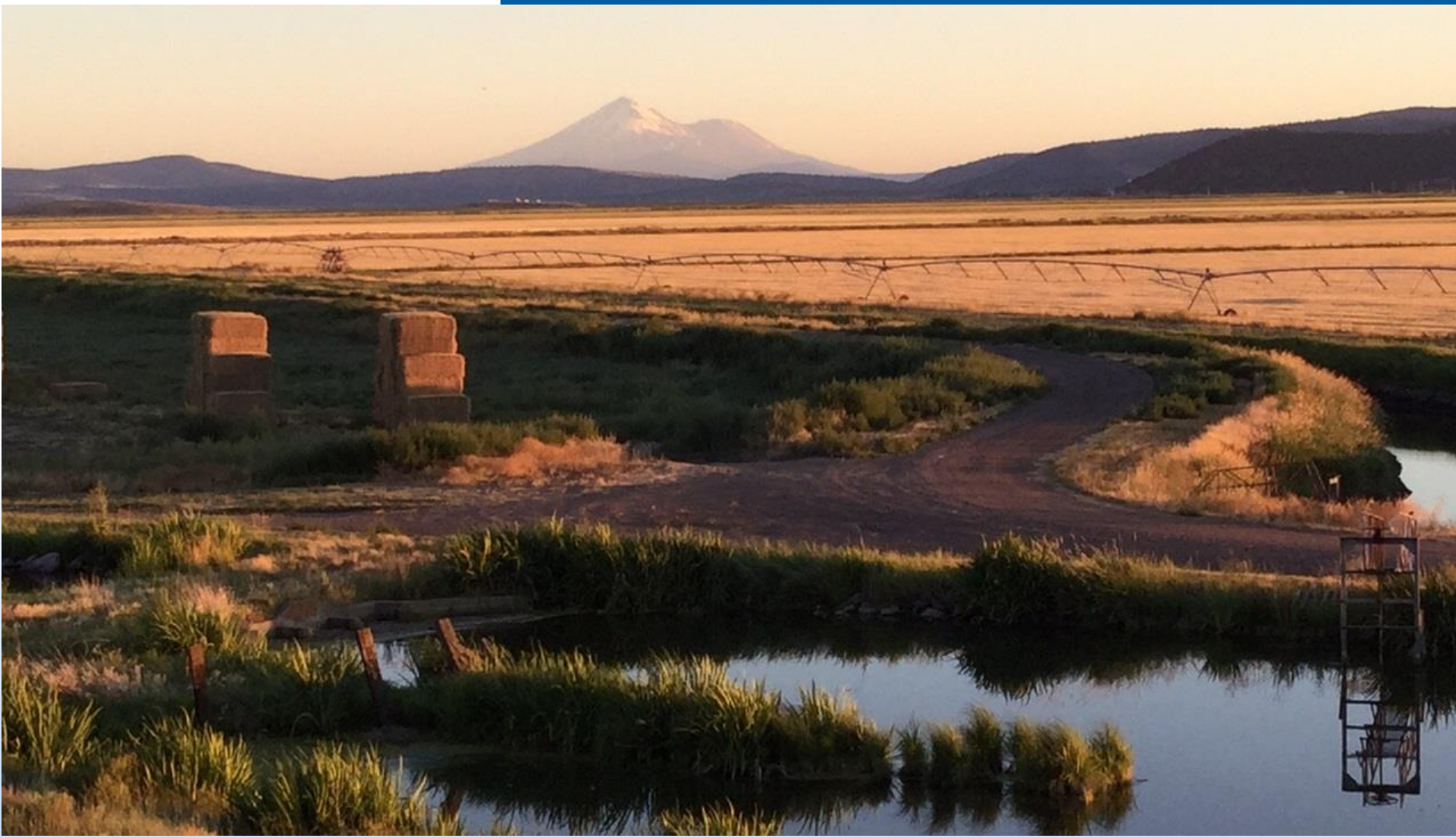
OREGON WATER RESOURCES DEPARTMENT

Water 101



Tom Byler, Director, Oregon Water Resources Department

OREGON WATER RESOURCES DEPARTMENT

Department Overview

- **Mission: To serve the public by practicing and promoting responsible water management.**
- **Goals:**
  - **To directly address Oregon's water supply needs**
  - **To restore and protect streamflows and watersheds…**

21 Districts in 5 Regions
~167 staff (2017-19)
~110,000+ miles of streams
~89,000 water rights
~230,000+ wells
~970 dams (non-federal)
~260 stream gaging stations
~1,270+ observation wells

OREGON WATER RESOURCES DEPARTMENT

Commission and Department

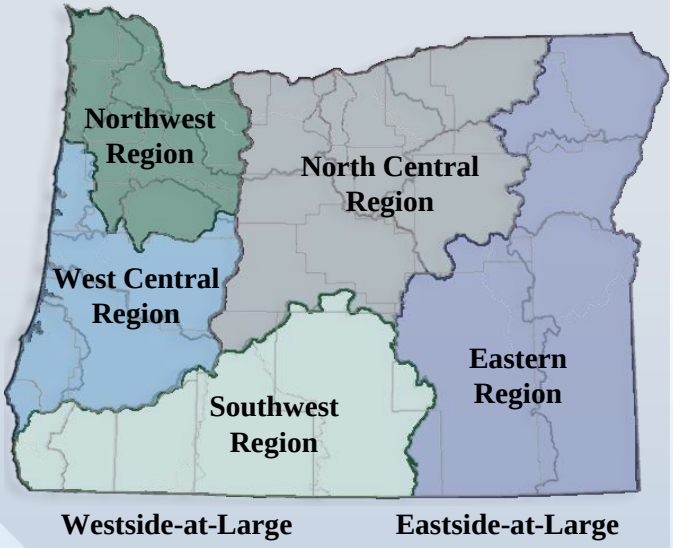
Governor

Director

Water Resources Commission

Water Resources Department

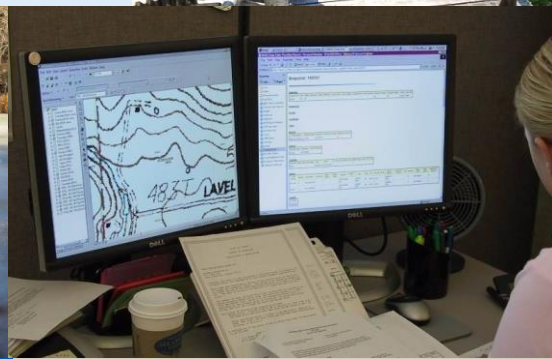
- Director's Office
- Field Services
- Water Right Services
- Administrative Services
- Technical Services



OREGON WATER RESOURCES DEPARTMENT

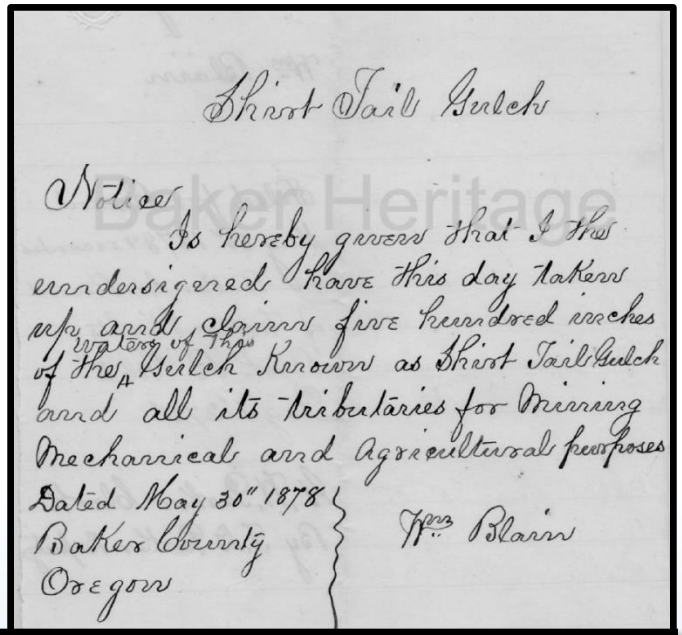
Key Responsibilities

- Collecting, analyzing, and providing data
- Protecting public safety
- Distributing water under the system of prior appropriation
- Providing planning, technical assistance, and funding to address water supply needs
- Processing water rights transactions



Challenge: History and Complexity of the Laws

- Statehood 1859
- 1909 Water Code
- (1927) 1955 Groundwater Code
- (1955) 1987 Instream Water Rights Act
- 2015 formation of Water Resources Development Program

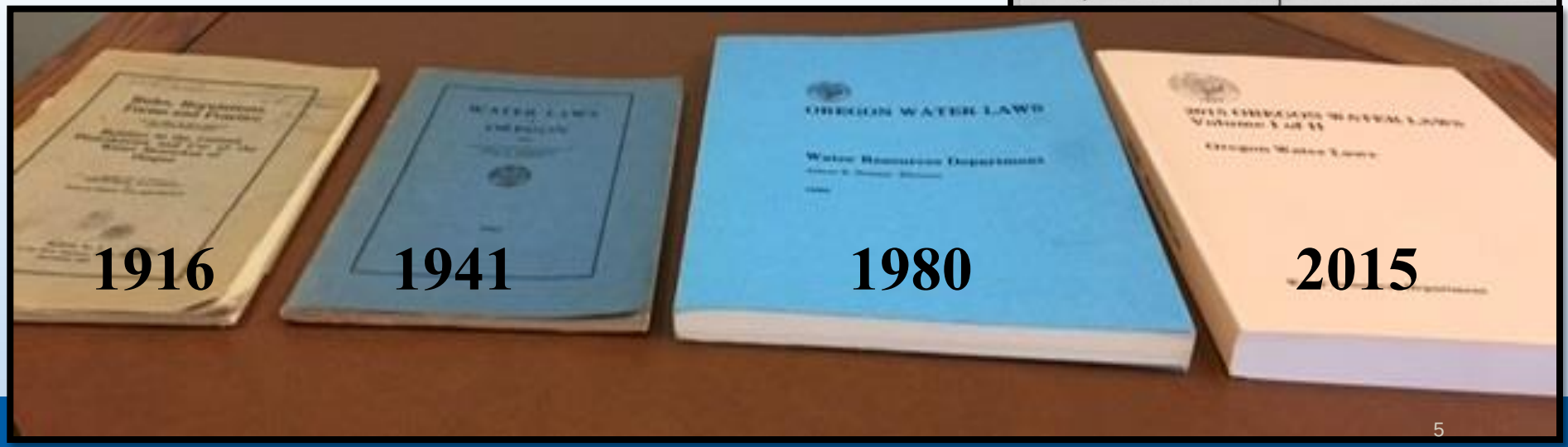

Shirt Tail Gulch

Notice

Is hereby given that I the undersigned have this day taken up and claim five hundred inches of the water of the Gulch known as Shirt Tail Gulch and all its tributaries for Mining Mechanical and Agricultural purposes

Dated May 30th 1878
Baker County
Oregon

Wm Blair



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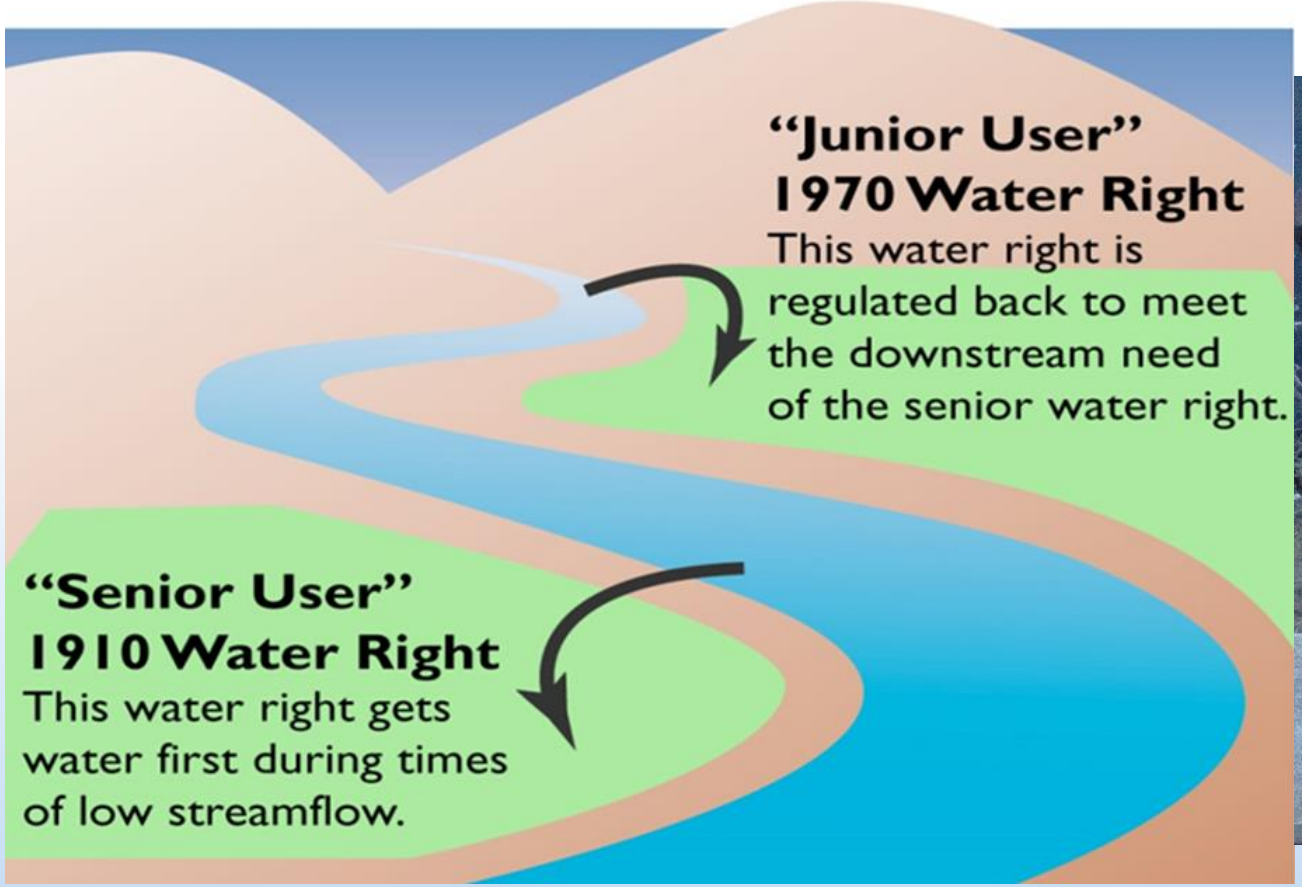
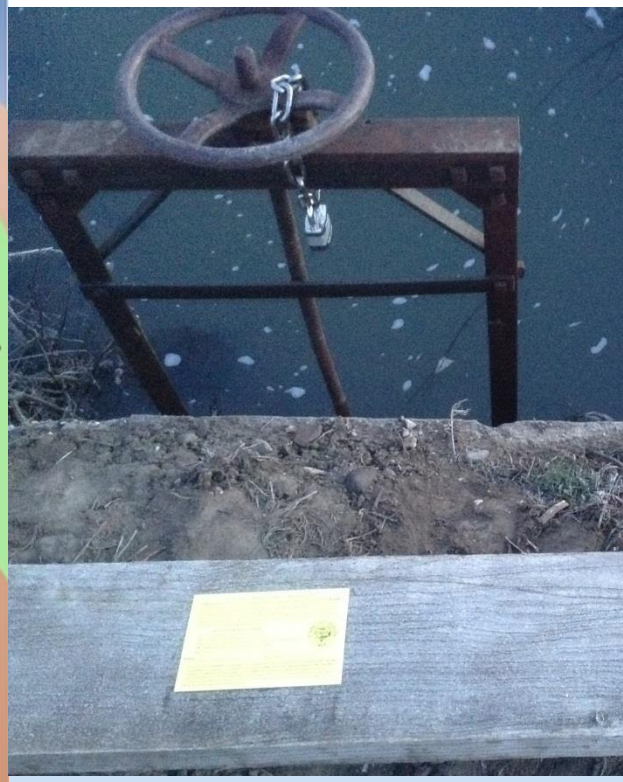
First in Time, First in Right

Regulation to some extent occurs every year.





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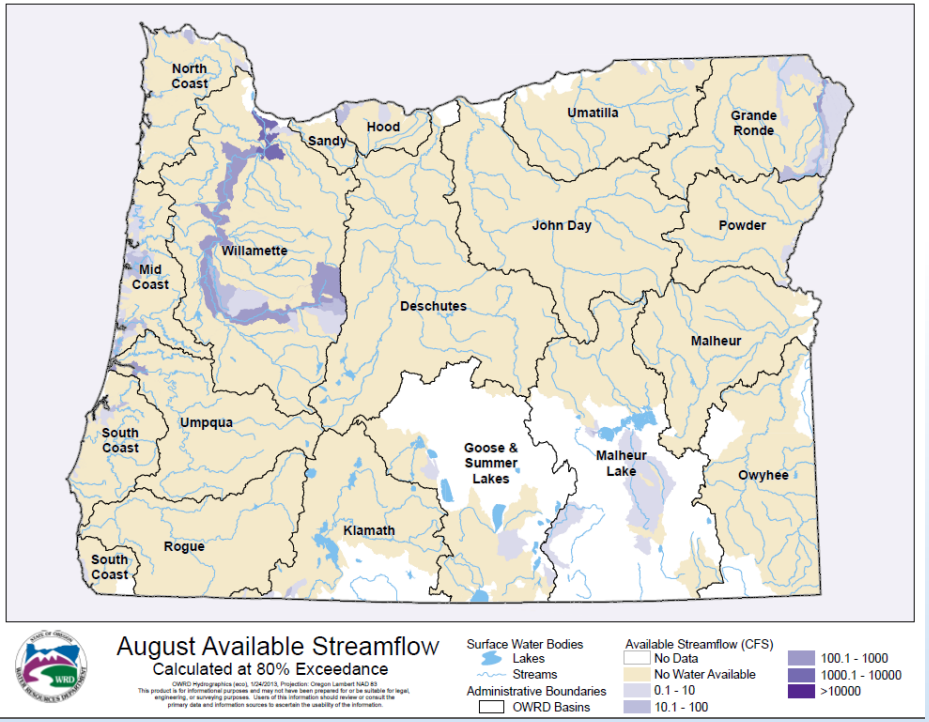
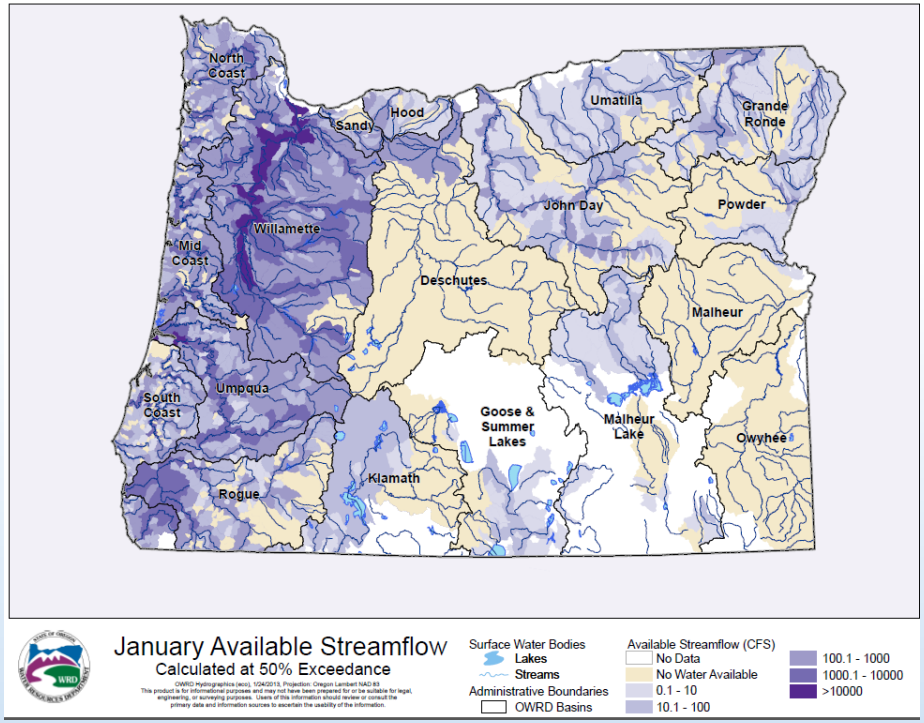
Era of Water Scarcity

Water availability for live flow allocation in August



Water availability for storage in January



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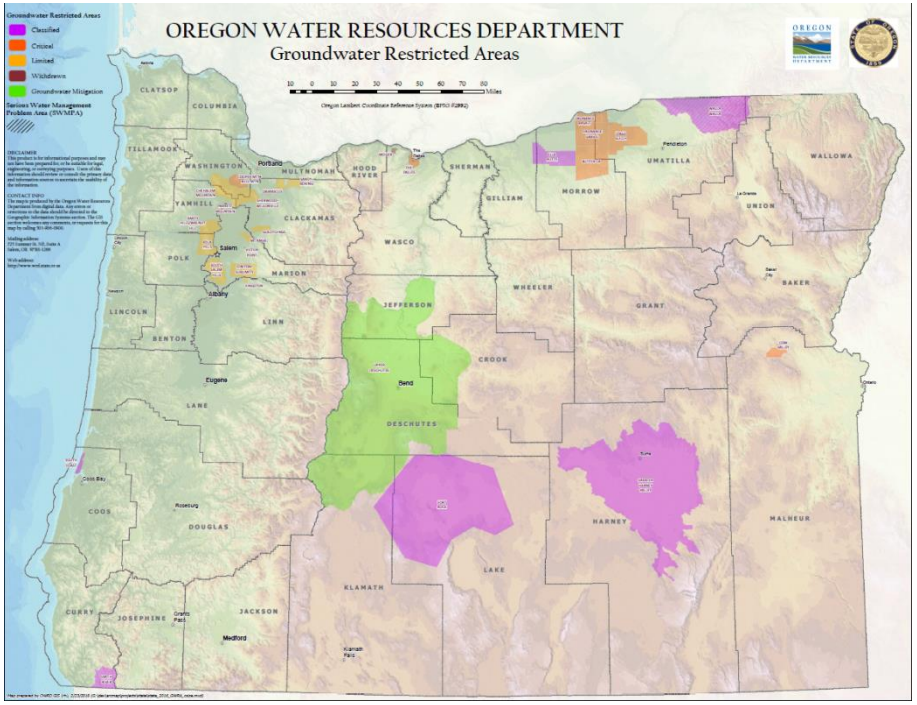
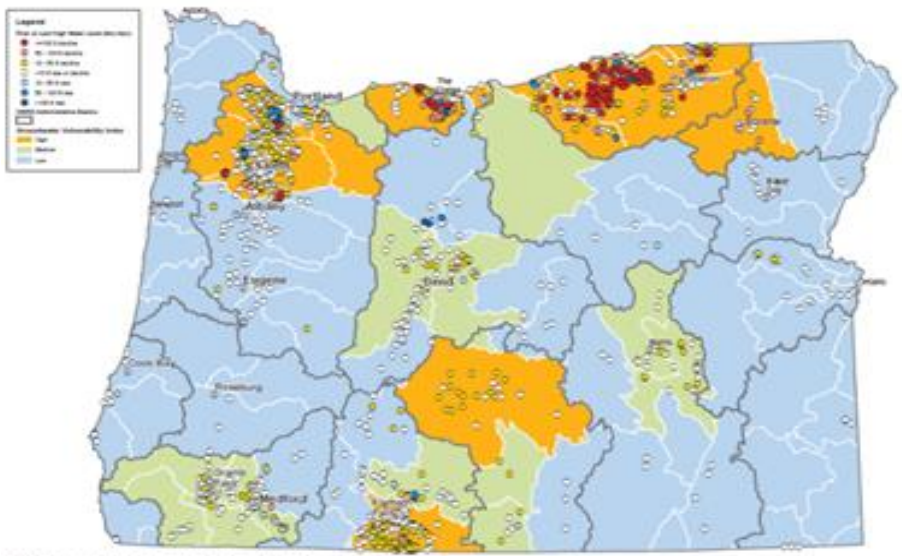
Era of Water Scarcity

Groundwater Restricted Areas



Groundwater Areas of Concern



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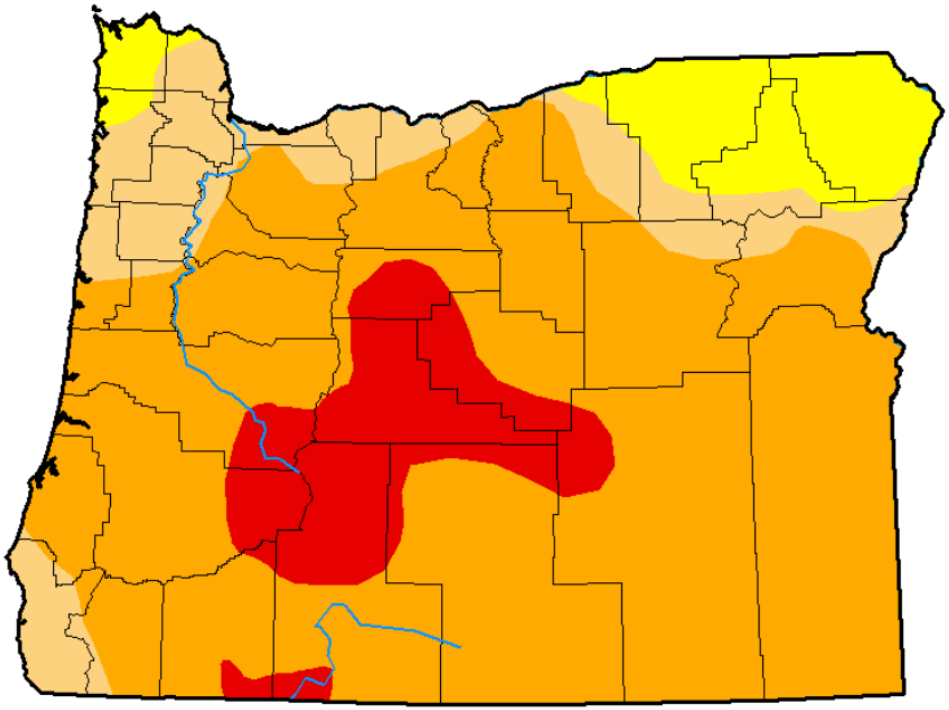
Era of Water Scarcity

US Drought Monitor
January 22, 2019



Intensity:

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

USDA NDMC

http://droughtmonitor.unl.edu/

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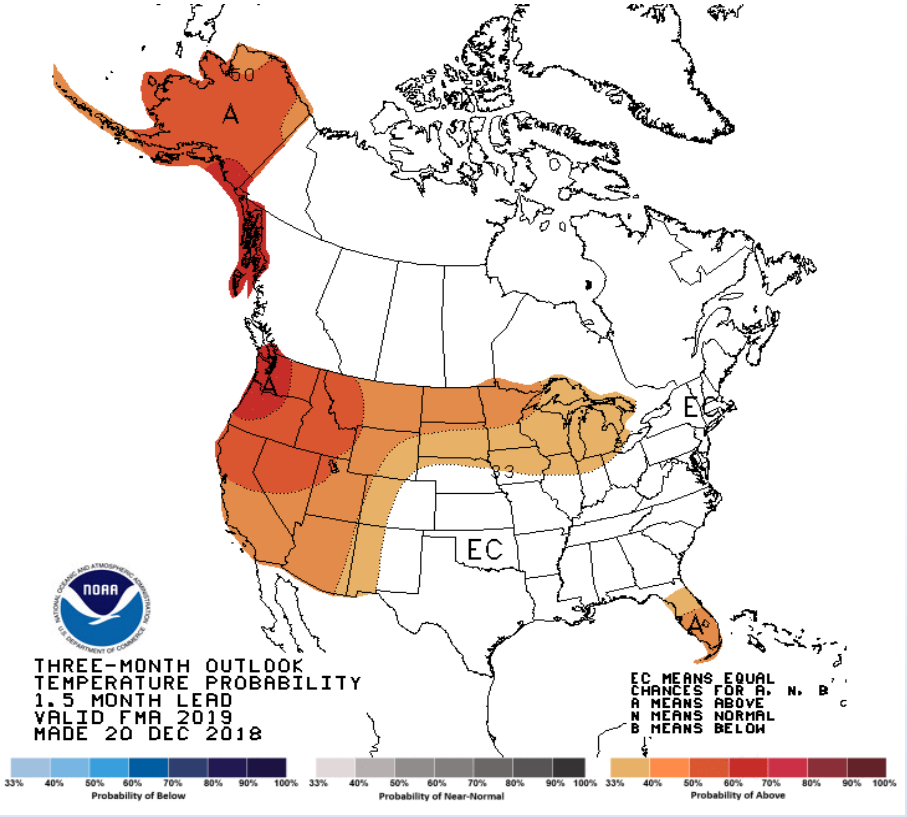
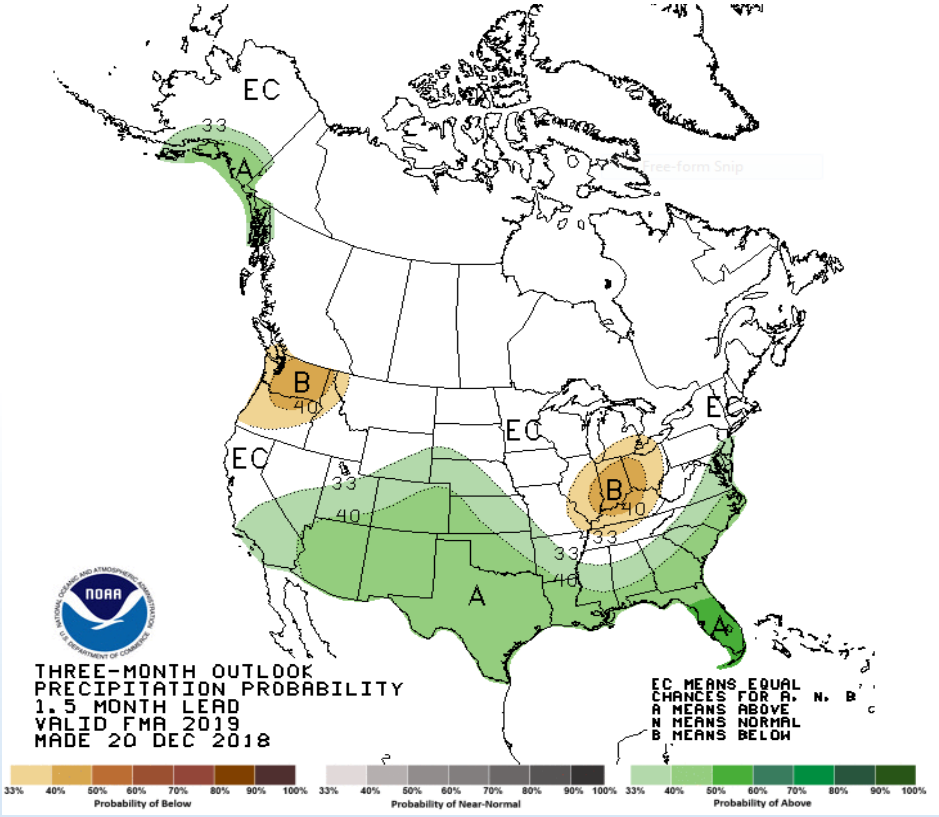
Three-Month Outlook





USDA NDMC NOAA

http://droughtmonitor.unl.edu/

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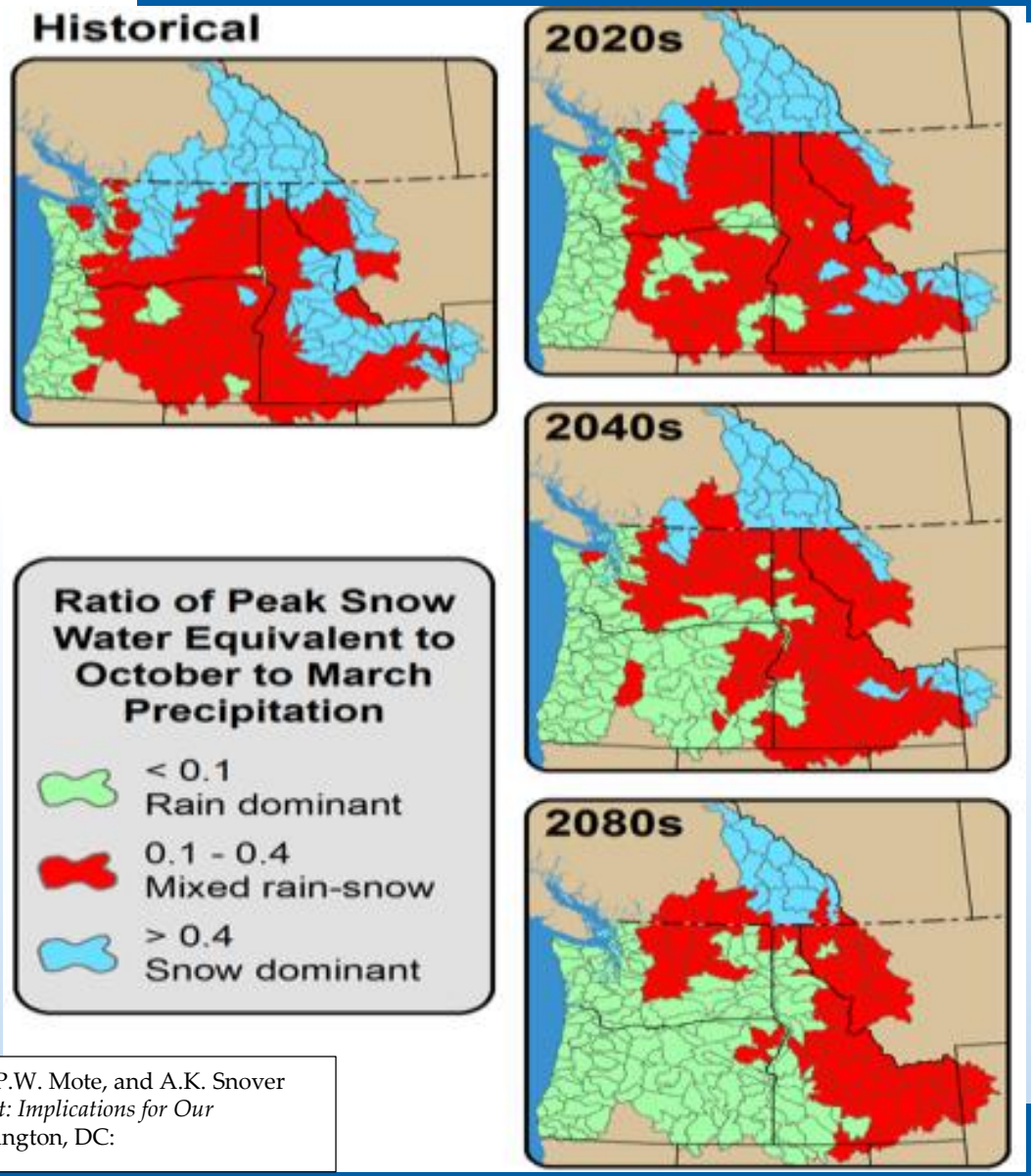
Climate and Loss of Snowpack



Hamlet et al. 2013, as cited in Dalton, M.M., P.W. Mote, and A.K. Snover [Eds.]. 2013. *Climate Change in the Northwest: Implications for Our Landscapes, Waters, and Communities.* Washington, DC: Island Press.

OREGON WATER RESOURCES DEPARTMENT

Strategies: 2017 IWRS

Oregon's 2017 Integrated Water Resources Strategy

A framework for improving our understanding of Oregon's water resources and meeting our instream and out-of-stream needs, including water quantity, water quality, and ecosystem needs

(1) Understand Water Resources Today

CRITICAL ISSUES

- Further Understand Limited Water Supplies & Systems (groundwater, surface water, and their interaction)
- Improve Water Quality & Quantity Information
- Further Understand Our Water Management Institutions

RECOMMENDED ACTIONS

Understanding Water Resources / Supplies / Institutions

- 1.A Conduct additional groundwater investigations
- 1.B Improve water resource data collection & monitoring
- 1.C Coordinate inter-agency data collection, processing, and use in decision-making

OBJECTIVES

(2) Understand Instream and Out-of-Stream Needs

CRITICAL ISSUES

- Further Define Out-of-Stream Needs / Demands (i.e., diverted water)
- Further Define Instream Needs / Demands (i.e., left-in-place water)

RECOMMENDED ACTIONS

Understanding Oregon's Out-of-Stream Needs/Demands

- 2.A Regularly update long-term water demand forecasts
- 2.B Improve water-use measurement & reporting
- 2.C Determine unadjudicated water right claims
- 2.D Authorize the update of water right records with contact information
- 2.E Regularly update Oregon's water-related permitting guide

Understanding Oregon's Instream Needs/Demands

- 3.A Determine flows needed (quality & quantity) to support instream needs
- 3.B Determine needs of groundwater dependent ecosystems

(3) Understand the Coming Pressures That Affect Our Needs and Supplies

OBJECTIVES

CRITICAL ISSUES

- Economic Development
- Water & Energy
- Climate Change
- Extreme Events
- Population Growth
- Water & Land Use
- Water-Related Infrastructure
- Education & Outreach

RECOMMENDED ACTIONS

Water & Energy

- 4.A Analyze the effects on water from energy development projects & policies
- 4.B Take advantage of existing infrastructure to develop non-traditional hydroelectric power
- 4.C Promote strategies that increase/integrate energy & water savings

Climate Change

- 5.A Support continued basin-scale climate change research efforts
- 5.B Assist with climate change adaptation & resiliency strategies

Extreme Events

- 5.5A Plan and prepare for drought resiliency
- 5.5B Plan and prepare for flood events
- 5.5C Plan and prepare for a Cascadia subduction earthquake event

Economic Development & Population Growth

(See Actions 2A and 3A)

Water & Land Use

- 6.A Improve integration of water information into land use planning (and vice versa)
- 6.B Improve state agency coordination
- 6.C Encourage low-impact development practices and green infrastructure

Water-Related Infrastructure

- 7.A Develop and upgrade water and wastewater infrastructure
- 7.B Encourage regional (sub-basin) approaches to water and wastewater systems
- 7.C Ensure public safety/dam safety

Education and Outreach

- 8.A Support Oregon's K-12 environmental literacy plan
- 8.B Provide education and training for Oregon's next generation of water experts
- 8.C Promote community education and training opportunities
- 8.D Identify ongoing water-related research needs

(4) Meet Oregon's Instream and Out-of-Stream Needs

OBJECTIVES

CRITICAL ISSUES

- Place-Based Efforts
- Water Management & Development
- Healthy Ecosystems
- Public Health
- Funding

RECOMMENDED ACTIONS

Place-Based Efforts

- 9.A Continue to undertake place-based integrated, water resources planning
- 9.B Coordinate implementation of existing natural resource plans
- 9.C Partner with federal agencies, tribes, and neighboring states in long-term water resources management

Water Management & Development

- 10.A Improve water-use efficiency and water conservation
- 10.B Improve access to built storage
- 10.C Encourage additional water reuse projects
- 10.D Reach environmental outcomes with non-regulatory alternatives
- 10.E Continue the water resources development program
- 10.F Provide an adequate presence in the field
- 10.G Strengthen water quantity & water quality permitting programs

Healthy Ecosystems

- 11.A Improve watershed health, resiliency, and capacity for natural storage
- 11.B Develop additional instream protections
- 11.C Prevent and eradicate invasive species
- 11.D Protect and restore instream habitat and habitat access for fish and wildlife
- 11.E Develop additional groundwater protections

Public Health

- 12.A Ensure the safety of Oregon's drinking water
- 12.B Reduce the use of and exposure to toxics and other pollutants
- 12.C Implement water quality pollution control plans

Funding

- 13.A Fund development and implementation of Oregon's IWRS
- 13.B Fund water resources management activities at state agencies
- 13.C Invest in local or regional water planning efforts
- 13.D Invest in feasibility studies for water resources projects
- 13.E Invest in implementation of water resources projects

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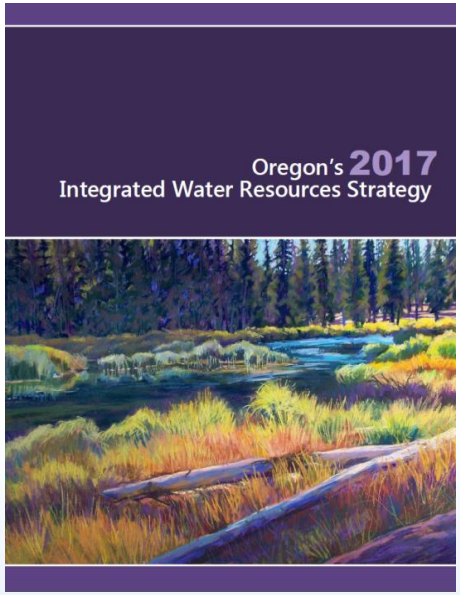
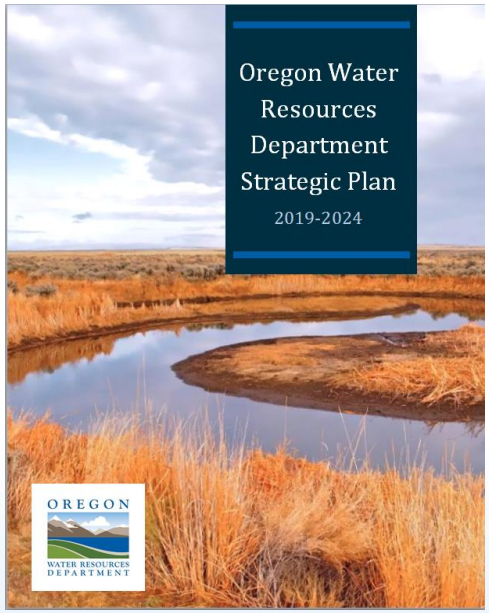
Preparing for our Water Future





Water law is deeply rooted in Oregonians' livelihoods, cultures, and well-being. The importance of water in our lives is unquestionable. Yet our current and future challenges require that we modernize our current systems and stretch ourselves to innovate.

OREGON WATER RESOURCES DEPARTMENT

Closing

- Big mission
- Small # of staff
- Era of water scarcity
- Aging infrastructure

➢ Need to focus on what needs to be done to meet Oregon's water needs now and into the future

OREGON

WATER RESOURCES DEPARTMENT