

# HB 4113 - Drought Response

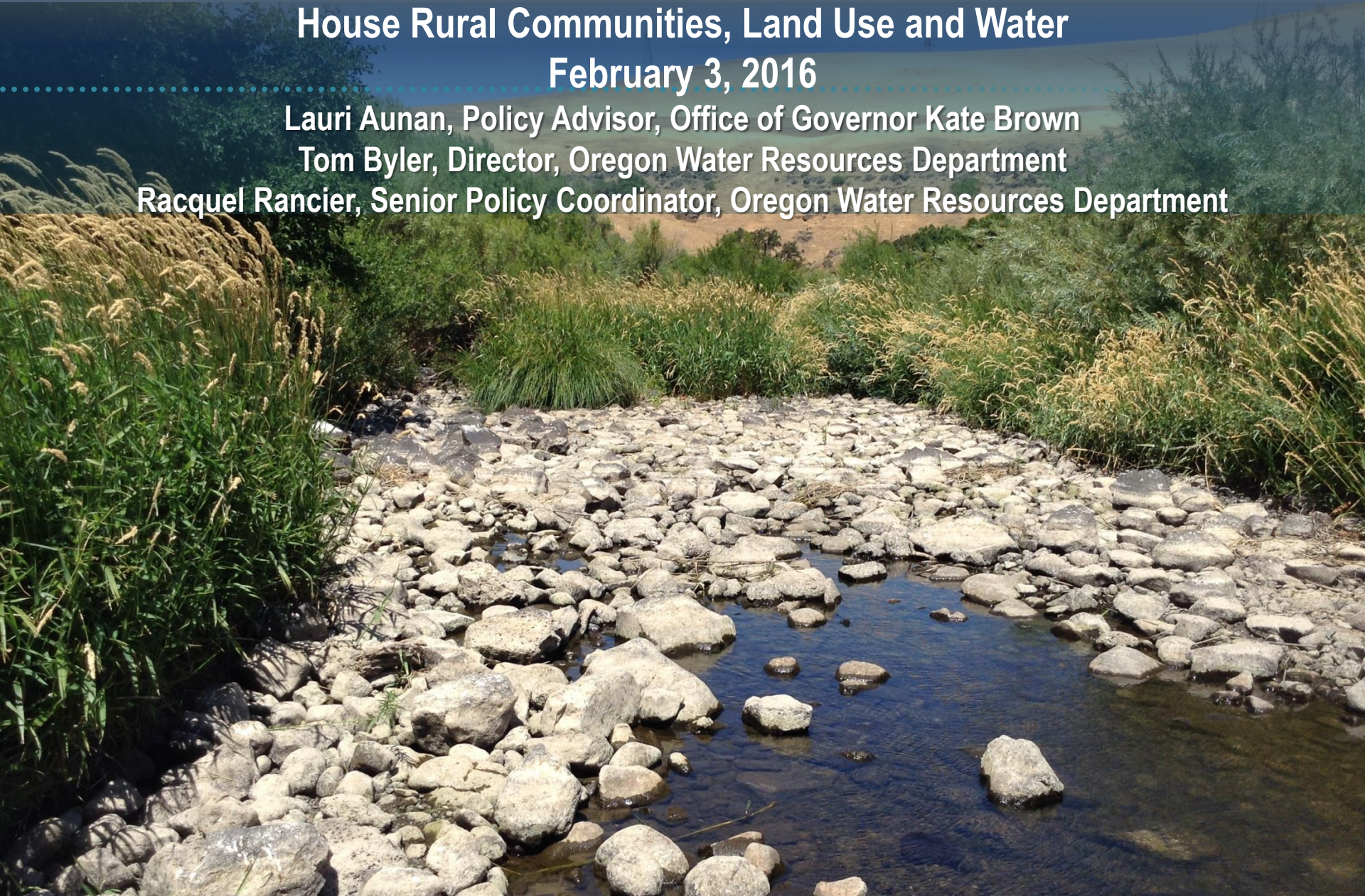
House Rural Communities, Land Use and Water

February 3, 2016

Lauri Aunan, Policy Advisor, Office of Governor Kate Brown

Tom Byler, Director, Oregon Water Resources Department

Racquel Rancier, Senior Policy Coordinator, Oregon Water Resources Department





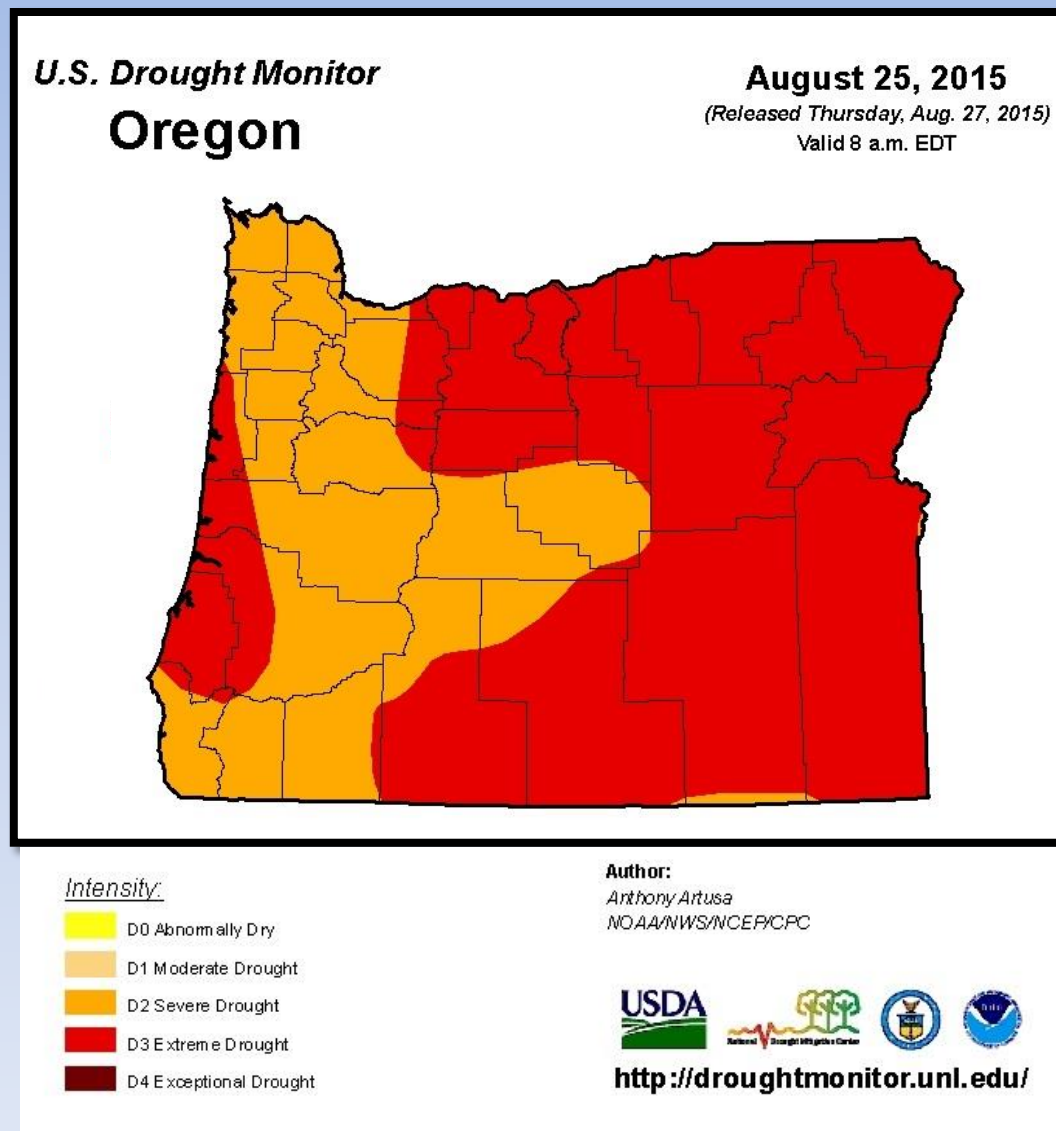
# Outline

- **Drought conditions:  
Past, present, future**
- **What are we doing to  
become more  
resilient to drought in  
the future?**
- **How do we respond  
during a drought?**
- **What does HB 4113  
propose?**



# 2015 Drought Recap

- Higher than normal temperatures
- Record-low snowpack
- Below normal precipitation
- Low streamflows
- 67% of state in extreme drought
- 25 Counties Declared
- Similar to projections for future climate

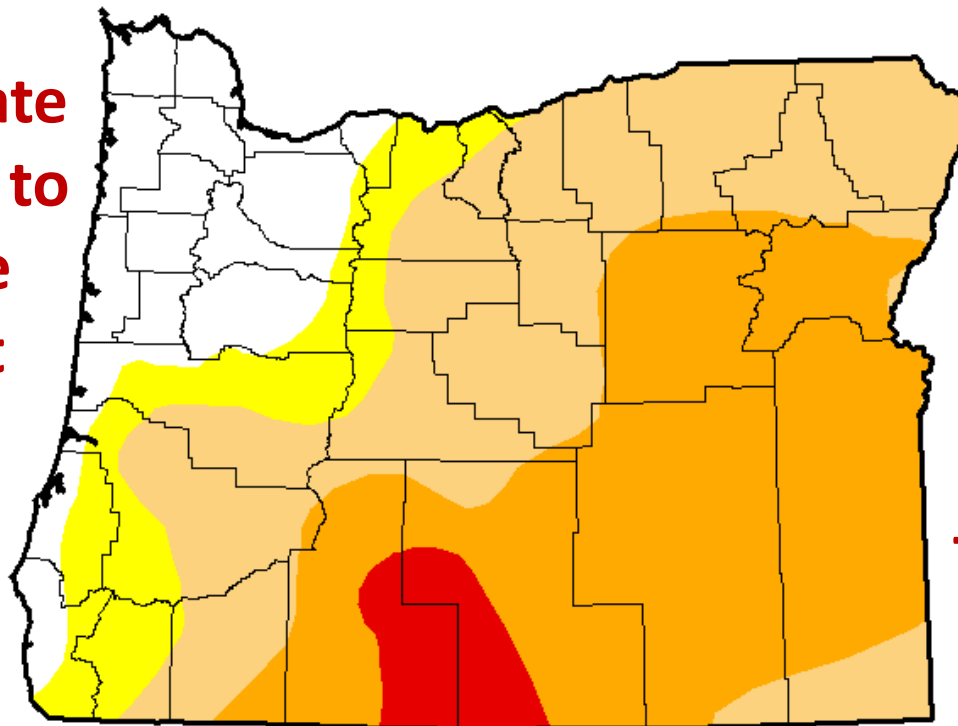


# Drought Persists – January 2016

## U.S. Drought Monitor Oregon

January 26, 2016  
(Released Thursday, Jan. 28, 2016)  
Valid 7 a.m. EST

**74% of state  
moderate to  
extreme  
drought**



**Lasting  
Effects:  
Recovery  
takes time**

### 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.*

Author:  
David Miskus  
NOAA/NWS/NCEP/CPC



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

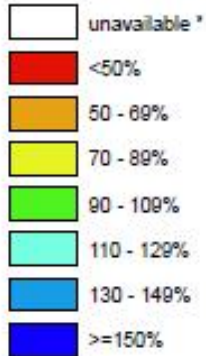


# Lasting Effects Despite Strong Snowpack

## Oregon SNOTEL Current Snow Water Equivalent (SWE) % of Normal

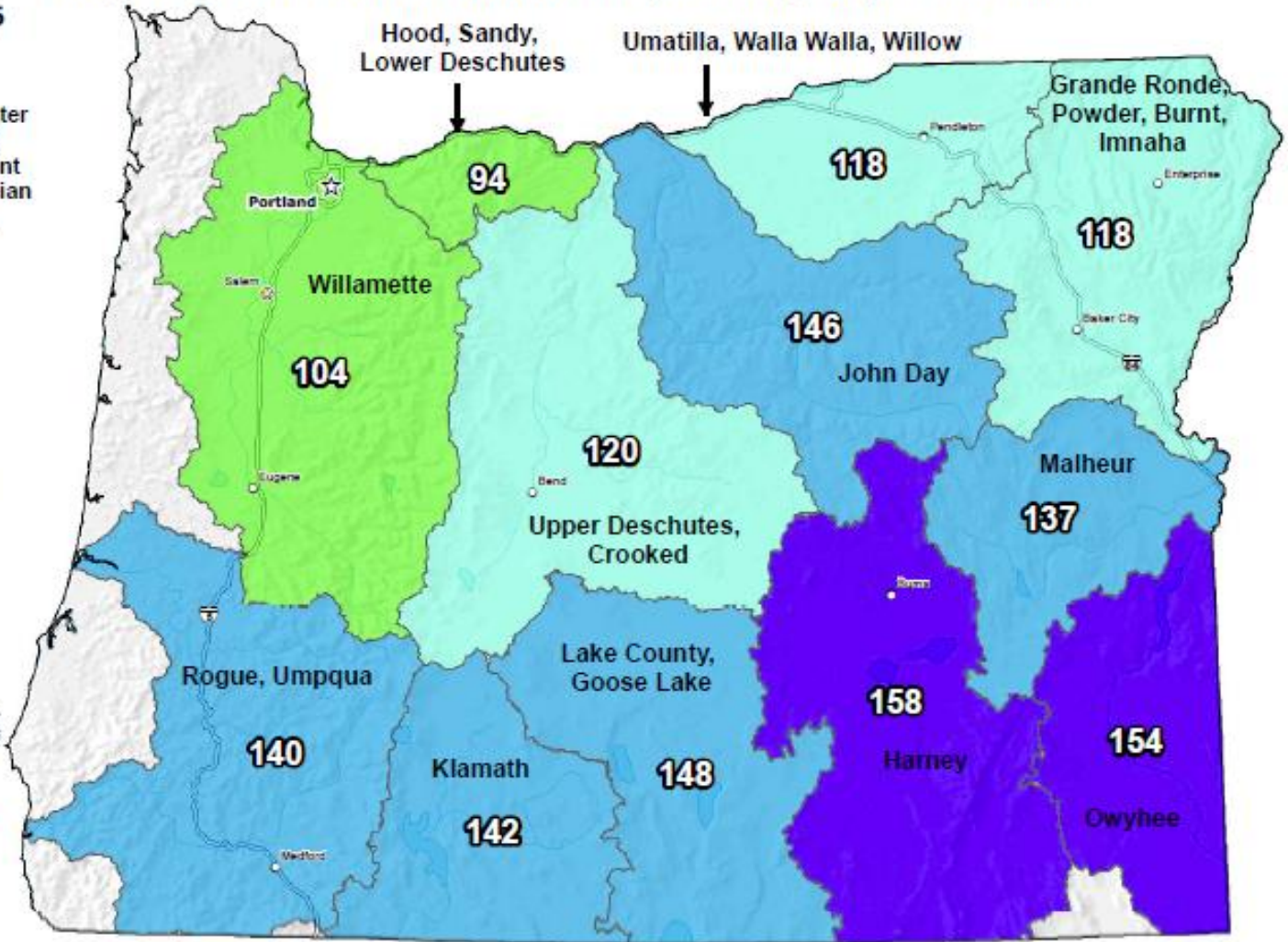
Jan 30, 2016

Current Snow Water Equivalent (SWE) Basin-wide Percent of 1981-2010 Median

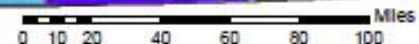


\* Data unavailable at time of posting or measurement is not representative at this time of year

Provisional Data  
Subject to Revision



The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

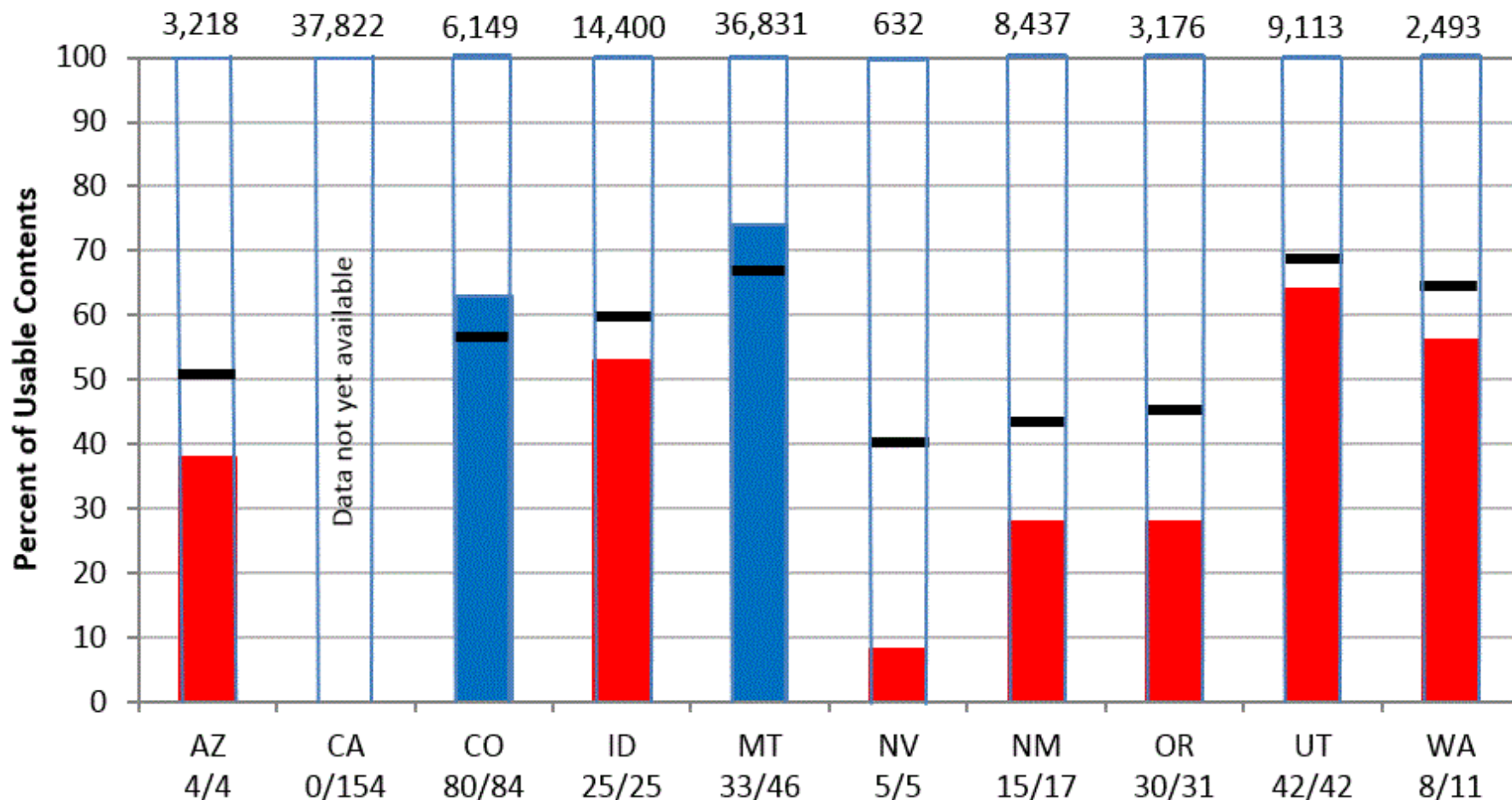


Prepared by:  
USDA/NRCS National Water and Climate Center  
Portland, Oregon  
<http://www.wcc.nrcs.usda.gov>

# Reservoir Storage as of January 1, 2016

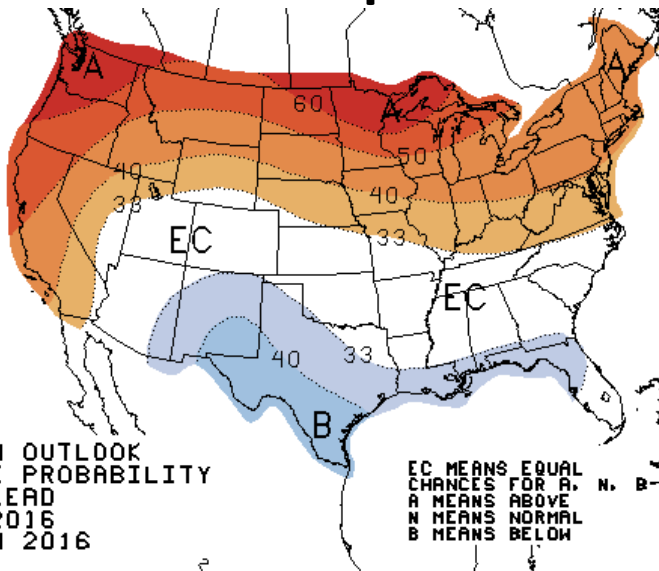
■ Below Average   ■ Above Average   ■ Average

Capacity of Reservoirs Reported (1000 Acre-Feet)



# Jan. 21 - Three-Month Outlook

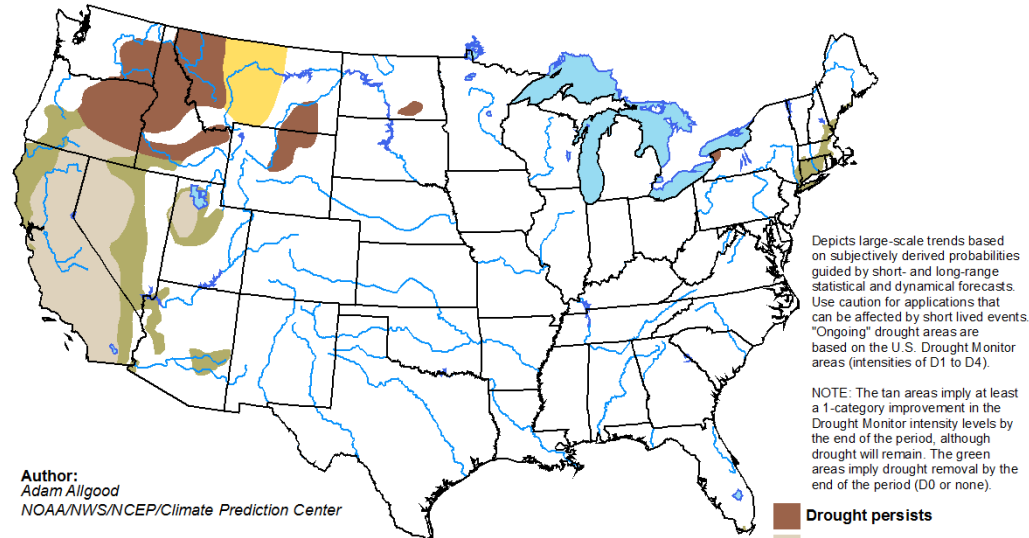
## Above Normal Temperatures



## Drought Persists/Intensifies

### U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

Valid for January 21 - April 30, 2016  
Released January 21, 2016



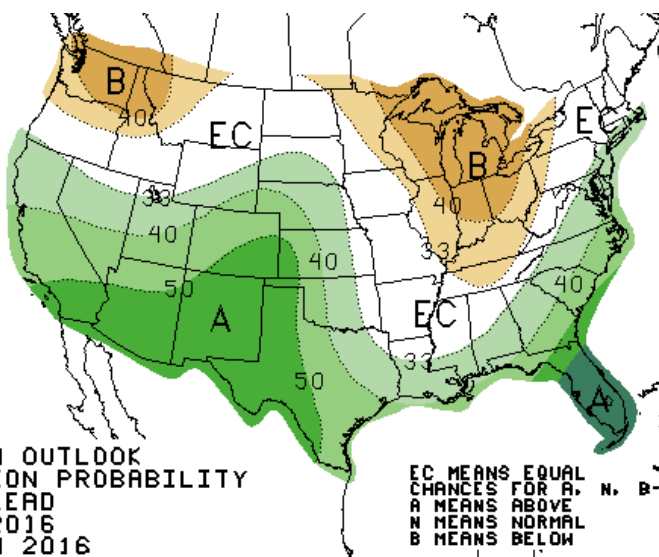
- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>



## Normal to Below Precipitation



- Drought persists
- Drought remains but improves
- Drought removal likely
- Drought development likely

# Drought Response and Resiliency

## Immediate

- WRD Drought Tools - Drought permits, transfers, etc.
- Water conservation - nonstructural

## Intermediate

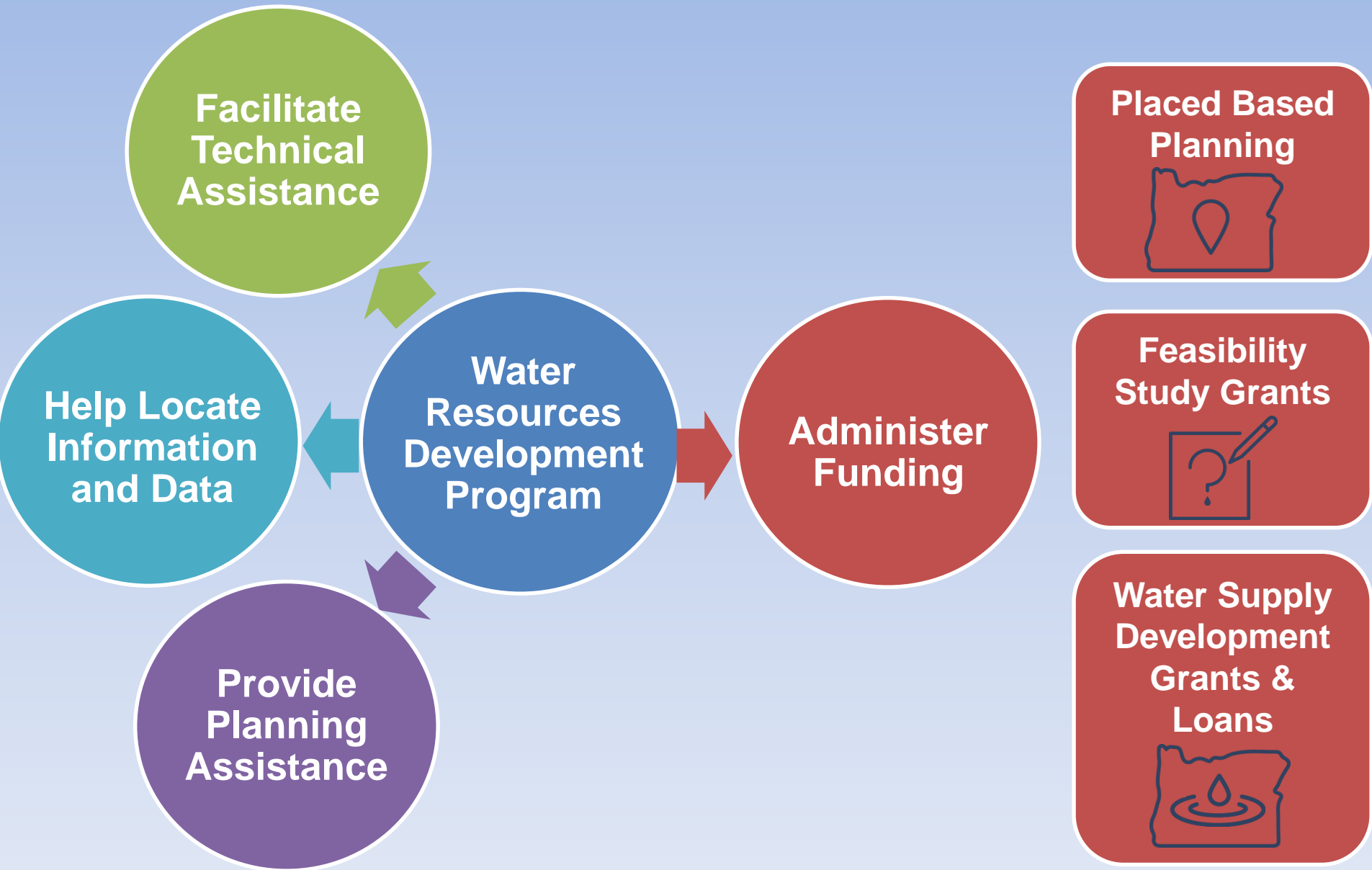
- Develop plans and agreements to activate during drought

## Long-Term

- Plan for long-term water needs
- Implement water resources projects



# Water Resources Development Program

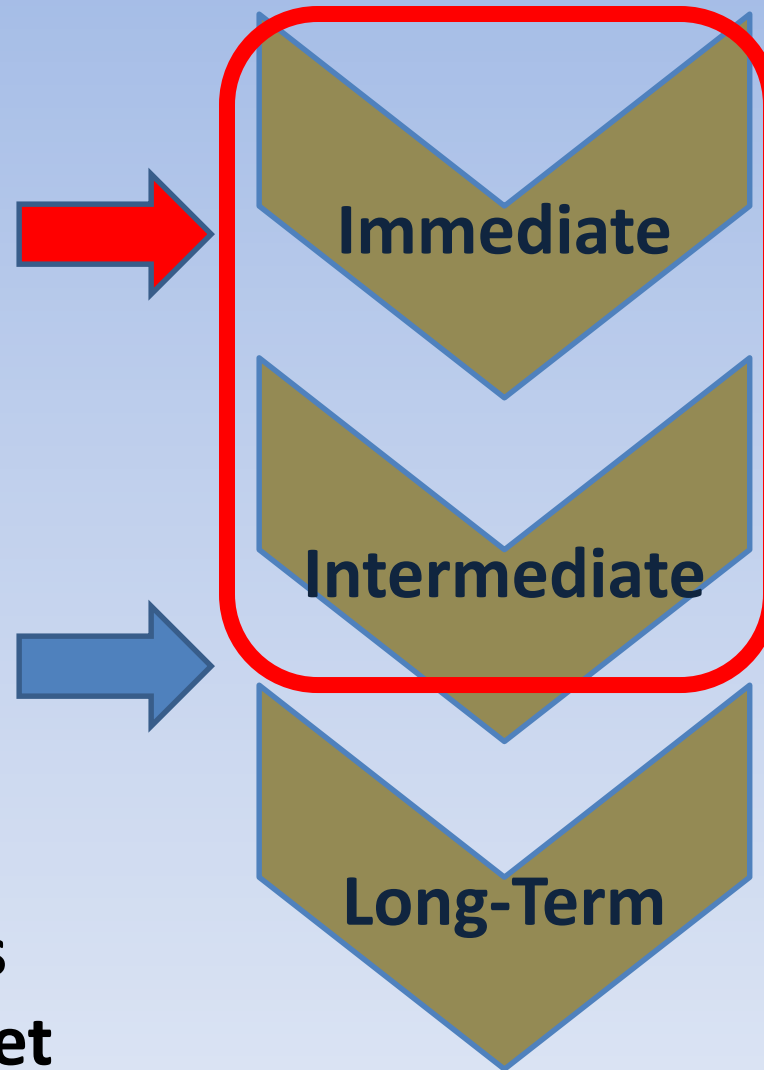


# Investments by Legislature

- Placed-Based Planning Grants \$750, 000
  - *15 applications totaling \$3.6 million*
- Feasibility Study Grants \$2.8 million
- Water Supply Development Grant/Loans \$14 million
  - *37 applications totaling +\$51 million*
- Water Development Loan Fund \$30 million
- Mosier Well Remediation Grants \$1 million
- Umatilla Basin Water Supply Projects \$11 million

# HB 4113- Task Force on Drought

- **Task Force: Do we have the tools necessary while a drought is occurring to respond effectively?**
  - Immediate to intermediate drought response tools
- **Water Resources Development Program**
  - Longer-term solutions
  - Understanding our water needs and identifying solutions to meet instream and out-of-stream needs.





# HB 4113- Task Force on Drought

- Worked with legislators and stakeholders
- Purpose: Research and evaluate potential tools to prepare for or deal with drought.
- Task force membership
  - Diverse set of interests represented on task force
  - Geographic representation
  - Governor and Legislative Leadership appointments of members
- Report to legislature November 1, 2016

# HB 4113- Task Force on Drought

**Activities may include, but not limited to:**

- **Evaluate existing drought emergency tools; recommend improvements for emergency response.**
- **Identify options to minimize drought emergency on agriculture, municipalities, fish and wildlife, other interests.**
- **Propose tools to assist small water providers to anticipate drought emergency risks and responses.**

# HB 4113 - Task Force on Drought

## Activities continued:

- Identify data and resources needed to anticipate and understand drought impacts.
- Recommend improvements to information sharing during drought.





# Questions?



**Contact:**  
**Racquel Rancier**  
**Senior Policy Coordinator**  
**Oregon Water Resources Department**  
**[Racquel.R.Rancier@state.or.us](mailto:Racquel.R.Rancier@state.or.us)**  
**503-986-0828**

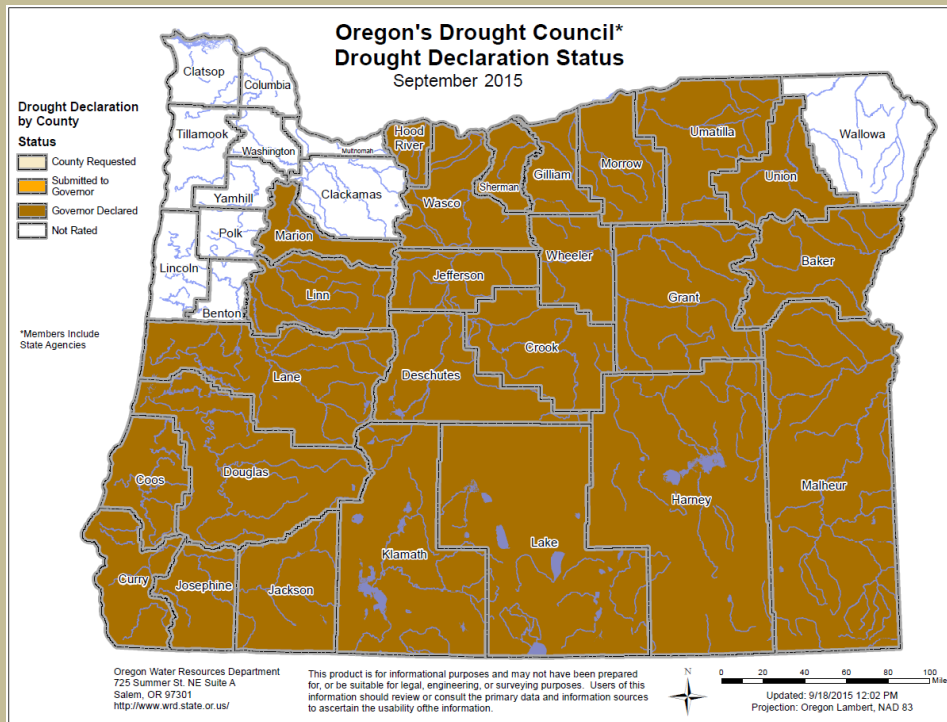


## Emergency Drought Declarations

## 2015 Drought Team

## Executive Order 15-09

- Agencies reduce water use by 15 percent by 2020
- Water conservation messaging
- Update the state's emergency plan for drought
- Incorporate drought into the 2017 Integrated Water Resources Strategy





# Drought's Broad Impacts

- Agriculture
- Irrigation
- Community Water Supplies
- Wildfires
- Fish
- Wildlife
- Recreation
- Groundwater



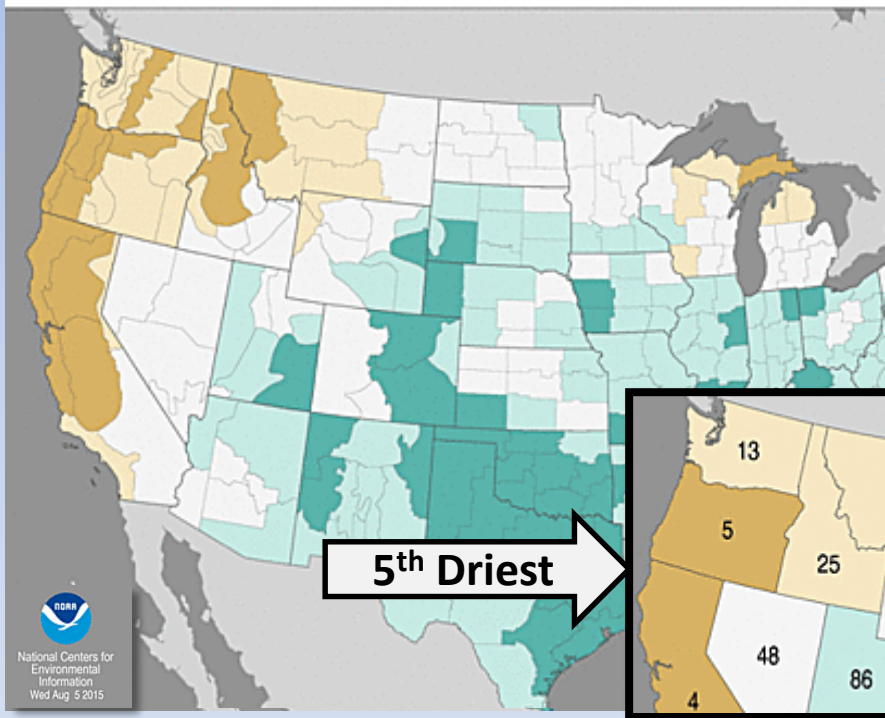
Malheur Reservoir in 2014

*Water is the foundation of our communities, economies, ecosystems, and general welfare.*

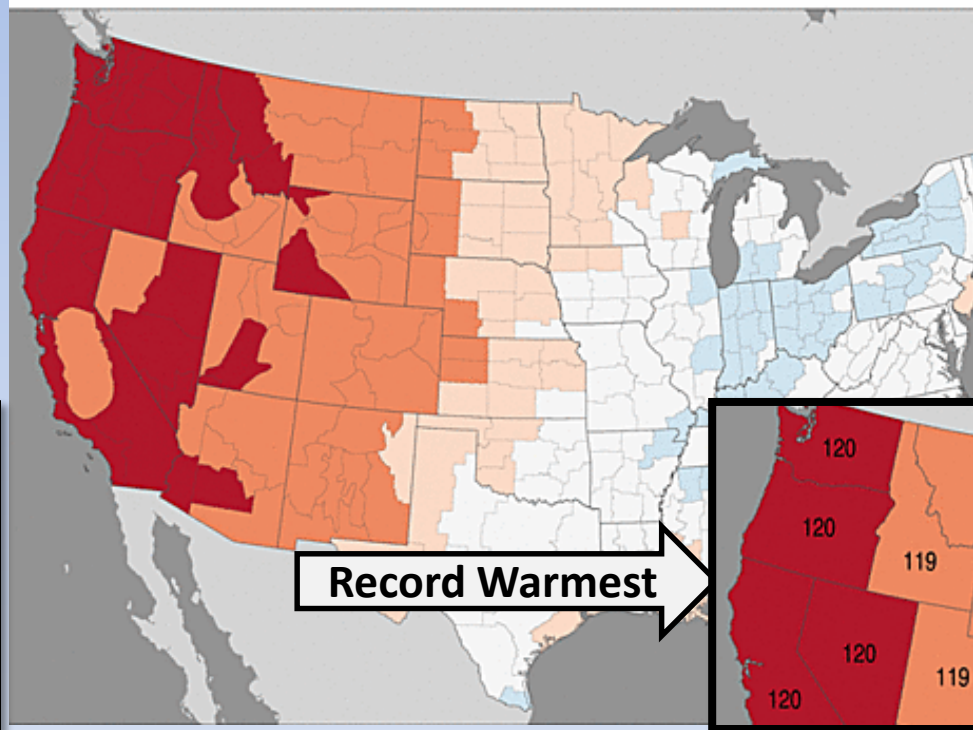


# Precipitation/Temperature Jan. - Sept.

**Divisional Precipitation Ranks**  
January–September 2015  
Period: 1895–2015



**Divisional Average Temperature Ranks**  
January–September 2015  
Period: 1895–2015

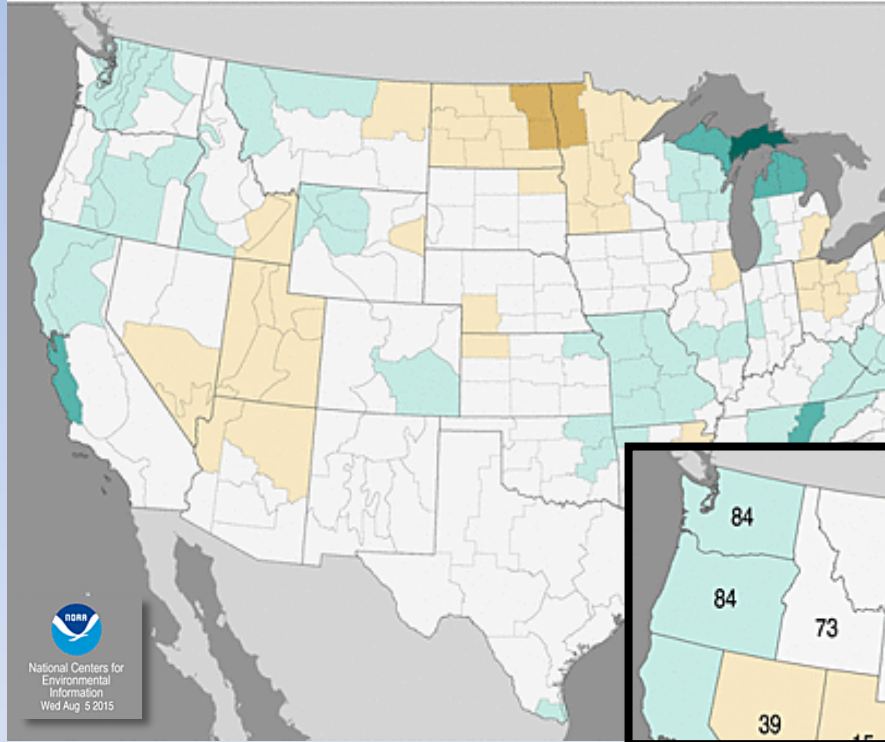


# Precipitation/Temperature Oct. - Dec.

## Divisional Precipitation Ranks

October–December 2014

Period: 1895–2014



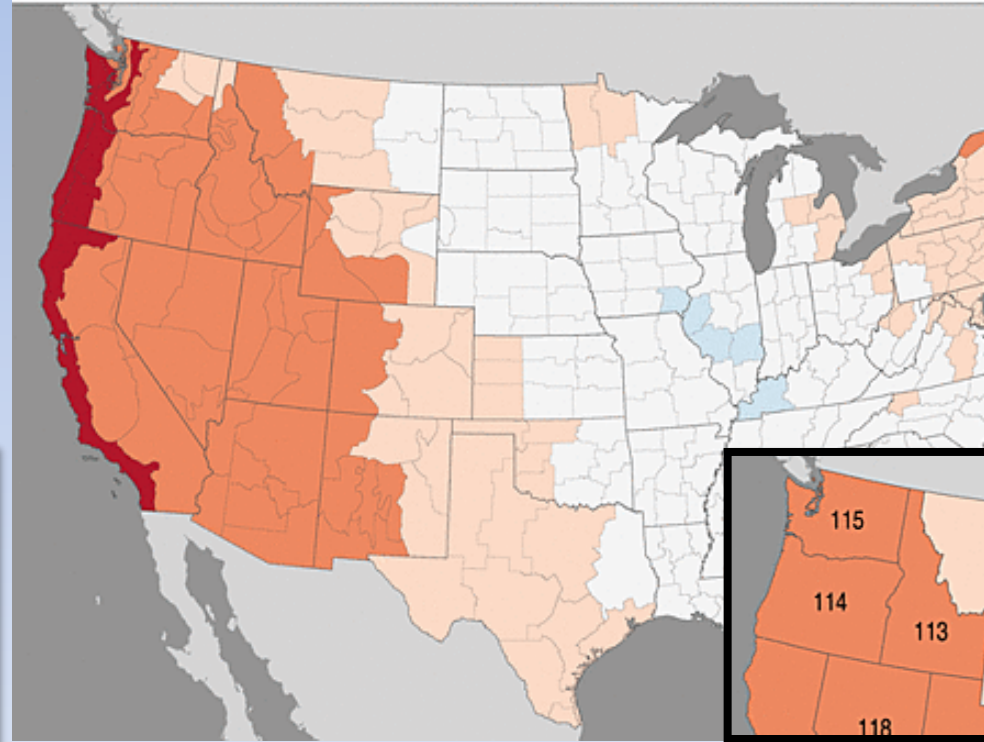
National Centers for Environmental Information  
Wed Aug 5 2015



## Divisional Average Temperature Ranks

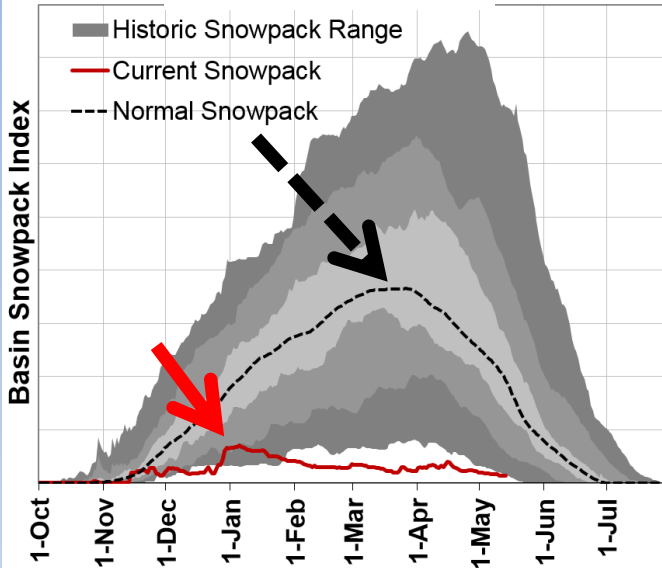
October–December 2014

Period: 1895–2014

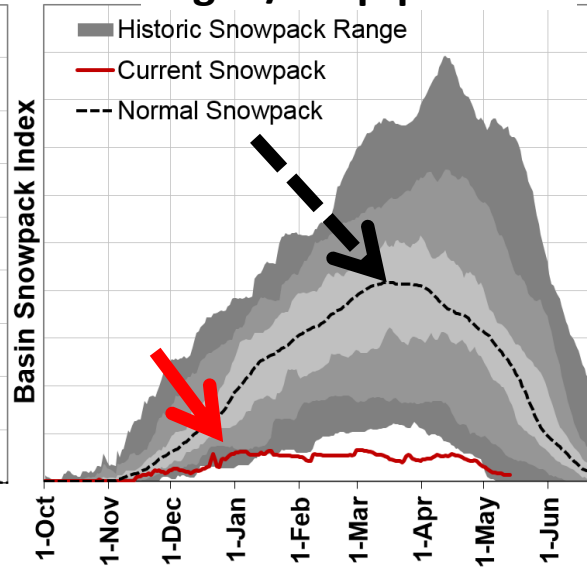


# Record Low Snowpack & Early Peaks

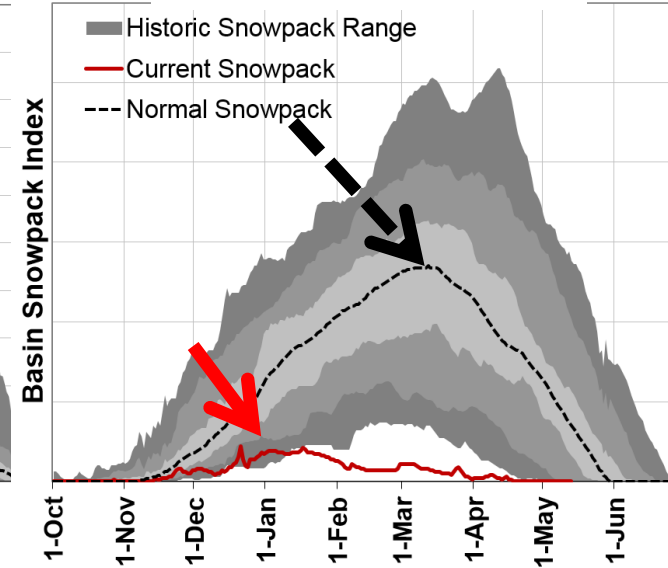
## Willamette



## Rogue/Umpqua

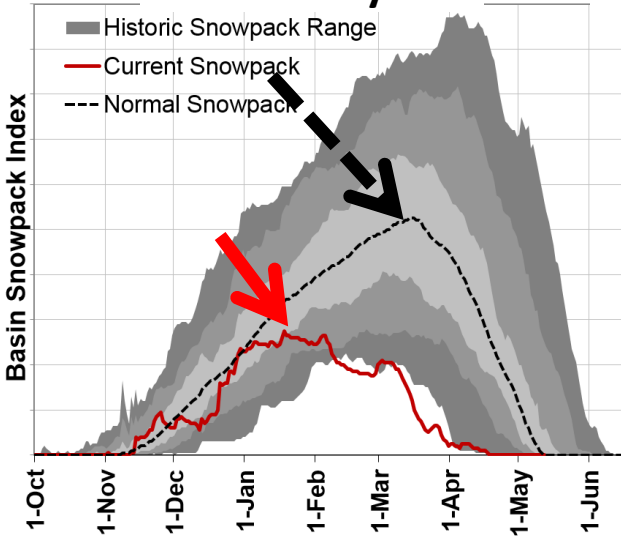


## Klamath

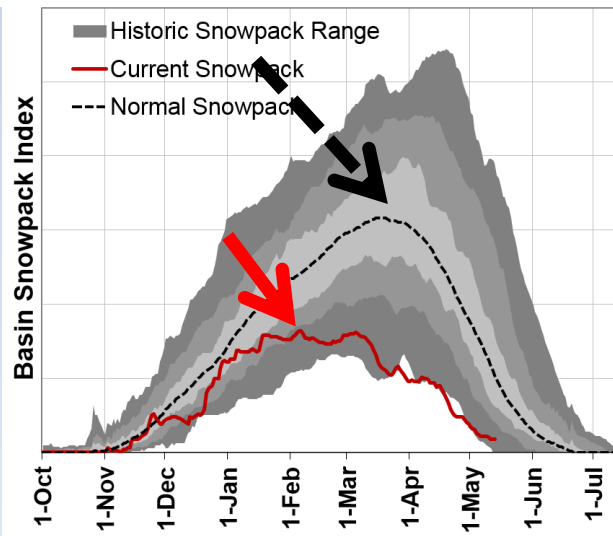


 **NRC** Natural Resources Conservation Service

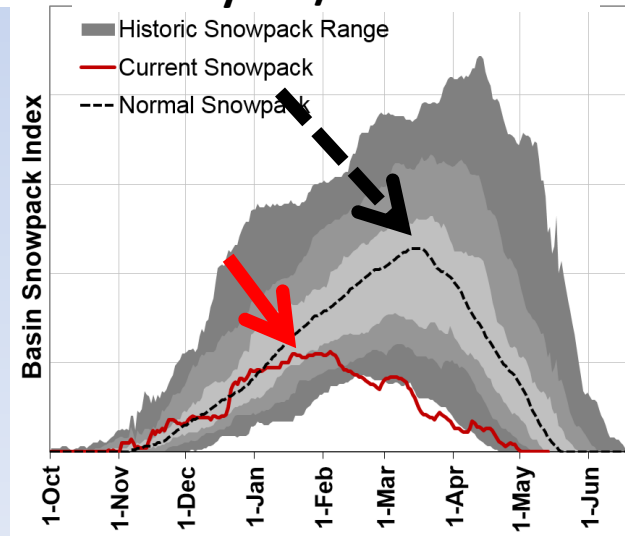
## John Day



## Grande Ronde/Powder/Burnt

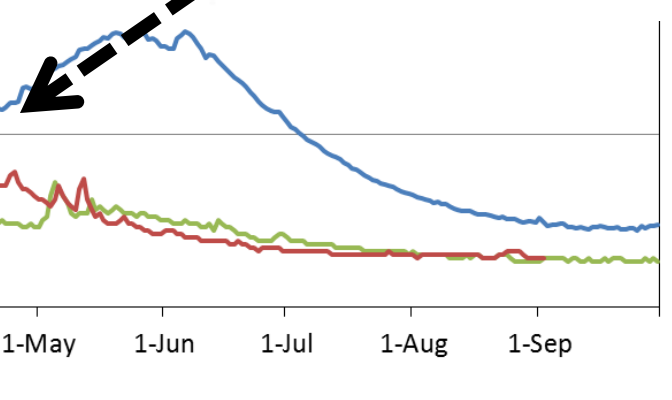
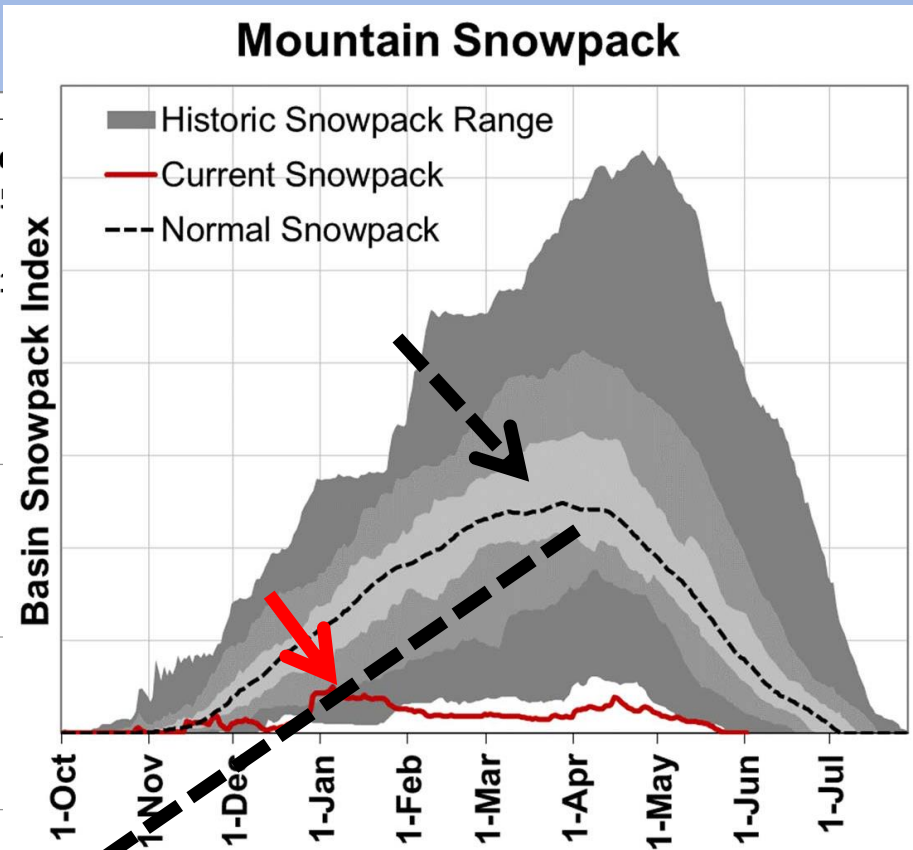
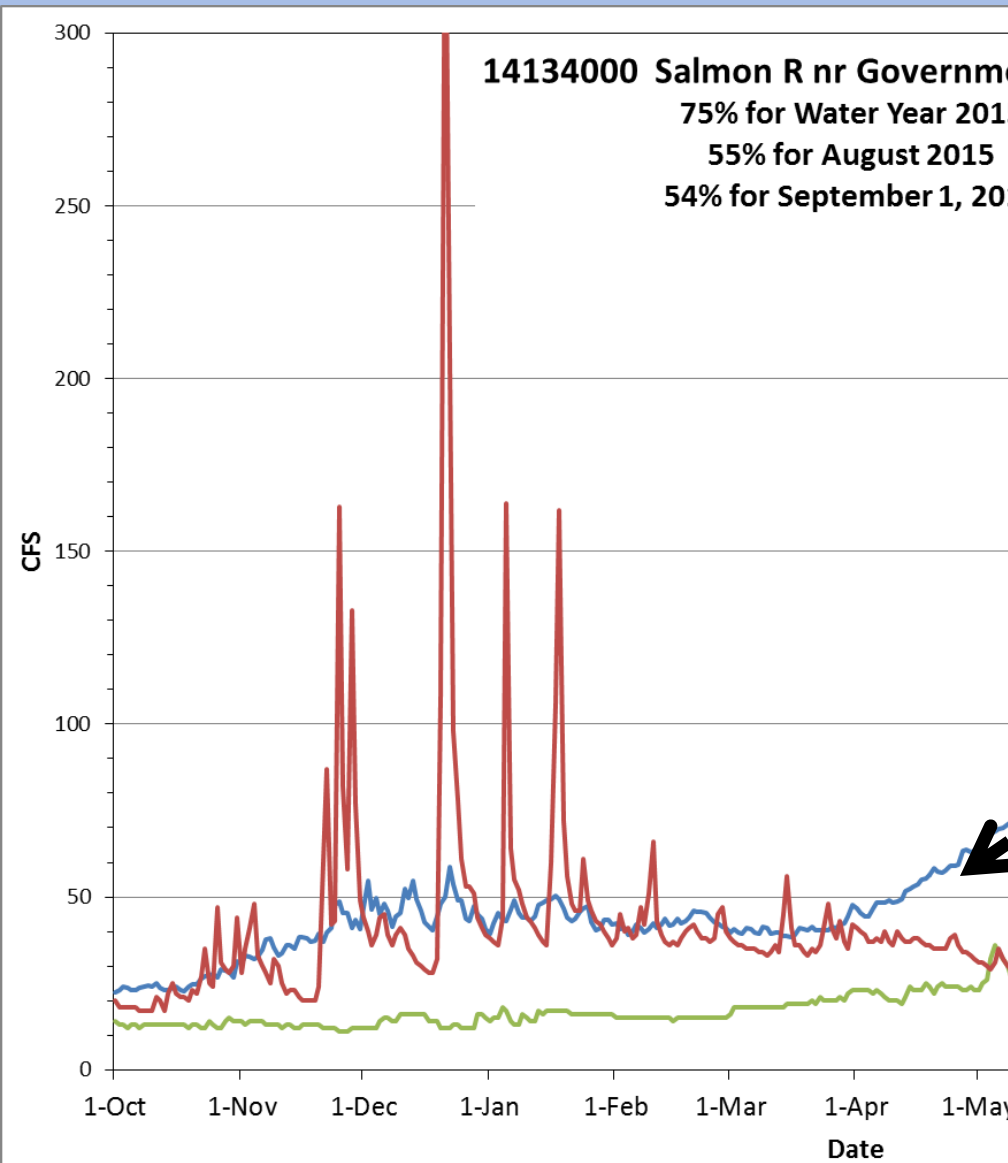


## Owyhee/Malheur

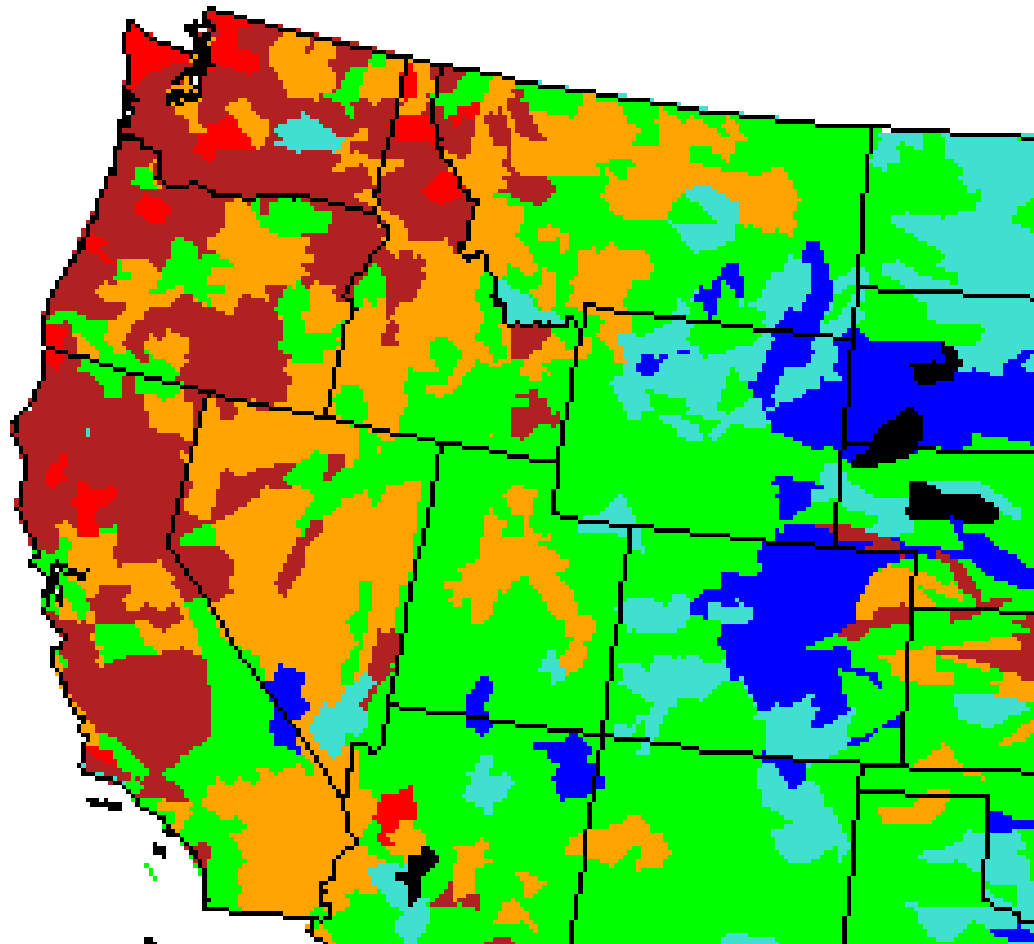




# Snowpack as a Storage Reservoir



# Lower than Normal Streamflows



 USGS

June 2015

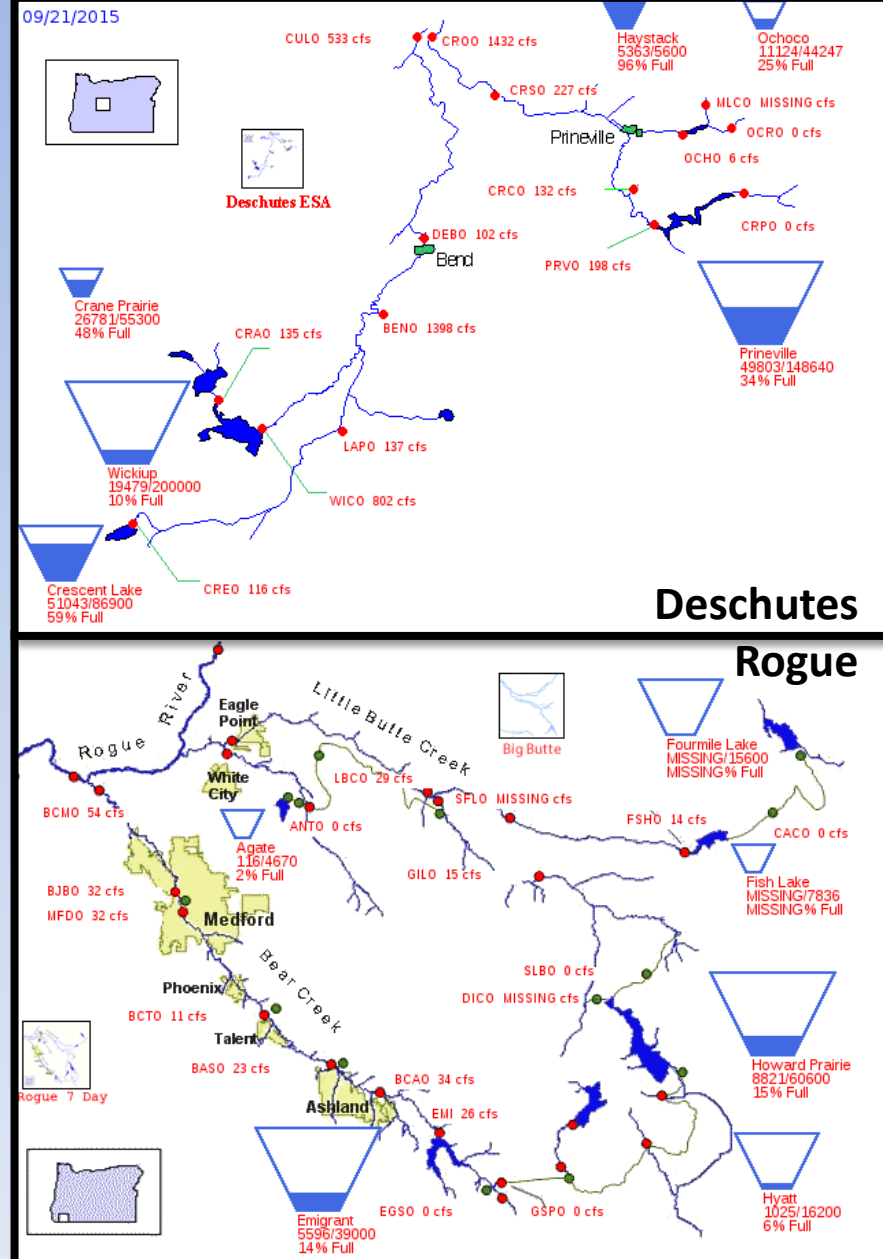


# Reservoir Storage

Reservoirs drawn down much lower and earlier this year

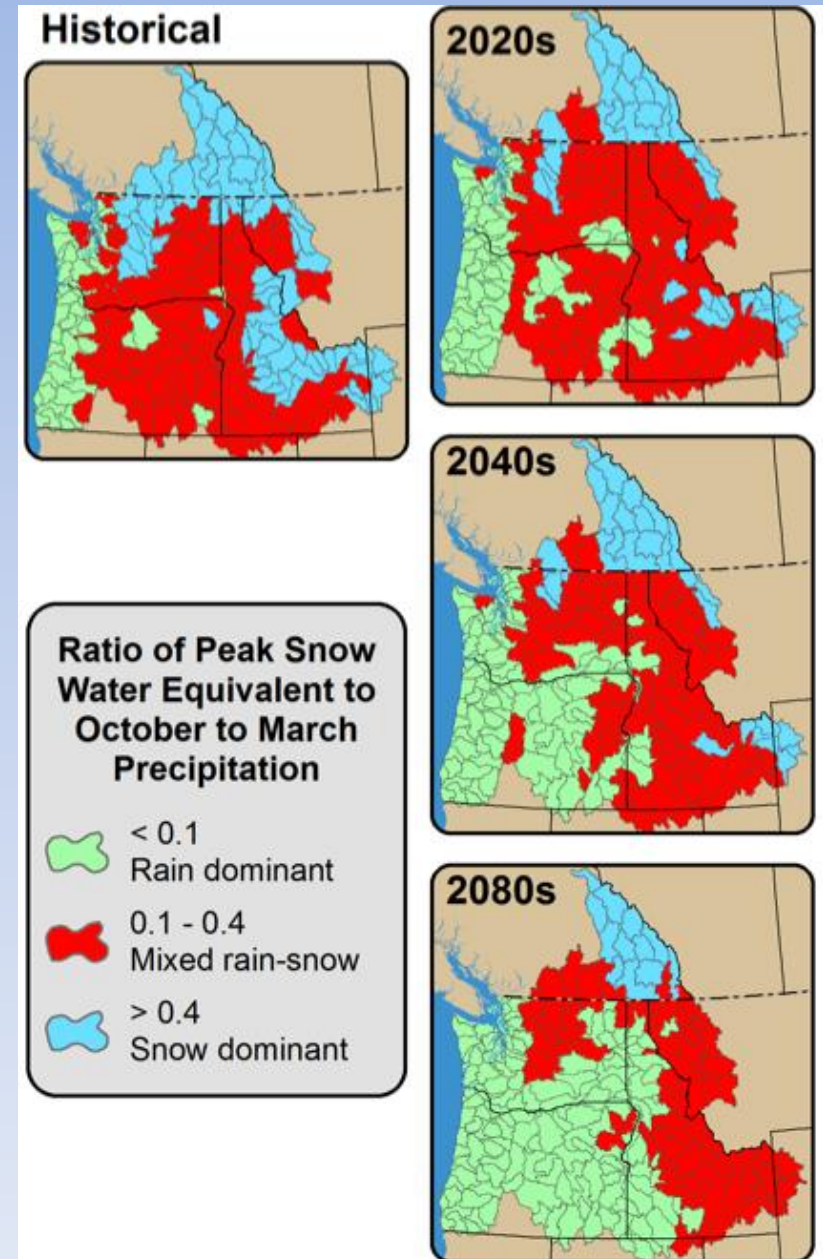
Project Basin	Percent of Average for August (%)
Deschutes	74%
Umatilla	67%
Eastern	6%
Rogue	35%
Willamette	30%
<b>Total</b>	<b>32%</b>

Data: Corps and Bureau Projects



# Predictions of Changing Hydrograph

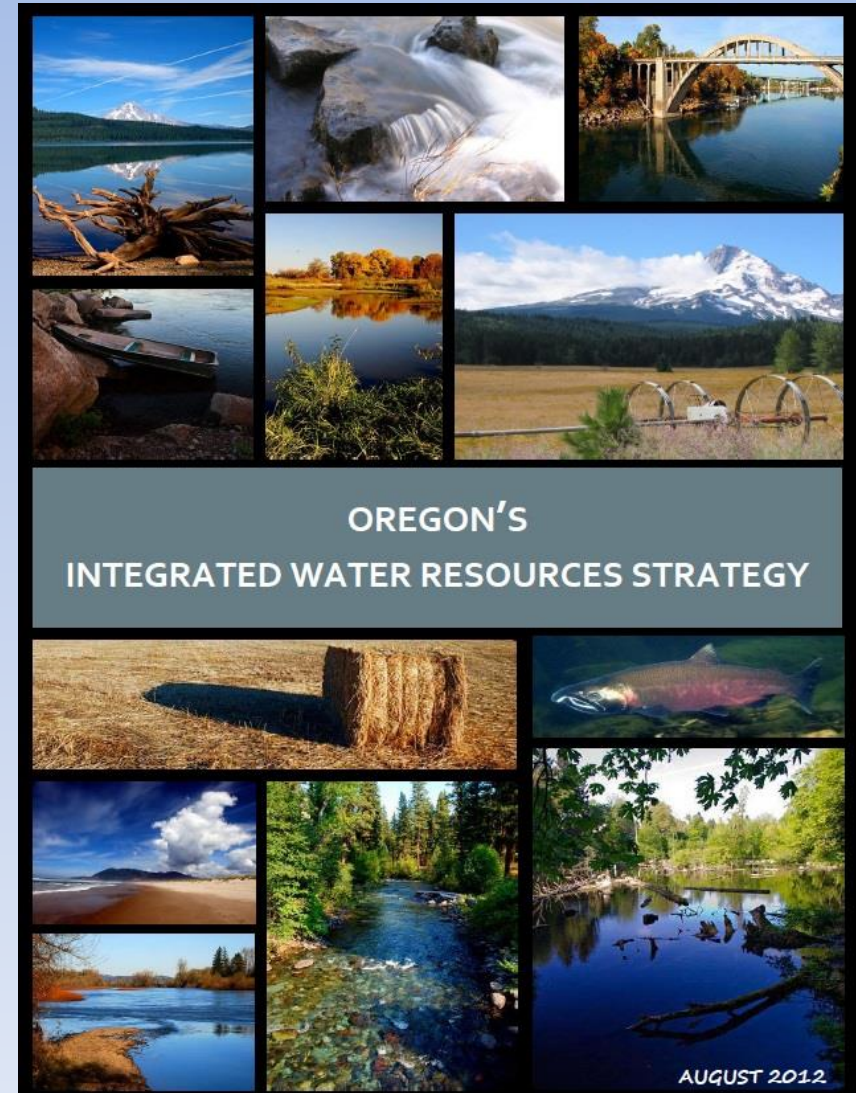
- Warmer temperatures
- Precipitation arriving as rain instead of snow:
  - flashier flood-prone systems
  - decreased summertime run-off to surface water
  - reduced recharge to groundwater aquifers
- ***2015 looked similar to these future projections***





# Integrated Water Resources Strategy

- Recommended actions to:
  - Understand water resources today
  - Understand instream and out-of-stream needs
  - Understand the coming pressures that affect our needs and supplies
  - Meet Oregon's instream and out-of-stream needs



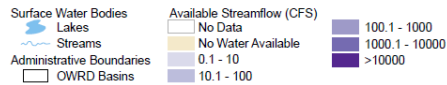
# Surface Water

## Water availability for live flow allocation in August

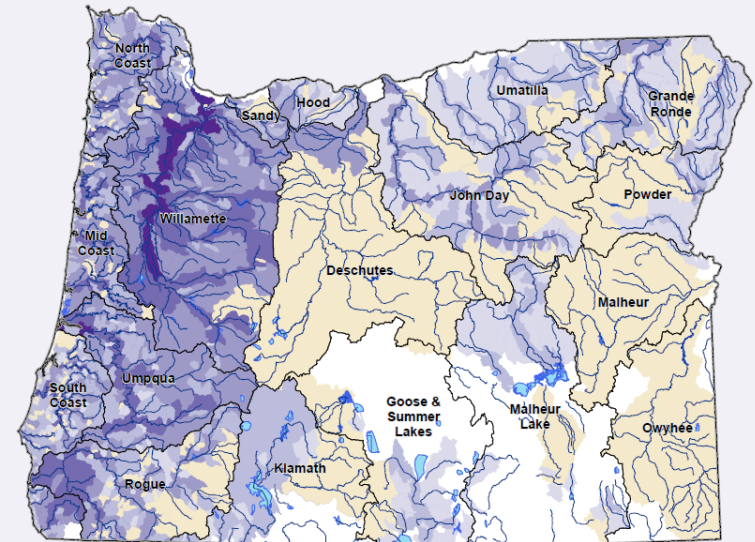


**August Available Streamflow  
Calculated at 80% Exceedance**

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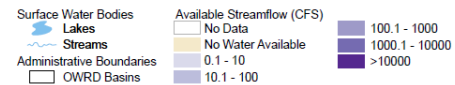


## Water availability for storage in January



**January Available Streamflow  
Calculated at 50% Exceedance**

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# Groundwater

