

This presentation premiered at WaterSmart Innovations

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www.greengardensgroup.com



October 7, 2015

WaterSmart Innovations 2015

**BUSTING DROUGHT WITH
GREEN WATER ABUNDANCE**

Sometimes I Feel Like This When I Speak To Water Supply Agencies



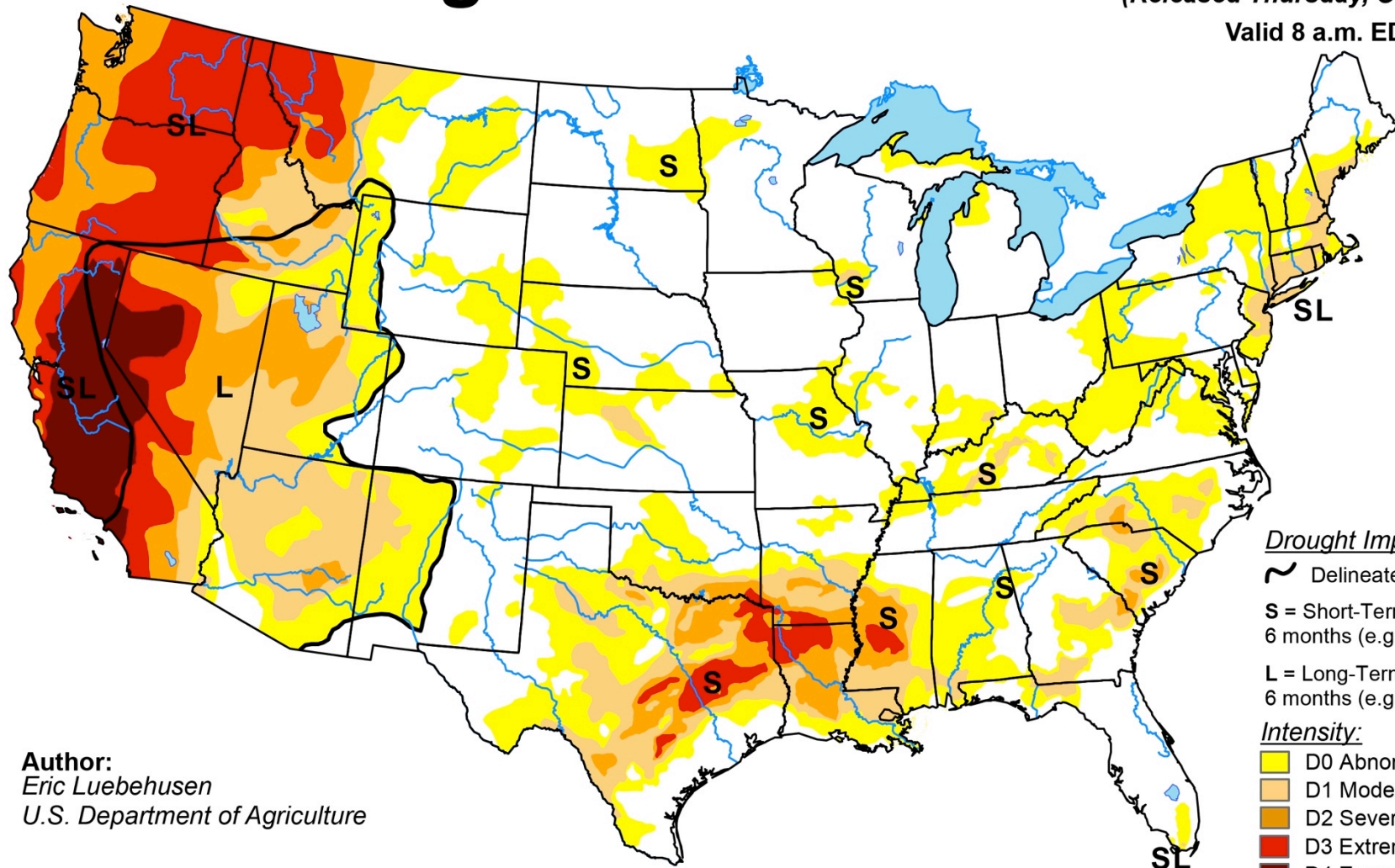
A Great Deal of Our Country Faces Drought Conditions

U.S. Drought Monitor

September 29, 2015

(Released Thursday, Oct. 1, 2015)

Valid 8 a.m. EDT



Drought Impact Types:

~ Delineates dominant impacts

S = Short-Term, typically less than 6 months (e.g. agriculture, grassland)

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

Author:
Eric Luebehusen
U.S. Department of Agriculture



© Getty Images/Panoramic Images

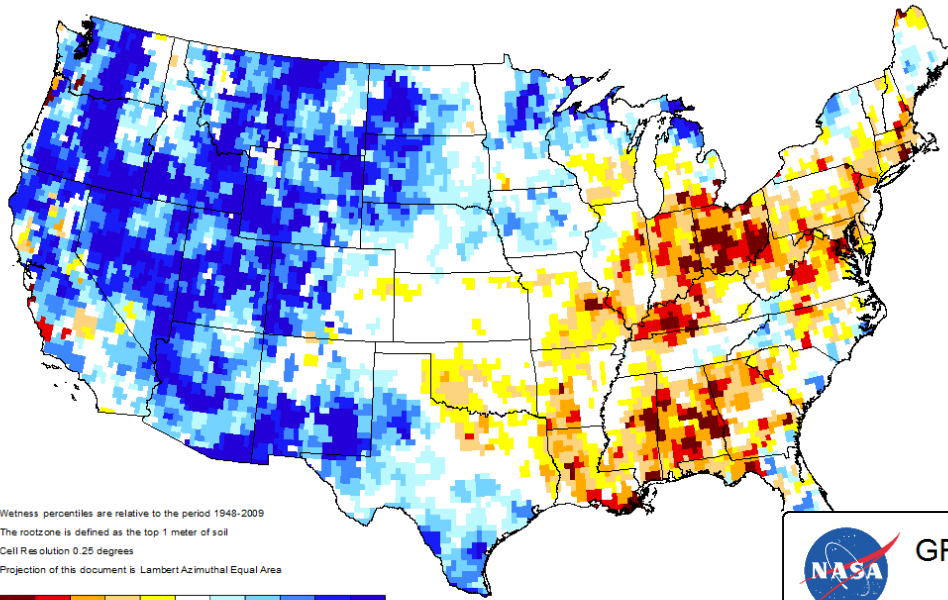
Some Images of
Drought Are Well
Known (Lake Mead
1983 – 2015)



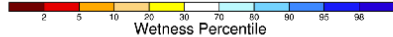


GRACE-Based Root Zone Soil Moisture Drought Indicator

October 06, 2014



Wetness percentiles are relative to the period 1948-2009
The rootzone is defined as the top 1 meter of soil
Cell Resolution 0.25 degrees
Projection of this document is Lambert Azimuthal Equal Area



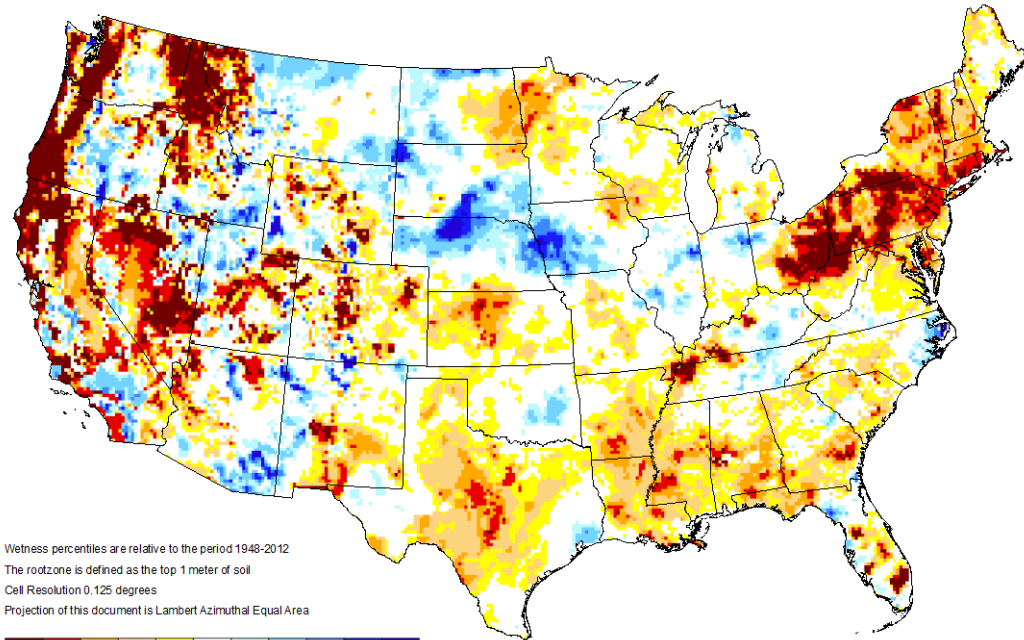
<http://drought.unl.edu/MonitoringTools/NASAGRACE>

Root Zone Soil Moisture Not So Well Known

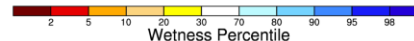


GRACE-Based Root Zone Soil Moisture Drought Indicator

September 28, 2015

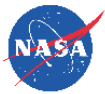


Wetness percentiles are relative to the period 1948-2012
The rootzone is defined as the top 1 meter of soil
Cell Resolution 0.125 degrees
Projection of this document is Lambert Azimuthal Equal Area



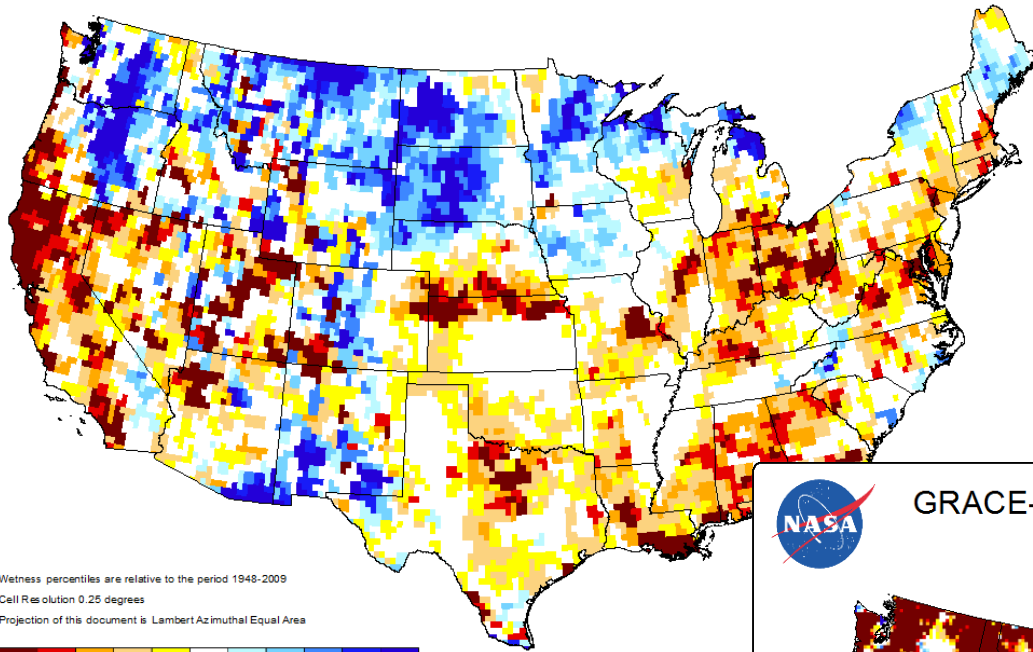
<http://drought.unl.edu/MonitoringTools/NASAGRACEDataAssimilation.aspx>

2014 - 2015



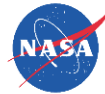
GRACE-Based Shallow Groundwater Drought Indicator

October 06, 2014



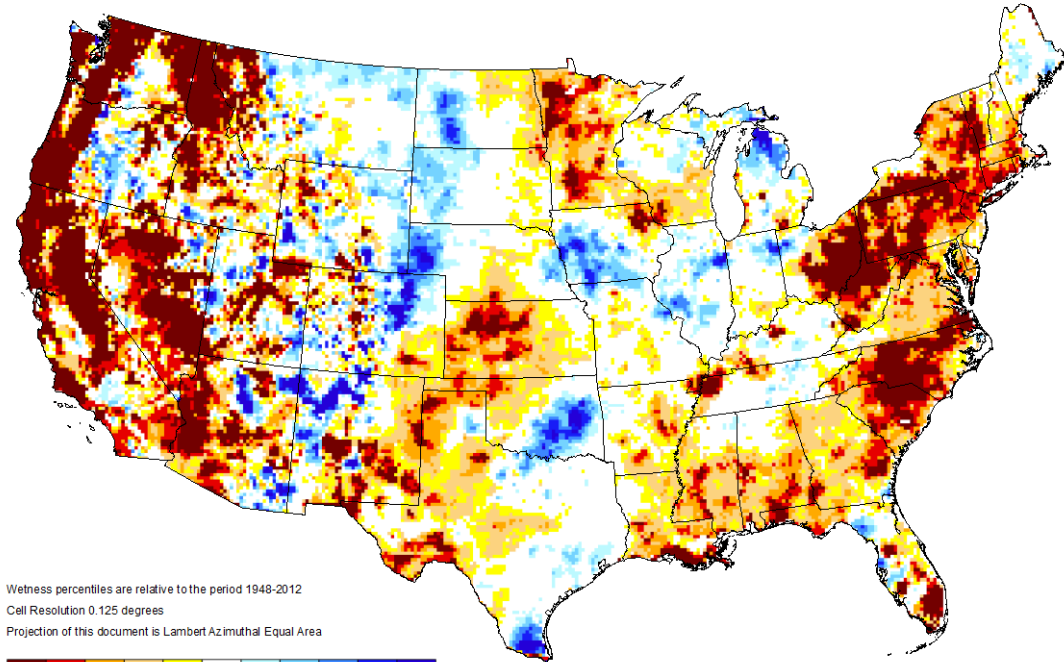
<http://drought.unl.edu/MonitoringTools>

Shallow Ground Water Not So Well Known



GRACE-Based Shallow Groundwater Drought Indicator

September 28, 2015



<http://drought.unl.edu/MonitoringTools/NASAGRACEDataAssimilation.aspx>


2014 - 2015

These Images Show The Death of the Soil



Now We Have **Hydrophobic** Conditions



A photograph showing a flooded residential street. In the foreground, a concrete sidewalk runs from the bottom left towards the center. To the right of the sidewalk, the street is completely submerged in dark, rippling water. In the background, a white tarp is draped over a fence or structure, and a house is partially visible on the left. The overall scene illustrates the aftermath of a heavy rain event.

Which Means Runoff And Flooding
When It Does Rain Again

Green Water?

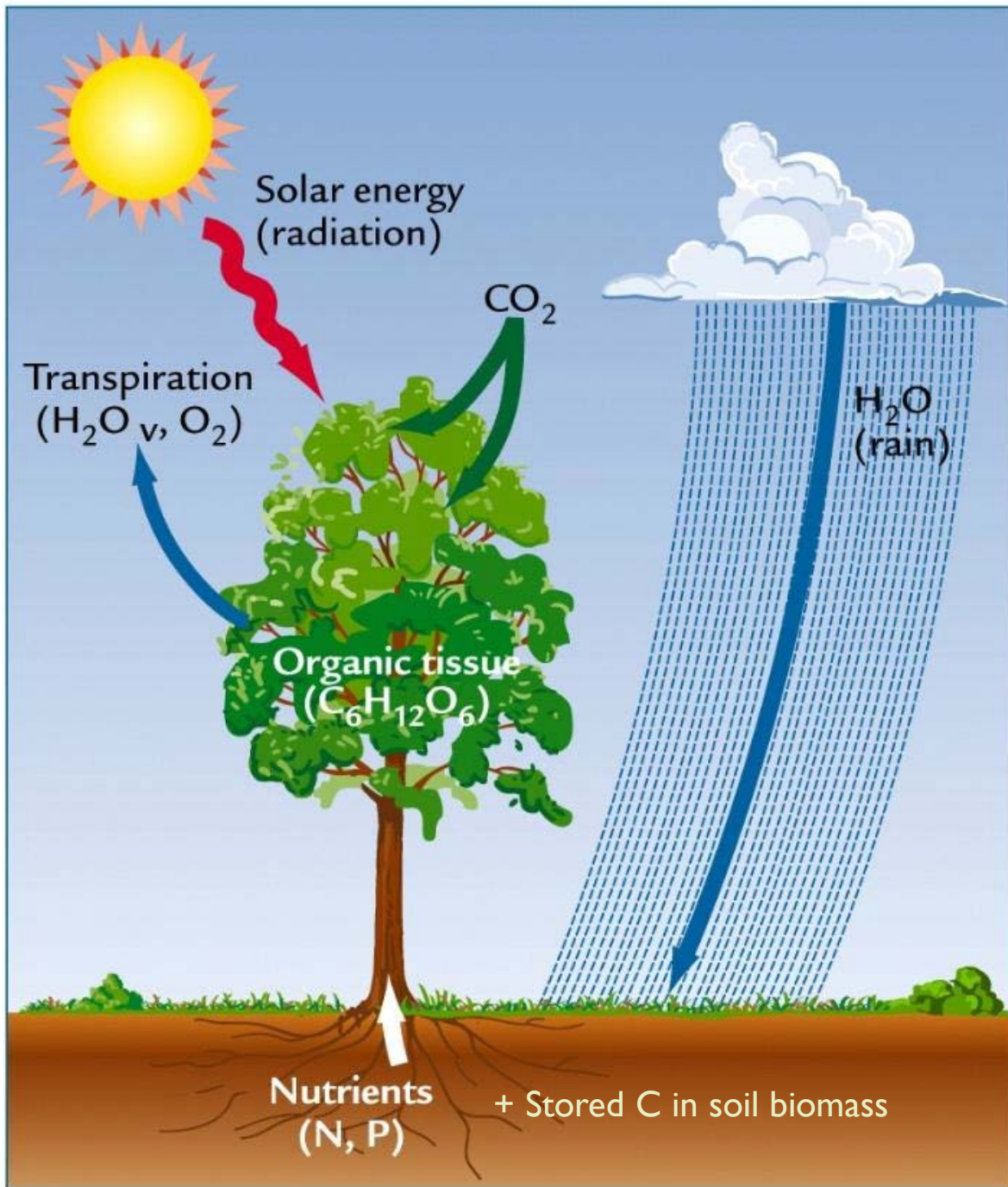


Green Water: Water Stored In Soil Root Zone



Plant Root Zone Is Where The Soil Party Is Happening!





Photosynthesis Drives The Carbon Cycle

Living Soil = Oxygen, Water, Life + Carbon



Living Soil + Plants Make Green Water



Carbon Storage In Soil 5-6x Biomass of Plants (Including Roots)

The Green Water Zone Is
A Giant Carbon-Based Sponge

Green Water Zones Are Bigger Than You Think (With The Right Climate-appropriate Plants)

Root Systems of Native Plants

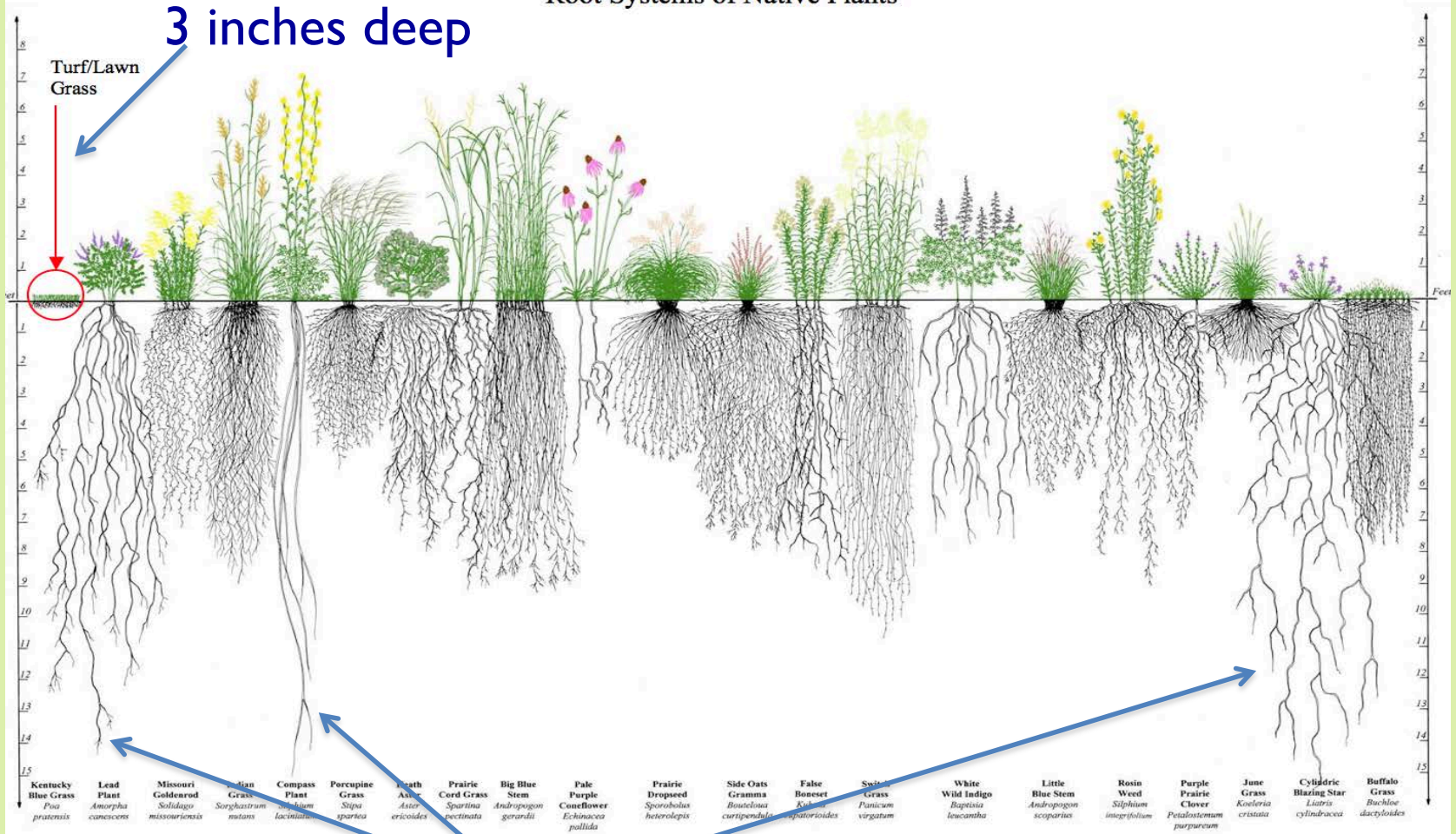


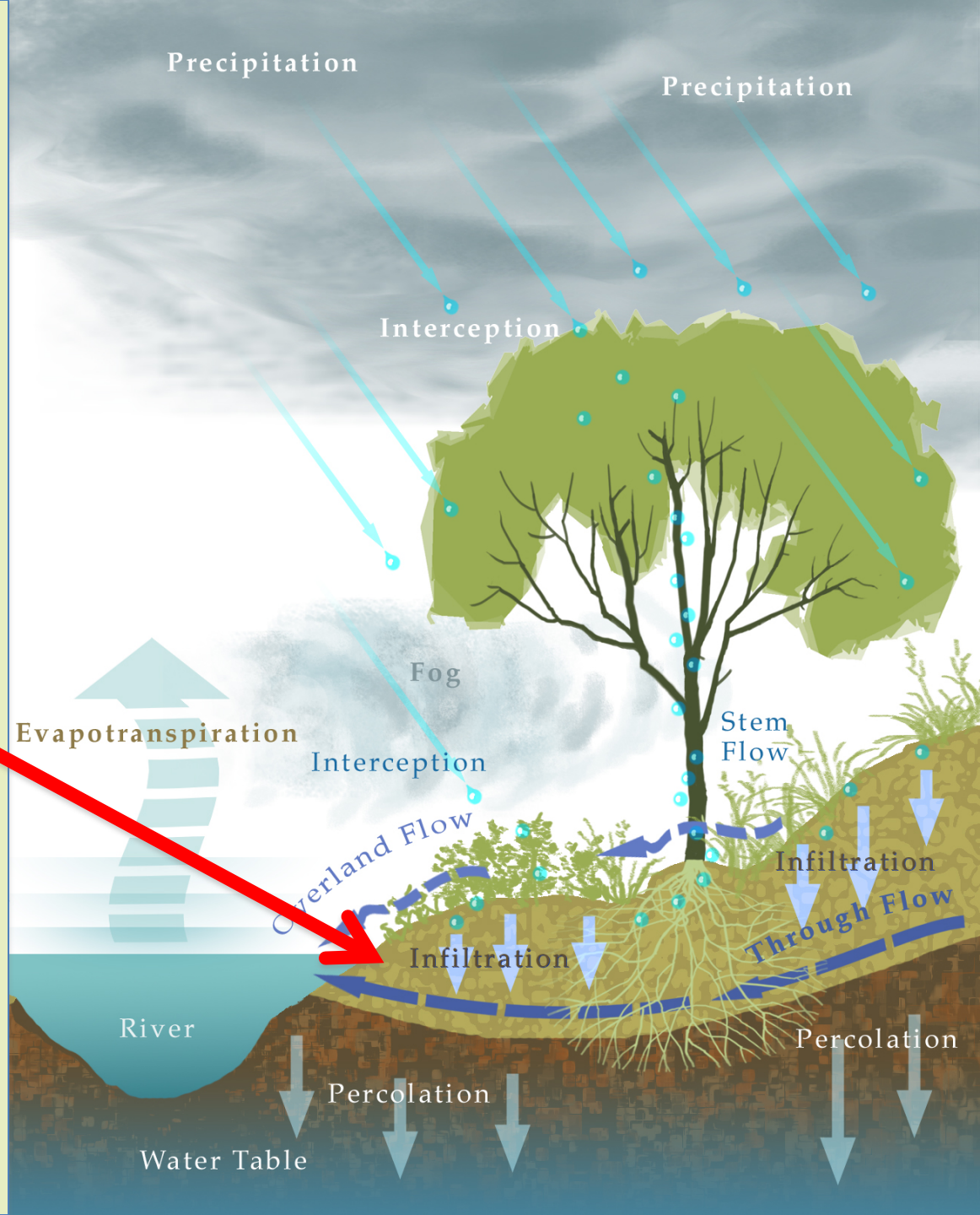
Diagram referenced from the "Conservation Research Institute"

13 feet deep

Living Soil Sponge Busts Drought



Green Water Keeps the Water Cycle Spinning



The ONLY Way to Prime This Cycle Is With Rainwater



What If Green Water Turned Landscapes Into Water Suppliers Instead of Water Users?



Would That Give You More Local Water To Sell?



Do Your Landscape Policies and Programs Support Green Water?



Do You Rebate Removing This?



Without Requiring This?



Do You Promote Using These?



Without Promoting This?



photo: John Huber

What's The Problem Here?



Saves Water

But Doesn't Make Water!

Gravel Mulch – Makes Green Water: Yes or No?



Weed Barrier – Makes Green Water: Yes or No?



Synthetic Turf – Makes Green Water: Yes or No?



Turn Off Irrigation – Makes Green Water: Yes or No?



Decomposed Granite – Makes Green Water: Yes or No?



Sponge Garden – Makes Green Water: Yes or No?



Make Green Water With Compost/Living Mulch, Plants & Rainwater



COMPOST/MULCH + PLANTS + RAINWATER



Green Water For A Blue Planet



Learn More About Green Water And Living Soil



Urban soil security changes our climate destiny

SOIL IN THE CITY 2.0

Urbansoil.org



September 2016
Los Angeles, CA

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gardens
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Pamela Berstler

Managing Member

PamelaB@GreenGardensGroup.com

310.694.8351

www.GreenGardensGroup.com

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