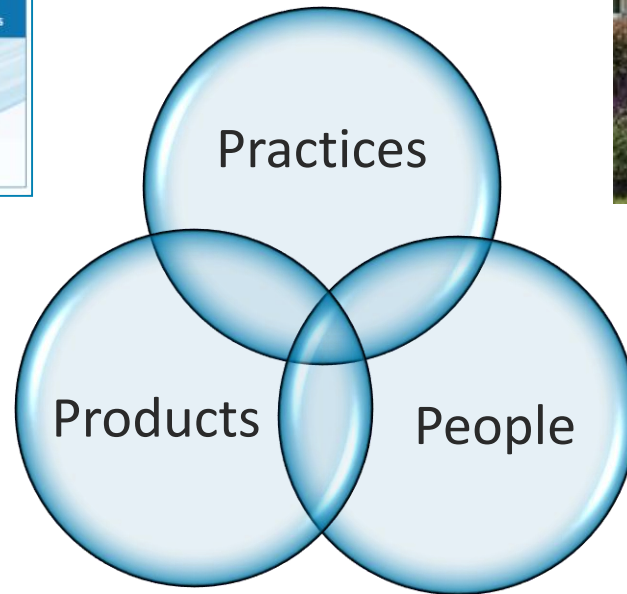
<https://www.performance.gov/node/3406/view?view=public#supporting-info>

WaterSense Resources

look for



Facility level water savings with BMPs for design, O&M, retrofit, and replacement phases



Specific fixtures and technologies save water



Partners reach users to change behavior

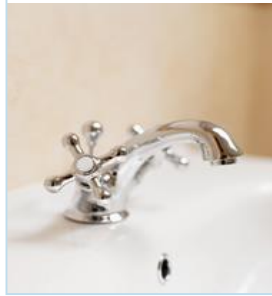


Products - Look for the WaterSense Label

look for



**Flushing
Urinals**



**Lavatory
Faucets/Aerators**



**Irrigation
Controllers**

**More than 16,000
product models have
earned the label**



**New! Flushometer-Valve
Toilets**



**Tank-Type
Toilets**



Showerheads



**Pre-Rinse
Spray Valves**



Water factors are also included in many ENERGY STAR qualified products

Flushometer-Valve Toilets

look for



- Contain two main components: toilet bowl and flushometer-valve
- Criteria:
 - flush volume no greater than 1.28 gpf (single or dual flush)
 - minimum flush volume of 1.0 gpf to ensure plumbing systems have adequate flow to function effectively
- Facility managers should consult a plumbing engineer if they have questions about using WaterSense labeled flushometer-valve toilets in their buildings.
- Prioritize retrofits and replacements in women's restrooms for greatest savings



Post instructions for proper dual-flush usage

look for



Product Search Tool

[About Us](#) [Products](#) [Outdoor](#) [New Homes](#) [Commercial](#) [Our Water](#) [Partners](#)



WaterSense[®] An EPA Partnership Program

[Product Search](#) | [Meet Our Partners](#) | [Contact Us](#) | [FAQ](#)

[WaterSense](#) / [Product Search](#)

Product Search




Looking for Water-Efficient Products?

Reduce your water use while enjoying exceptional performance with the following WaterSense labeled products. Search by category, brand, model name, and/or model number. Search results appear below.



Download a full list of WaterSense labeled product models that includes efficiency information.

Please review [important product information](#) before purchasing WaterSense labeled products.

 [Click to Hide Additional Search Options](#)

Product Category

Flushing Urinals ▼


Brand Name

All Brands
American Standard
AMTC
Briggs Industries
Cascadian ▼

Model Name

All Models
Adam
Aeron
AquaSense
AquaVantage ▼

Model Number 

Product Type 

Select All ▲
Valve
System
Fixture ▼

Commercial and Institutional

Best Management Practices



WaterSense at Work is an online guide facilities can use to manage water use:

Water management planning

Water use monitoring and education

Sanitary fixtures and equipment

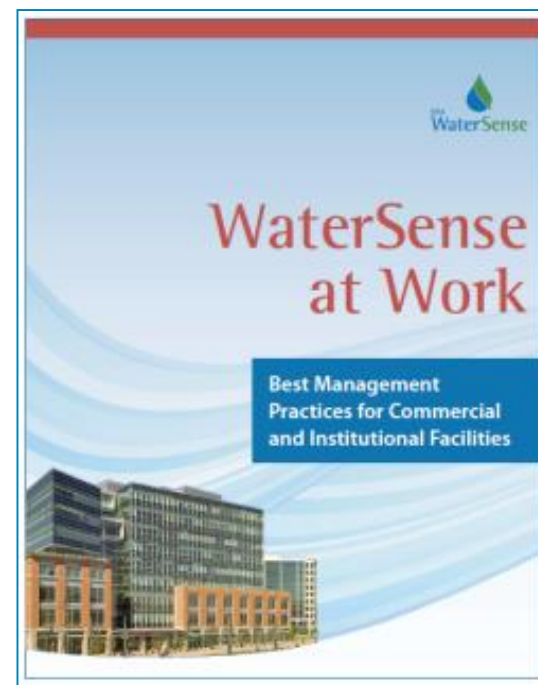
Commercial kitchen equipment

Outdoor water use

Mechanical systems

Laboratory and medical equipment

Onsite alternative sources of water



www.epa.gov/watersense/commercial

Incorporate Water into Existing Management

- Measure water use with properly installed meters and sub-meters
- Conduct a facility water audit and include leak detection in regular assessments
- Track water usage in Portfolio Manager
- Incorporate water efficiency into Standard Operating Procedures (SOPs), procurement language, and policies



WaterSense at Work

36 best management practices

- Overview of technology
 - O&M and user education tips
 - Retrofit and replacement options
 - Calculations for potential water energy and dollar savings and payback
-
- 14 case studies from all types of facilities using BMPs

6.3 Cooling Towers



Overview

Cooling towers are used in a variety of commercial and institutional applications to remove excess heat. They serve facilities of all sizes, such as office buildings, schools, supermarkets, and large facilities, such as hospitals, office complexes, and university campuses. Cooling towers dissipate heat from recirculating water that is used to cool chillers, air conditioning equipment, or other process equipment. By design, they use significant amounts of water.

Cooling towers often represent the largest use of water in industrial and commercial applications, comprising 20 to 50 percent or more of a facility's total water use. However, facilities can save significant amounts of water by optimizing the operation and maintenance of cooling tower systems.¹



Cooling towers

Cooling towers work by circulating a stream of water through systems that generate heat as they function. To cool the system, heat is transferred from the system to the water stream. This warm water is then pumped to the top of the cooling tower, where it is sprayed or dripped through internal fill (i.e., a labyrinth-like packing with a large surface area). Fans pull or push air through the tower in a counterflow, crossflow, or parallel flow to the falling water. As some of the water is evaporated, the heat is removed.² The remaining cooled water is recirculated back through the systems to repeat the process.

The thermal efficiency and longevity of the cooling tower and its associated water loops depend upon the proper management of water recirculated through the tower. Water leaves a cooling tower system in four ways: evaporation, blowdown or bleed-off, drift, and leaks or overflows.

Evaporation

Evaporation is the primary function of the tower and is the method that transfers heat from the cooling tower system to the environment. The quantity of evaporation is not typically targeted for water-efficiency efforts, because it controls the cooling process (although improving the energy efficiency of the systems that use the cooling water will reduce the evaporative load on the tower). The rate of evaporation from a cooling tower is typically equal to approximately 1 percent of the rate of

¹ North Carolina Department of Environment and Natural Resources, et al. May 2009. *Water Efficiency Manual for Commercial, Industrial and Institutional Facilities*. Page 39. www.waternc.org/business.php.

² E.C.

Table 1-4. Action Plan Water Use Reduction Opportunity Checklist

Water Use Reduction Opportunity/Project	Reference Section	Already Implemented	Evaluate/ Consider	Not Applicable
		4	4	4
Water Use Monitoring and Education				
Read water meters and record monthly water use.	2.2			
Install submeters on any major water-using equipment, systems, or processes.	2.2			
Implement a leak detection and repair program.	2.3			
Educate facility staff, building occupants, employees, and visitors on water management program goals and initiatives.	2.4			
Review, understand, and utilize information in codes, standards, and voluntary programs for water efficiency.	2.5			
Sanitary Fixtures and Equipment				
Replace old tank-type toilets with WaterSense labeled models.	3.2			
Replace old flushometer-valve-type toilets flushing greater than 1.6 gallons per flush (gpf) with high-efficiency models, and install retrofit dual-flush conversion devices on 1.6 gpf flushometer valve toilets.	3.2			
Replace old flushing urinals with WaterSense labeled models.	3.3			
Replace lavatory faucets or faucet aerators (for private use) with WaterSense labeled models and install 0.5 gallons per minute (gpm) faucets or aerators in public-use settings.	3.4			
Replace old showerheads with WaterSense labeled models.	3.5			
Wash only full loads of laundry.	3.6			
Replace old single-load clothes washers with ENERGY STAR qualified models or consider the water factor when purchasing larger or more industrial-sized laundry machines.	3.6			
Commercial Kitchen Equipment				
Replace old ice machines with ENERGY STAR qualified models.	4.2			
Replace old steam cookers with ENERGY STAR qualified models.	4.4			
Load steam cookers, steam kettles, and combination ovens to capacity.	4.3, 4.4, 4.5			
Switch to connectionless combination ovens, steam cookers, and steam kettles.	4.3, 4.4, 4.5			
Replace old water-cooled wok stoves with a waterless model.	4.6			
Install in-line flow restrictor to reduce dipper well flow rate to 0.3 gpm.	4.7			

WaterSense at Work

Checklists Case Studies

Laboratory and Medical Equipment Case Study

To learn how Providence St. Peter Hospital in Olympia, Washington, saved 31 million gallons of water by installing water-efficient laboratory and medical equipment and implementing many additional best management practices described in *WaterSense at Work*, read the case study in Appendix A.





Webinars



WaterSense and ENERGY STAR are hosting a joint Tackling WaterSense webinar series throughout 2016

Sanitary Fixtures and Equipment	January 28th
Outdoor Water Use	March 30th
Mechanical Systems	May 10th
Let's Go on an Energy and Water Treasure Hunt	July 12th
Commercial Kitchens	September 20th

Past recordings (including 2015 series with HUD)
and registration for upcoming webinars available at
www.epa.gov/watersense/commercial/webinars.html

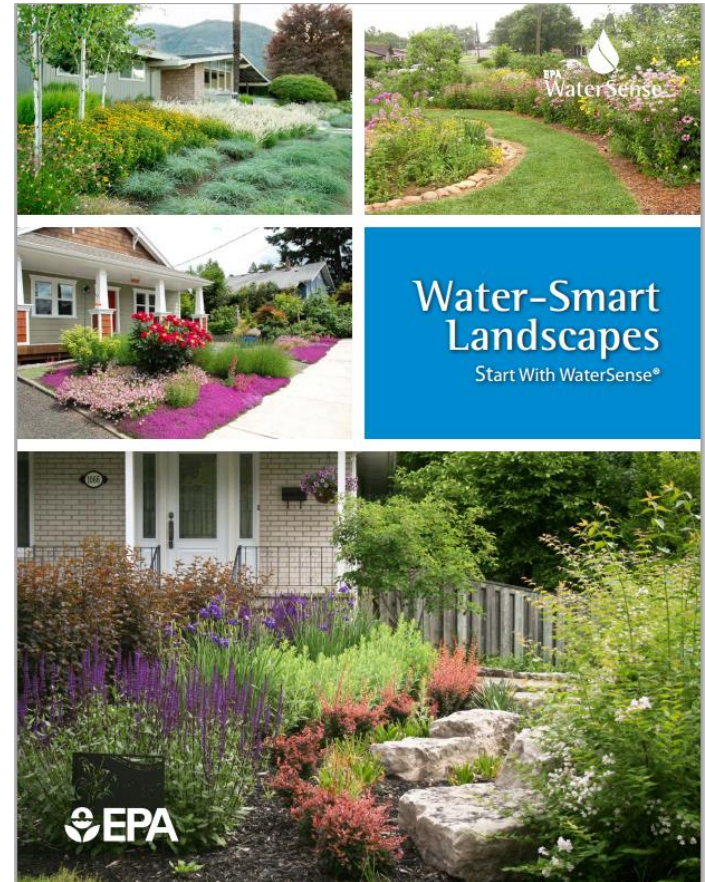
Other Water Assessment Tools and Resources

- City of Boulder Commercial, Industrial, and Institutional (CII) Water Assessment Tool and User's Guide
 - www.brendlegroup.com/water_conservation/cii-water-assessment-tool
- South Florida Water Management District *Water Efficiency and Self-Conducted Water Audits at Commercial and Institutional Facilities Guide*
 - www.sfwmd.gov/portal/page/portal/xweb%20-%20release%203%20water%20conservation/water%20conservation%20businesses
- Environmental Defense Fund, AT&T, & GEMI
 - Water Efficiency Toolkit with Scorecard and WaterMAPP Tool
<http://business.edf.org/projects/featured/water-efficiency-and-att/water-efficiency-toolkit-2/>

Outdoor Water Use

Smart Landscaping Practices

- Design it right and water wisely
- Use these tips to promote smart landscaping:
 - Right plant, right place
 - Group plants
 - Maintain healthy soils
 - Limit turf areas
 - Use mulch
 - Minimize slopes
- Help your watershed by slowing water down and helping it soak into the ground



www.epa.gov/watersense/outdoor/landscaping_tips.html

www.epa.gov/greeninfrastructure

Outdoor Tools

- WaterSense Web tool:
 - What to Plant Web page
 - *Water-Smart Landscapes* guide
 - WaterSense Water Budget Tool
- Landscape photo gallery



Nationwide ▼

Nationwide

Alabama

Alaska

Arizona

Arkansas

California

Colorado

Connecticut

Delaware

Florida

Georgia

Hawaii

Idaho

Illinois

Nationwide ▼

Nationwide

- Plant Native
- Lady Bird Johnson Wildflower Center
- USDA Plant Database
- Izel Native Plants for your Garden
- North American Native Plant Society
- Floridata—Plant Profile List

 **EPA WaterSense** added 22 new photos to the album: #WaterSavingYard Photo Gallery.

October 20, 2015 · 🌐






Professionals

- WaterSense labels programs that certify irrigation professionals who are trained for proficiency on water efficiency
- Three specifications cover irrigation design, installation & maintenance, auditing
- 20 programs labeled through five certifying orgs (http://www.epa.gov/watersense/outdoor/cert_programs.html)
 - > 3,000 professionals certified through WaterSense labeled programs
- Recent program changes position WaterSense to add new professional types in future (subject to resources)
 - WaterSense no longer partners with individuals, but promotes all certified pros




Find a Pro

www.epa.gov/watersense/findapro

About Us Products Outdoor New Homes Commercial Our Water Partners

WaterSense® An EPA Partnership Program

Product Search | Meet Our Partners | Contact Us | FAQ



WaterSense / Directory of Certified Professionals



Directory of Certified Professionals

WaterSense and its [professional certifying organization](#) partners jointly maintain the Directory of Certified Professionals. Updates to the directory are made quarterly and reflect the best information available at the time. Individuals listed in the directory have successfully completed all requirements of at least one WaterSense labeled professional certification program.

*Disclaimer of Endorsement: Reference herein to any specific commercial products, process, or service by trade name, trademark, manufacturer, or otherwise, does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government.

 Search By Location

 Search By Name

 Download Full List

Distance

Optional search criteria:

Certification:

- Select All
- Irrigation System Audit
- Irrigation System Installation and Maintenance
- Irrigation System Design

Customer Type:

- Select All
- Residential
- Residential Development
- Commercial

Available for Hire:

- Select All
- Yes
- No

Filtered By: ZIP Code: 20003, Distance: 25, Yes

***Double-click on a row to view detailed professional information.**

 [Print](#) |  [Download](#)

Name	Certification(s)	Company Name	Available for Hire	Phone	City	State	Distance (miles)
Matt Bohn	Irrigation System Audit	Bright Water Illumination and Irrigation Inc.	Yes	(443) 875-3788	Edgewater	MD	21

WaterSense Partners

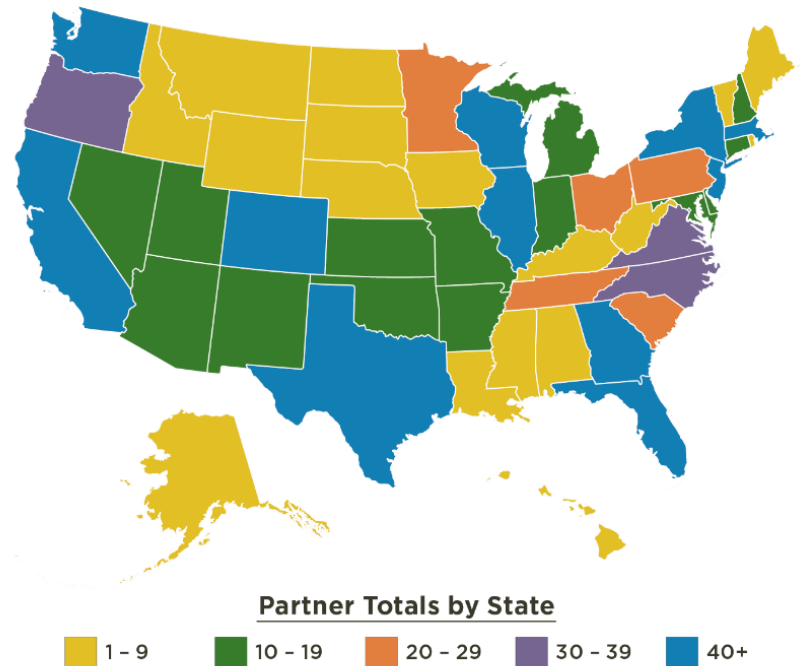
WaterSense partners with water utilities and local/state governments



WaterSense and its partners are committed to bringing water-efficient smart water use. Search by partner type, state, and/or partner name

Partner Type	State	Partner Name?
All Partners	All	<input type="text"/>
Builder	AK	
Home Builders Association	AL	
Licensed Certification Provider	AR	
Local/State/Federal Government	AZ	

WaterSense has more than **1,613** organizational partners...



Partners have access to tools to help reach the public



- Infographics
- Bill stuffers
- Messaging and Tips
- Sample social media posts
- Articles for placement
- Case studies

**YOU skip a shower...
SAVE 17 GALLONS of water**

**YOUR YARD skips a shower...
SAVE 2,500 GALLONS of water**

**When in DROUGHT,
Every DROP Counts.**

WaterSense Sample "When in Drought" Social Media Posts

It's always important to use water efficiently, but there are times when saving water becomes even more important, such as when drought occurs. Remind your Twitter followers and Facebook network to do their part to save water using the sample social media posts below. Even if water shortages are not severe in your community, these simple steps can help save water for future generations. For more tips on how to save water during a drought, visit www.epa.gov/watersense/when_in_drought.html.

Sample Social Media Posts

- #WhenInDrought let grass grow for deeper roots, reduced evaporation, and fewer weeds. More tips: usa.gov/0609
- #WhenInDrought give sprinklers a break and save 10,000 gallons a week! It's okay to let grass get a little brown. usa.gov/0609
- #WhenInDrought give your hose a break. Sweep driveways, sidewalks, and steps rather than hosing them off. usa.gov/0609
- #WhenInDrought use regionally appropriate plants that require minimal watering. See which are best for your region. usa.gov/0609
- #WhenInDrought be a leak detective to find and fix leaks inside and out while saving water, energy, and money. usa.gov/0609
- #WhenInDrought follow the rules! Check your utility to find out restrictions specific to your area. Do your part to help your community!
- #WhenInDrought timing is important to avoid water waste. Don't water outdoors during the heat of the day. More tips: usa.gov/0609
- #WhenInDrought add mulch around shrubs to retain water, moderate soil temperature, and prevent erosion. More tips: usa.gov/0609
- #WhenInDrought switch to a [WaterSense](http://www.epa.gov/watersense) labeled showerhead and save 8 gallons of water each shower. usa.gov/0609
- #WhenInDrought replace faucet aerators with [WaterSense](http://www.epa.gov/watersense) labeled ones. They're just a few ¢ but save H₂O and energy. usa.gov/0609
- #WhenInDrought the average family could save 13,000 gallons of H₂O per year with [WaterSense](http://www.epa.gov/watersense) labeled toilets. usa.gov/0609

June 2010

**When in Drought...
Use Your WaterSense**

Every year, drought strikes some part of the country. If your area is experiencing a drought, there are actions you can take to help your community by reducing your water use. Even if your water shortages are not severe, consider these simple tips to save water at home.

- FOLLOW THE RULES.** If your community has issued the step of reducing water use, it's critical that you do so. This is especially true if you're in an area with a long history of drought. Follow the rules to help your community.
- CHECK FOR LEAKS.** Check your faucets, toilets, and showerheads for any leaks. A single dripping faucet can waste more than 1,500 gallons of water each month. Check your toilet for leaks by adding a few drops of food coloring to the tank. If you see color in the toilet bowl, you have a leak. Fix it right away.
- CONSIDER AN UPGRADE.** If you're thinking about a bathroom update, now is the time to make a water-saving upgrade. High-efficiency [WaterSense](http://www.epa.gov/watersense) labeled toilets, showers, and faucets are designed to use at least 20 percent less water than standard models. Information about [WaterSense](http://www.epa.gov/watersense) products is available at www.epa.gov/watersense.
- TAKE A SPRINKLER BREAK.** Don't forget to take a break from watering your lawn and garden in your community's hottest months. You can save on watering and reduce stress on your soil and water resources. If you have an irrigation system with a clock timer, consider upgrading to a [WaterSense](http://www.epa.gov/watersense) smart controller, which can save a thousand or more gallons of water each year.

Drought Can Hit Anywhere

Source: U.S. Drought Monitor, www.drought.gov

Your updates and calls to action can have a big impact. In the future, consider joining your local water utility and ask your utility to post these drought tips. It could be a real-world benefit if you have permission to do so.

Get The Extra Mile. If you've done all you can to be water efficient, do the extra mile and try collecting water from your washing machine to use for watering your garden. This is a great way to save water and reduce your water bill.

Remember, when the rains return, your water-saving habits don't have to go away. Keeping water-saving habits and help you save water, energy, and money and help your community when drought returns. The more information, visit www.epa.gov/watersense.

Source: www.epa.gov/watersense/when_in_drought.html. ©2010 EPA. www.epa.gov/watersense. www.epa.gov/watersense. EPA



Droughts can take the slip out of your slide. Help us save water with **WaterSense**.

look for WaterSense Meets EPA Criteria

Other Resources

- **Dept. of Energy Federal Energy Management Program Resources**
 - <http://energy.gov/eere/femp/water-efficiency-federal-buildings-and-campuses>
- **EPA Green Infrastructure**
 - <http://www.epa.gov/green-infrastructure>
- **Water Reuse**
 - EPA 2012 Water Reuse Guidelines - <http://www3.epa.gov/region9/water/recycling/index.html>
 - FEMP-Methodology for Use of Reclaimed Water at Federal Locations - http://www1.eere.energy.gov/femp/pdfs/reclaimed_water_use.pdf
 - NAS – Using Graywater and Stormwater to Enhance Local Water Supplies: An Assessment of Risks, Costs, and Benefits (2016) - <http://www.nap.edu/catalog/21866/>

Being Prepared for Drought

www.drought.gov

- National Integrated Drought Information System – NIDIS

U.S. Drought Portal

www.drought.gov

Search

U.S. | N.A. | Global | Contact Us

What is NIDIS?

Products

Tools

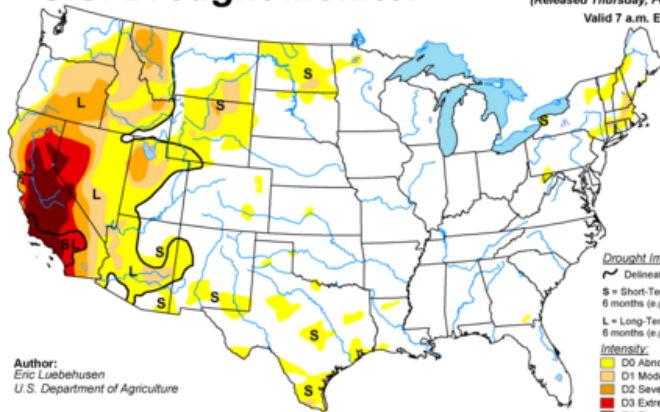
Regional Programs

Resources

Where is the drought? Will it change? What are its impacts?

U.S. Drought Monitor

February 23, 2016
(Released Thursday, Feb. 25, 2016)
Valid 7 a.m. EST

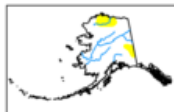


Author:
Eric Luebbehusen
U.S. Department of Agriculture

Drought Impact Types:
✓ Delineates dominant impacts
S = Short-Term, typically less than 6 months (e.g. agriculture, grasslands)
L = Long-Term, typically greater than 6 months (e.g. hydrology, ecology)

Intensity:
D0 Abnormally Dry
D1 Moderate Drought
D2 Severe Drought
D3 Extreme Drought
D4 Exceptional Drought

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



<http://droughtmonitor.unl.edu/>

Click a topic for more information:



U.S. Drought Monitor



U.S. Seasonal Drought Outlook



Drought Impacts Report



Wildfire Risks



Summary of Drought this week



NIDIS in Your Region

Quick Start

The easiest way to begin? Just start adding water to your existing energy efforts!

- Other suggestions

1. Find out where your water comes from – does utility offer incentives or other assistance?
2. Find out how much water is being used – read the bill and start tracking use/costs (e.g. Portfolio Manager)
3. Take a walk around inside and outside – water audits help determine how water is used and opps for savings
4. Determine if more efficient products/services are needed – replace/retrofit products, update service agreements to ensure efficiency
5. Focus on the people using the facility – behavior drives waste and savings

For more info

look for



WaterSense

www.epa.gov/watersense

www.facebook.com/epawatersense

www.twitter.com/epawatersense

E-mail: watersense@epa.gov

Helpline: (866) WTR-SENS (987-7367)

