



What's Your Plan?

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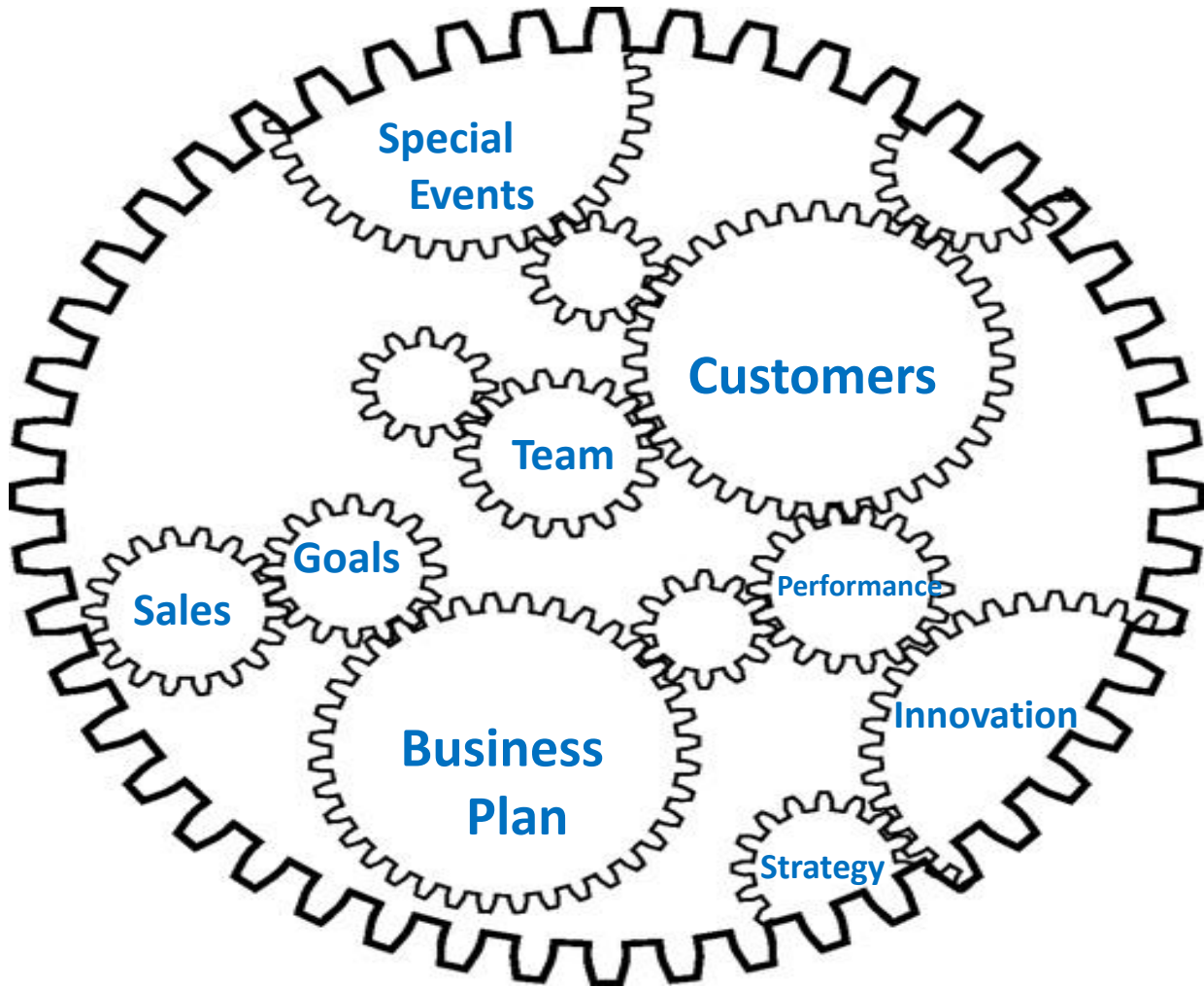
September 22, 2015

USGA

Topics

- Business plan
- Water management plan
- Questions every facility should ask
- Drought management plan
- Resources





Why?

- Clarity
- Organization
- Gain an improved understanding
- Practice makes perfect
- Iron out the kinks
- Foster alignment
- Accountability
- Know your message
- Establish benchmarks

Things Happen



Water Management Plan

- Sets water management goals
- Identifies conservation opportunities.

Basic Context

- BMPs- maximize efficiency or minimize use.
- Water budget and accounting
- BMPs achieved
- Water management opportunities
- Should be written

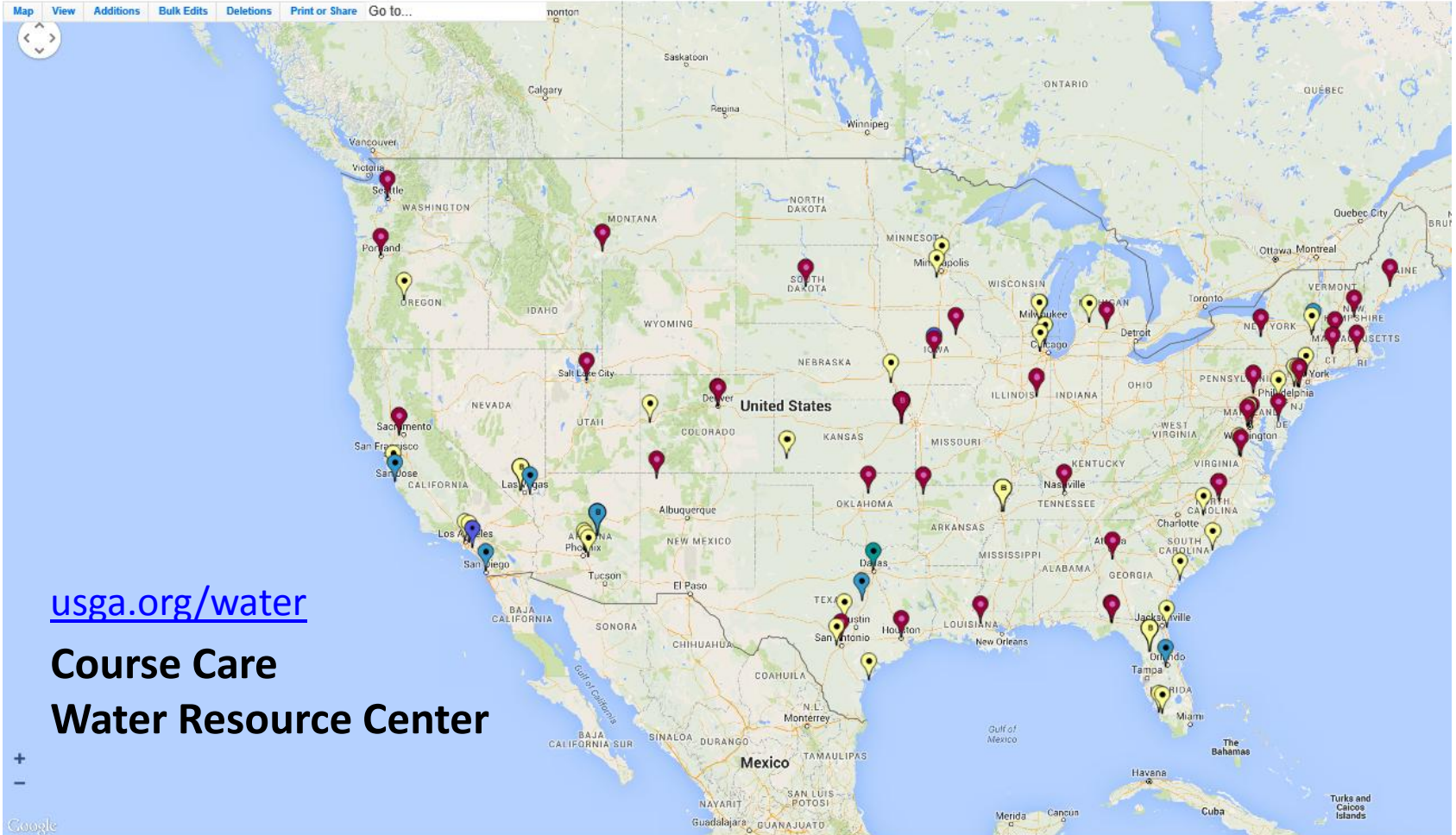
Water accounting

Utility information – breakdown of sources

Perform an audit

- Major water-using processes

- Water meters



Golf's Use of Water:

- Golf is a conspicuous user of water.
- Water for food and family, or water for fun?
- Responsible use of a valuable resource.
- Water tied to energy use.
- Impact of water use on playability.
- Monitoring leads to awareness and better management.

Six questions every facility should ask:

- Do we have a dependable source of water, both now and in the future?
- Is our irrigation system applying water as efficiently as possible? Are we taking advantage of technology to improve irrigation efficiency?
- Do we have an irrigation management plan that efficiently manages current water resources?

Six questions continued:

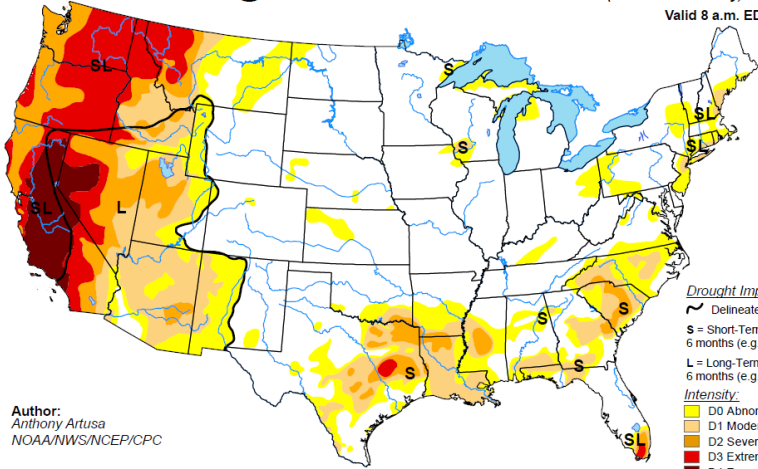
- What is the plan to deal with drought and mandatory water cut-backs?
- Is our facility taking the proper steps to prevent run-off and protect water quality in the watershed?
- Have we effectively communicated the importance of conserving water and how our efforts will impact the golf course appearance and playing quality?

An additional impact

Palmer Drought Severity Index
January 2004 - November 2014

U.S. Drought Monitor

September 1, 2015
(Released Thursday, Sep. 3, 2015)
Valid 8 a.m. EDT



Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC

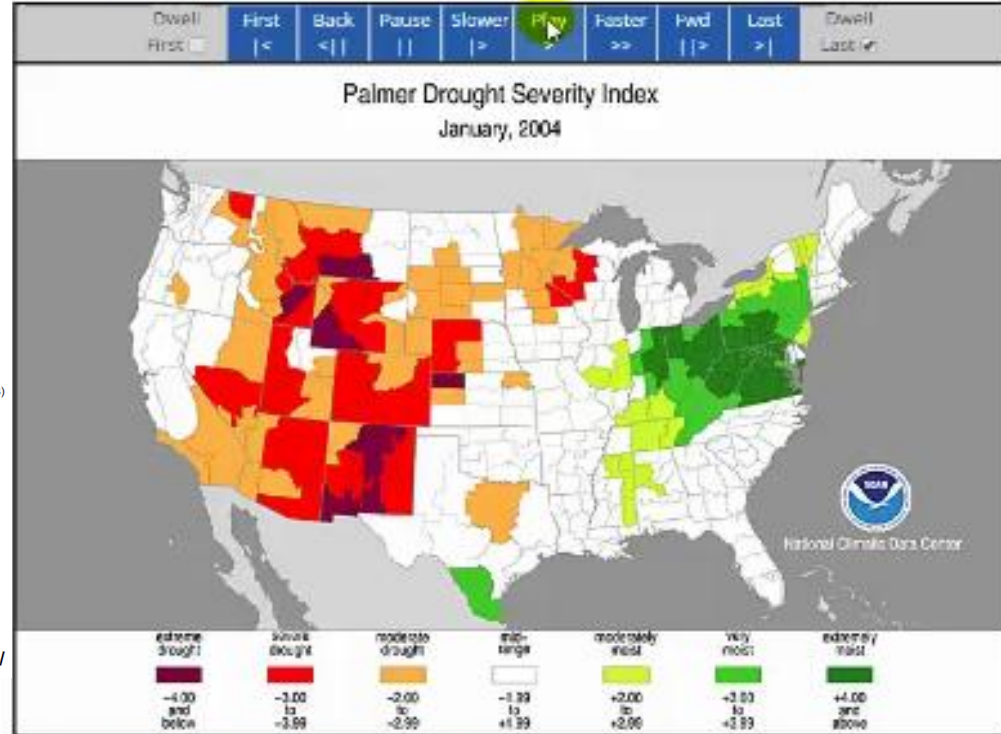
Intensity:

- 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/>



Data File: Palmer Drought Severity Index Divisional Data

Why a drought management plan?

- Irrational decisions are often made in emergency situations.
- Creates opportunities to develop plans in advance.
- Important communication tool.



Know your golf course

Area	Total area (sq ft)	Total area (acres)	% of total area
Green complexes	178,596	4.1	4%
Teeing grounds	152,460	3.5	3%
Fairways	901,692	20.7	20%
Primary rough	2,025,540	46.5	44%
Secondary rough	797,148	18.3	17%
Practice range	453,024	10.4	10%
Landscape areas	104,544	2.4	2%
Total	4,613,004 sq. ft.	105.9 acres	100%

Know your golf course

Month	Water use (gal.)	Water use (ac.ft.)	Water use (HCF)
Jan			
Feb			
March			
April			
May			
June			
July			
Aug			
Sept			
Oct			
Nov			
Dec			
TOTAL			

Priority level	Golf course area
1	Putting green complexes
2	Fairways
3	Teeing grounds
4	Primary rough
5	Landscape areas
6	Practice range
7	Secondary rough/ out of play zones

Other items to consider including:

- Best management practices
- Water conservation practices
- Meter the water use
- Calibration schedule for meters
- Irrigation system maintenance and inspection schedule
- Use of moisture sensors and weather stations
- Aeration schedules
- Non-irrigated areas of the property
- Availability of alternative water sources
- Raising the turf height
- Drought tolerant turf species
- Employee training





Month	Historical avg water use (gallons)	Water reduction at 20% (gallons)	Water reduction at 30% (gallons)
Jan			
Feb			
Mar			
April			
May			
June			
July			
Aug			
Sept			
Oct			
Nov			
Dec			

Holy Hydrophobic!

It often surprises people to see us hand watering following a rain event. Last Thursday, after three plus weeks of no precipitation, we received 1.75" of rain over a 24 hour period. Unlike thunderstorms, where much of the water runs off, you might think that Thursday's slow rain would have evenly soaked the soil profile.

However, after this extended dry period, areas often become hydrophobic. Literally, this means water-fearing. But in turf terms, when we say hydrophobic, we are referring to soils which are water repellent. If you've ever let a house plant dry too much, you've likely witnessed water running off, instead of soaking in.

The picture below is from #7 approach after Thursday's rain. That is still some very hard, dry, crumbly soil!



The next time you see us watering after rain, you'll know why.



Op-Ed Go ahead, water your lawn

Los Angeles Times
Opinion / Op-Ed

This article is related to: Opinion, Commentary



Sprinklers watering the lawn in front of a house in Beverly Hills. (Jae C. Hong / Associated Press)

By DONALD R. HODEL, DENNIS R. PITTEGER

SEPTEMBER 18, 2015, 4:26 AM

Have you watered your yard lately? You probably should.


Such a recommendation might seem irresponsible in the face of the California drought, but the recent rush to slash urban landscape water use, and in the process let trees, shrubs and lawns decline or die, is shortsighted, foolish, expensive and, most tragic of all, unnecessary.

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GOLF'S USE OF WATER

USGA Water Resource Center

It is essential for everyone involved in the game to strive to conserve and protect the world's most vital resource.

Latest in Water Resources



Information Sources:

- USGA Water Resource Center
- GCSAA Environmental Profile Series
- Water regulators, EPA WaterSense