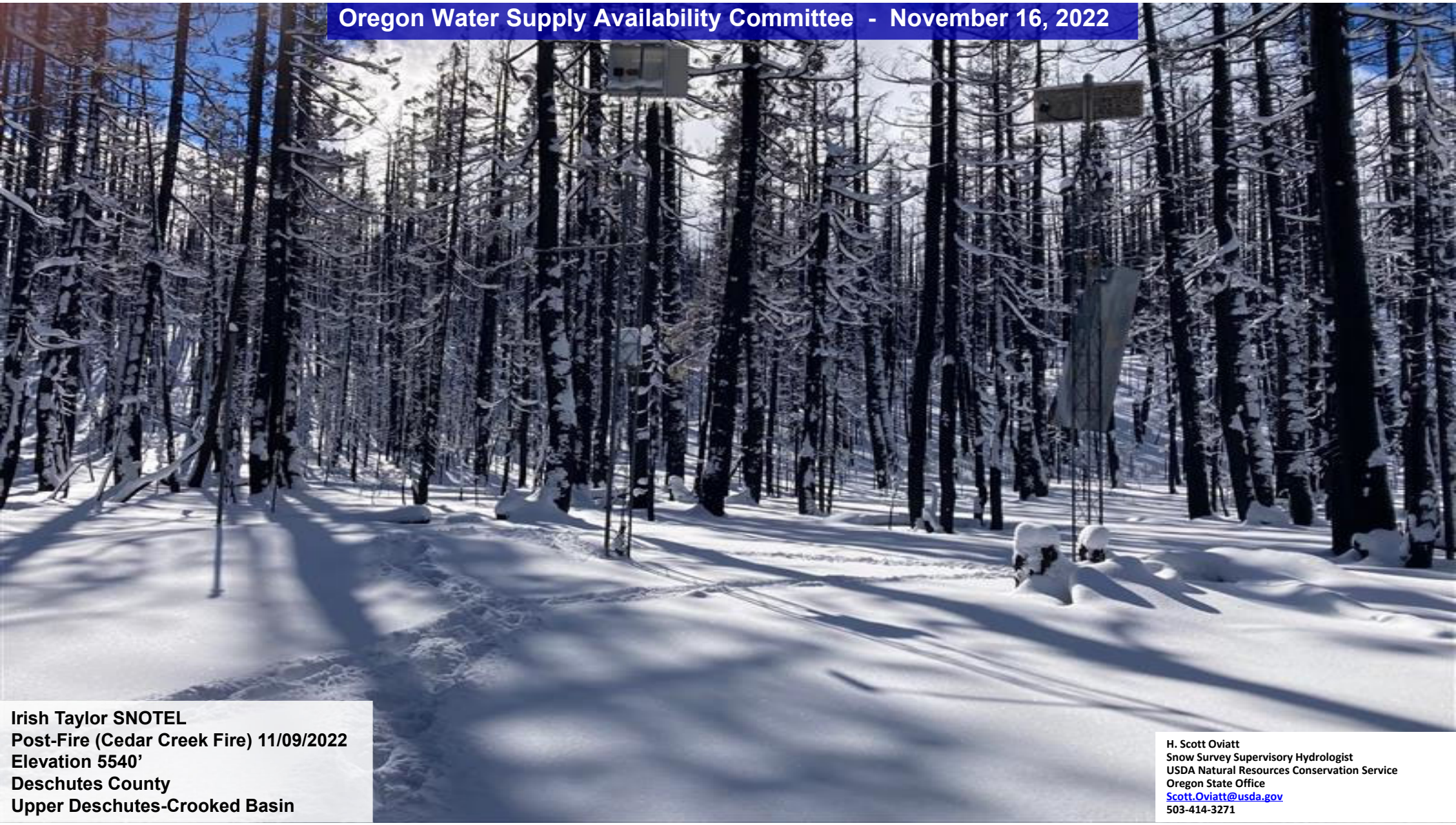
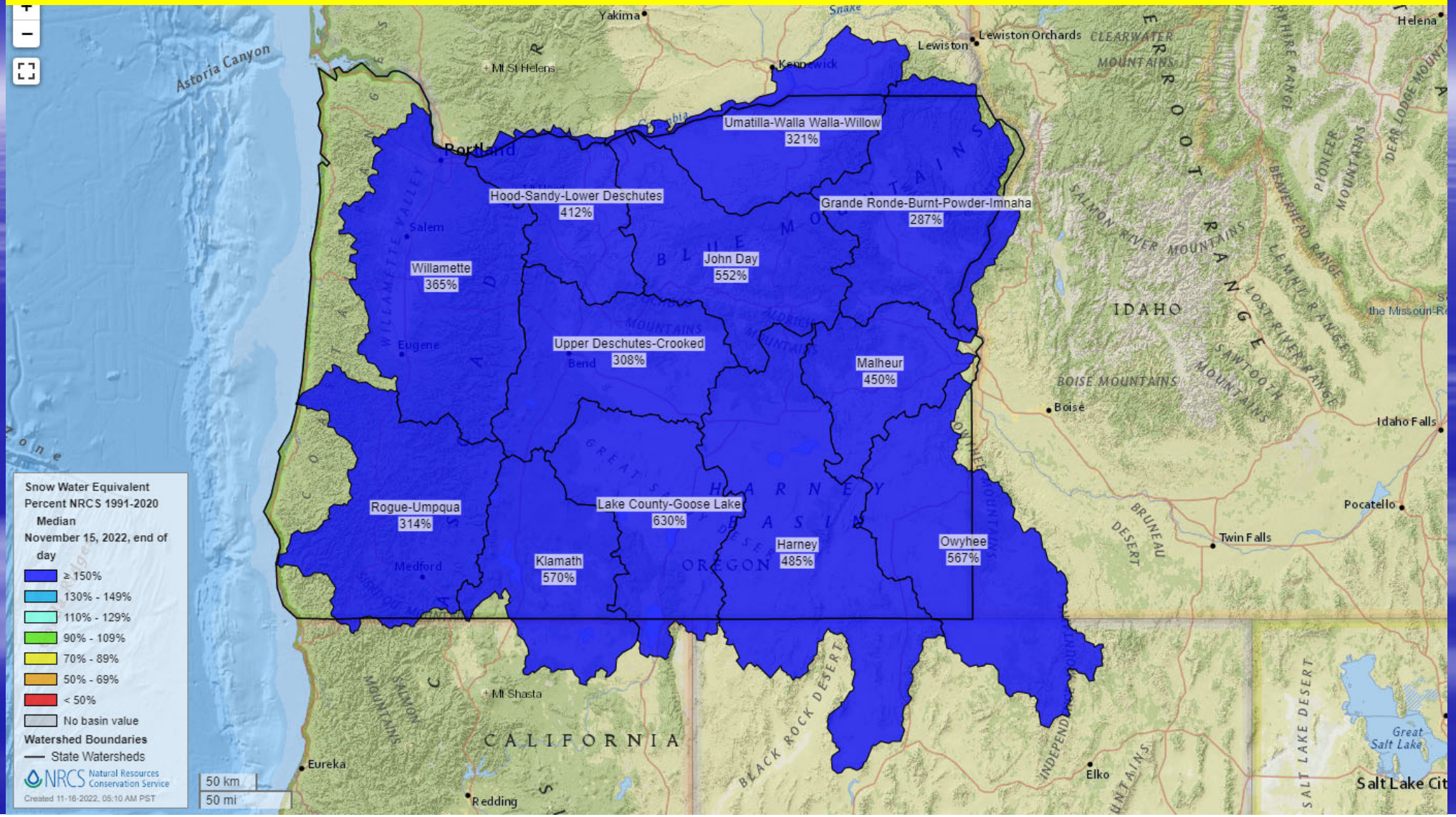
Oregon Water Supply Availability Committee - November 16, 2022



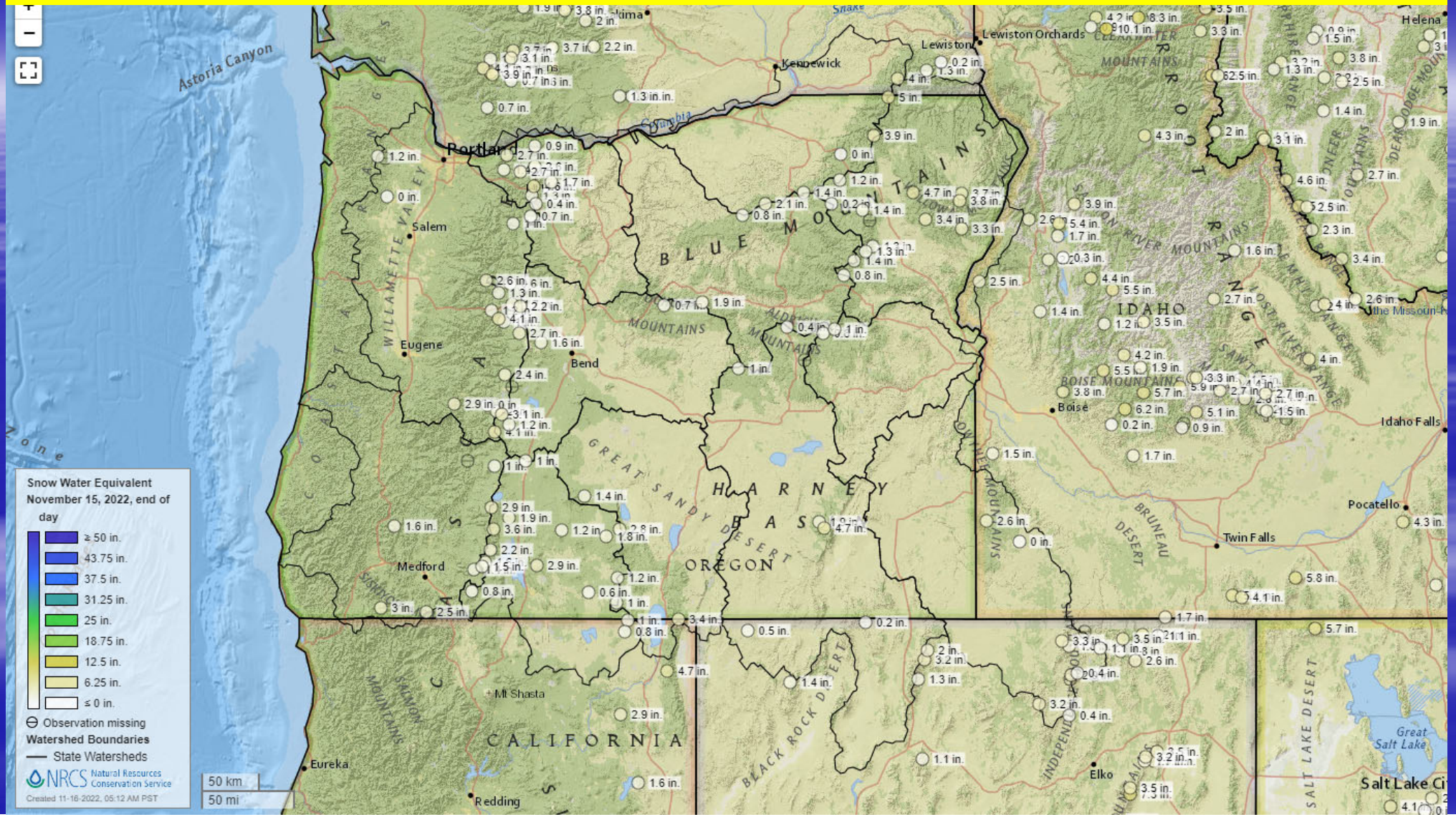
Irish Taylor SNOTEL
Post-Fire (Cedar Creek Fire) 11/09/2022
Elevation 5540'
Deschutes County
Upper Deschutes-Crooked Basin

H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA Natural Resources Conservation Service
Oregon State Office
Scott.Oviatt@usda.gov
503-414-3271

November 15, 2022, SNOTEL Basin Snow Water Equivalent % of 1991-2020 median

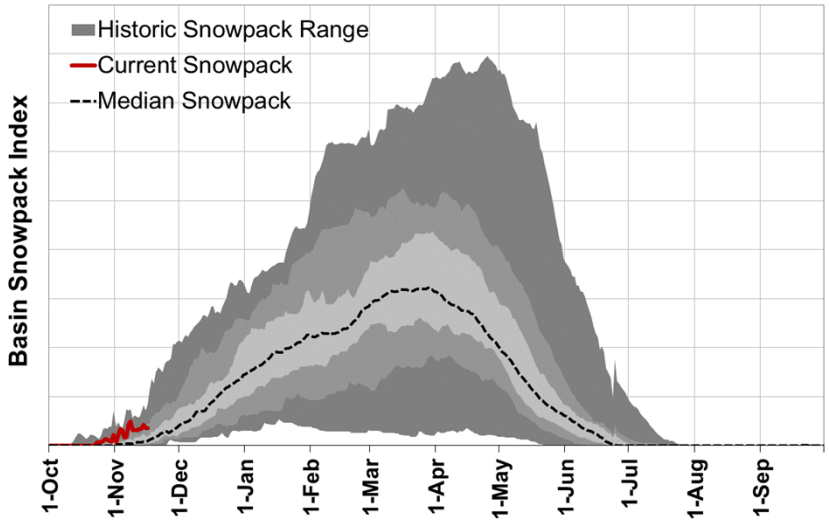


November 15, 2022, SNOTEL Snow Water Equivalent (inches)

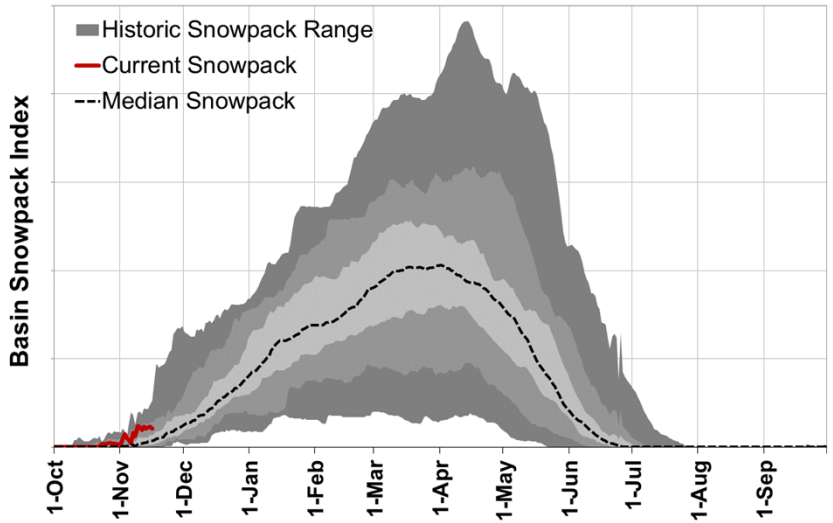


OREGON SNOWPACK GRAPHS – November 16, 2022

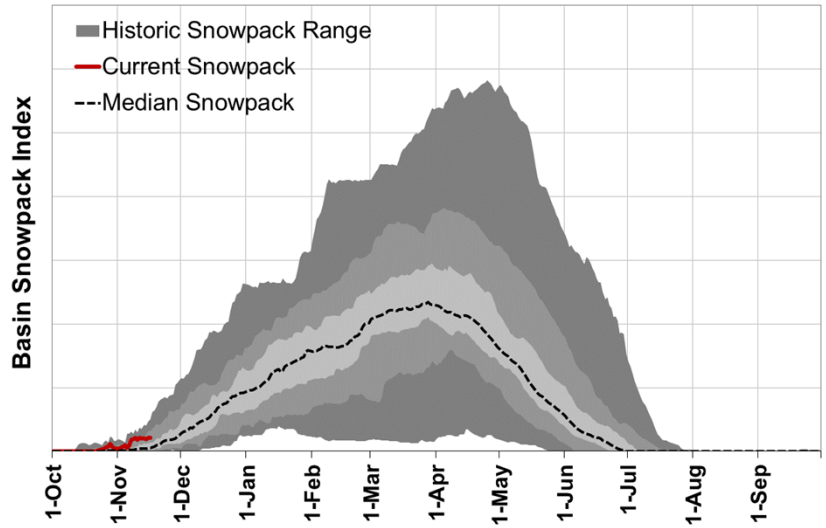
Willamette



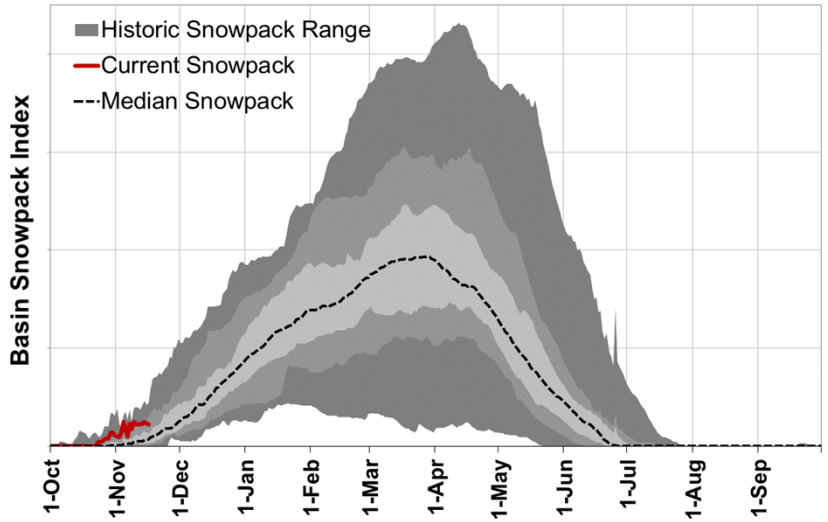
Rogue-Umpqua



Hood-Sandy-Lower Deschutes

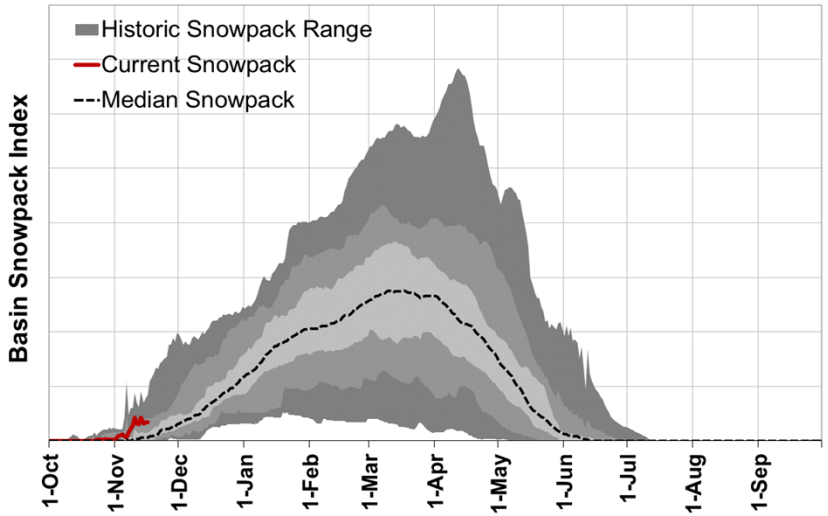


Upper Deschutes-Crooked

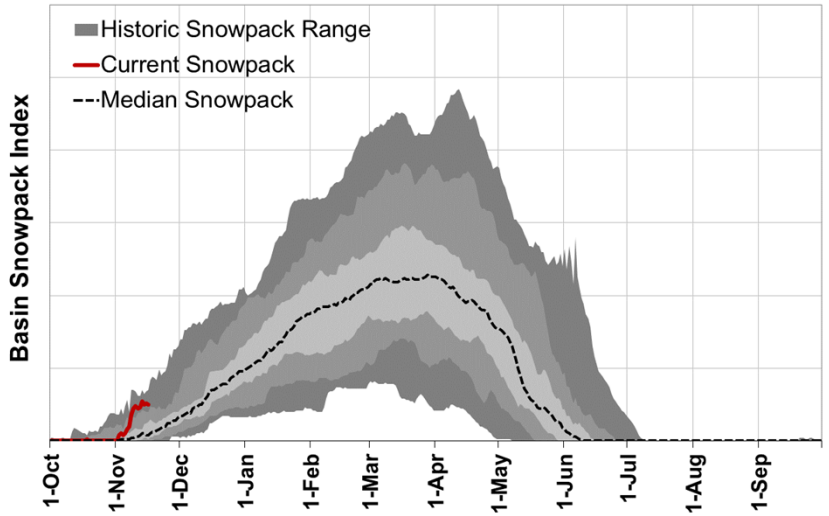


OREGON SNOWPACK GRAPHS – November 16, 2022

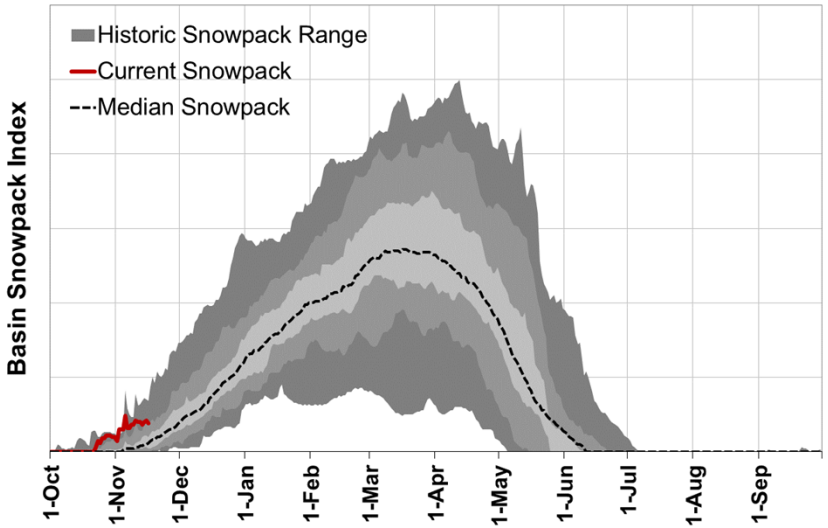
Klamath



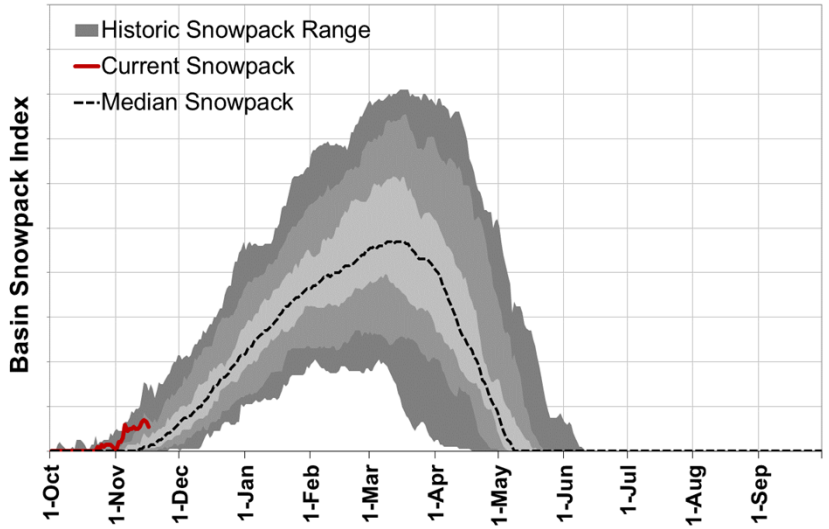
Lake County-Goose Lake



Umatilla-Walla Walla-Willow

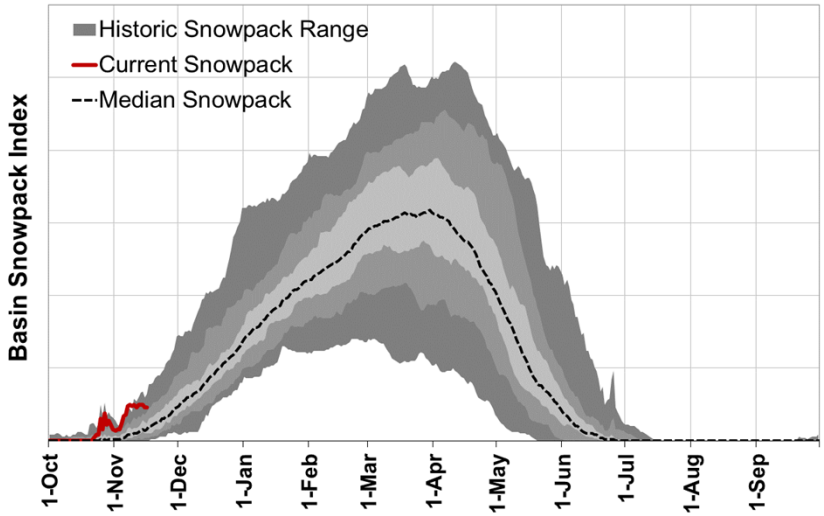


John Day

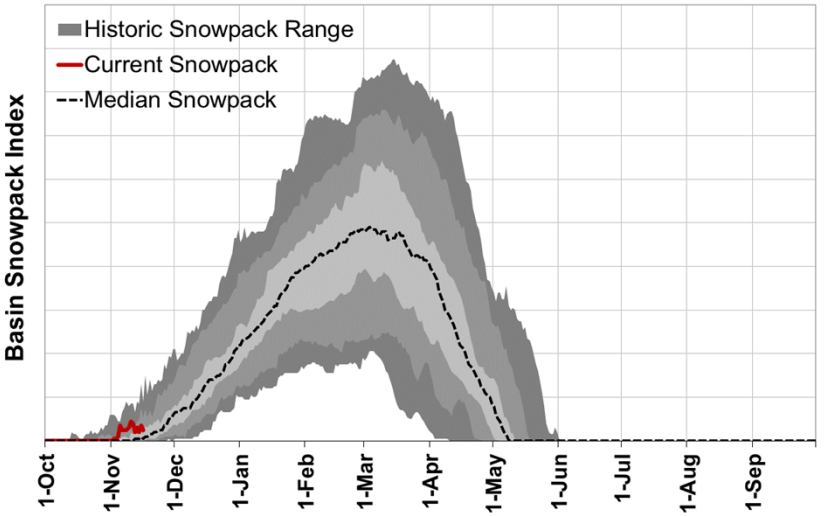


OREGON SNOWPACK GRAPHS – November 16, 2022

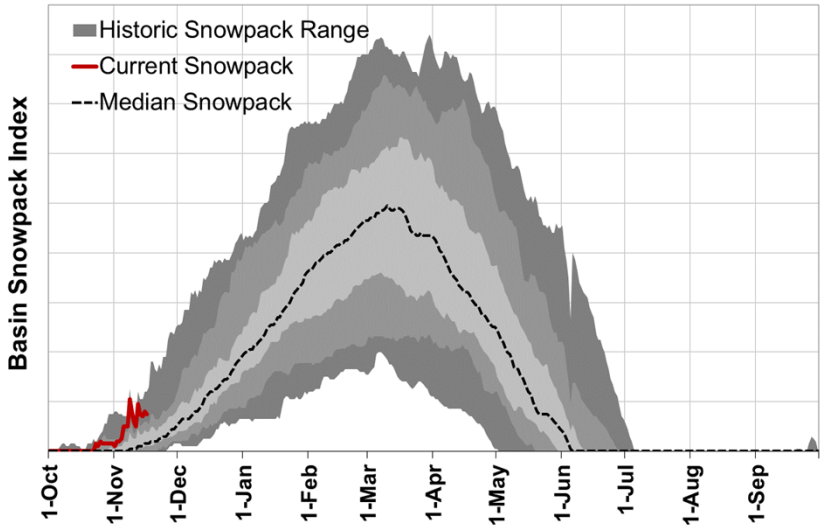
Grande Ronde-Burnt-Powder-Imnaha



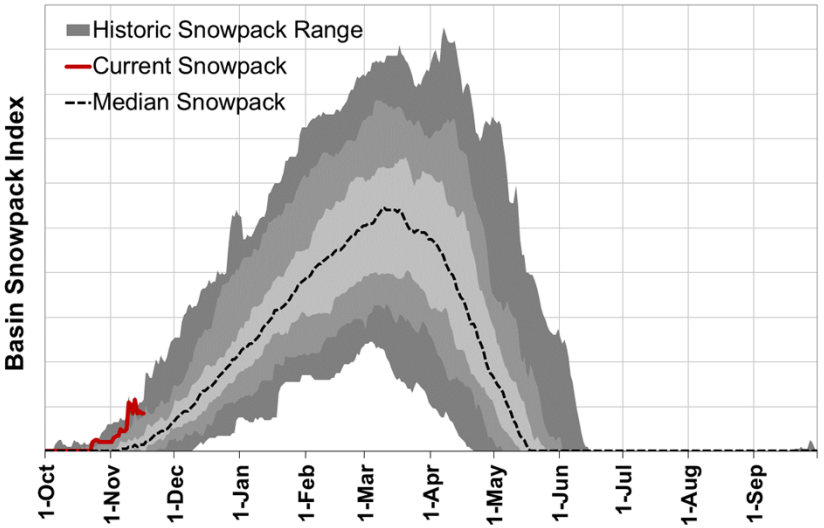
Malheur



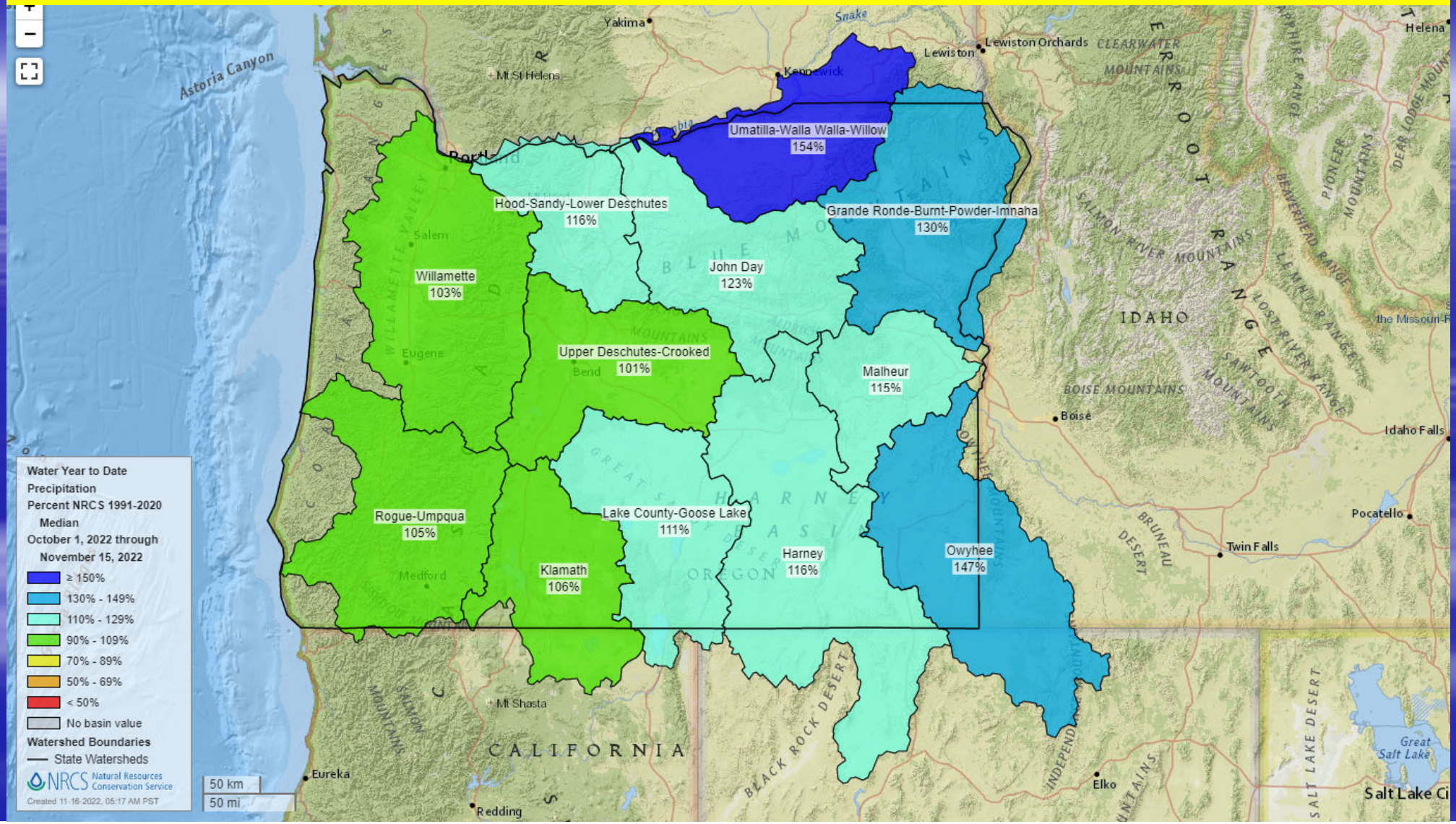
Harney



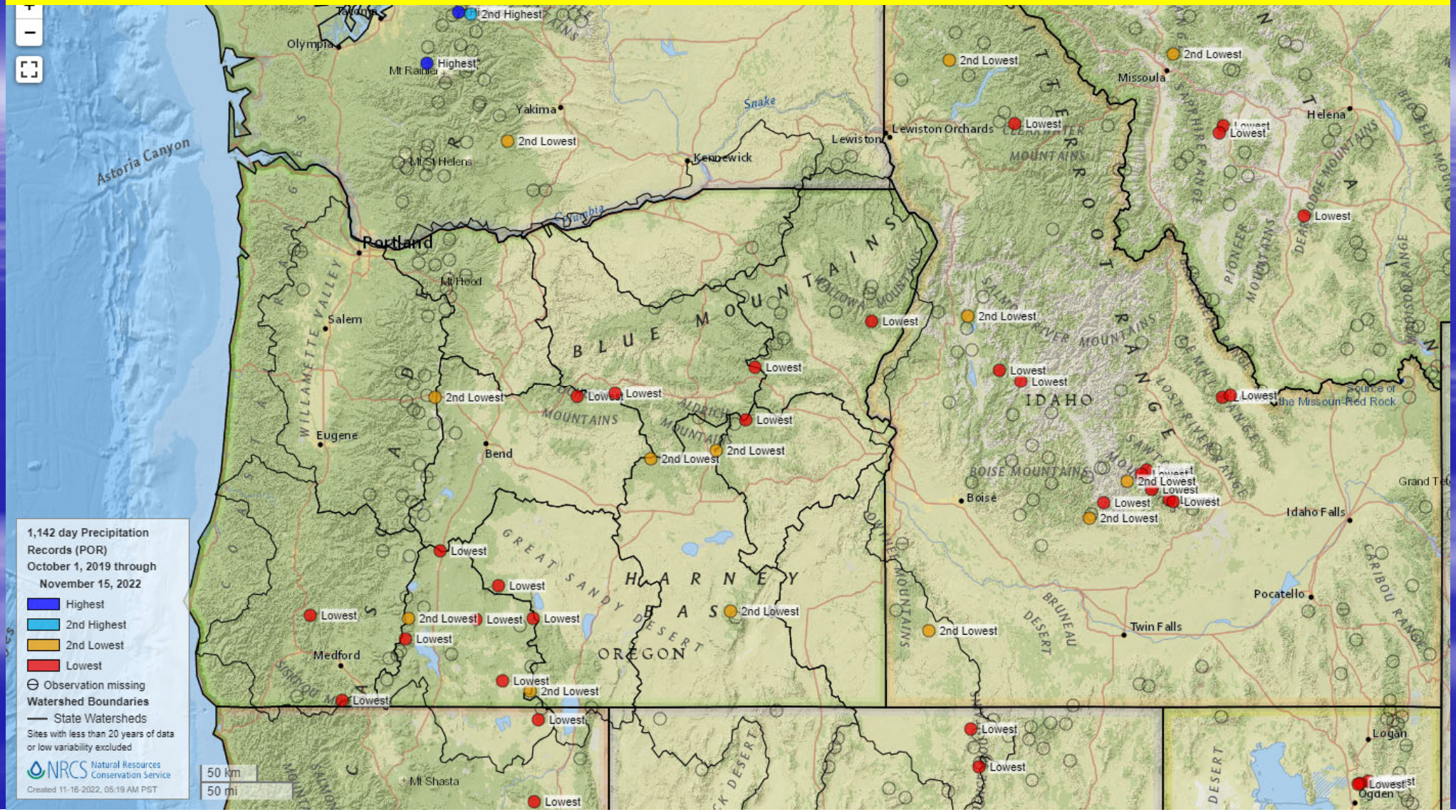
Owyhee



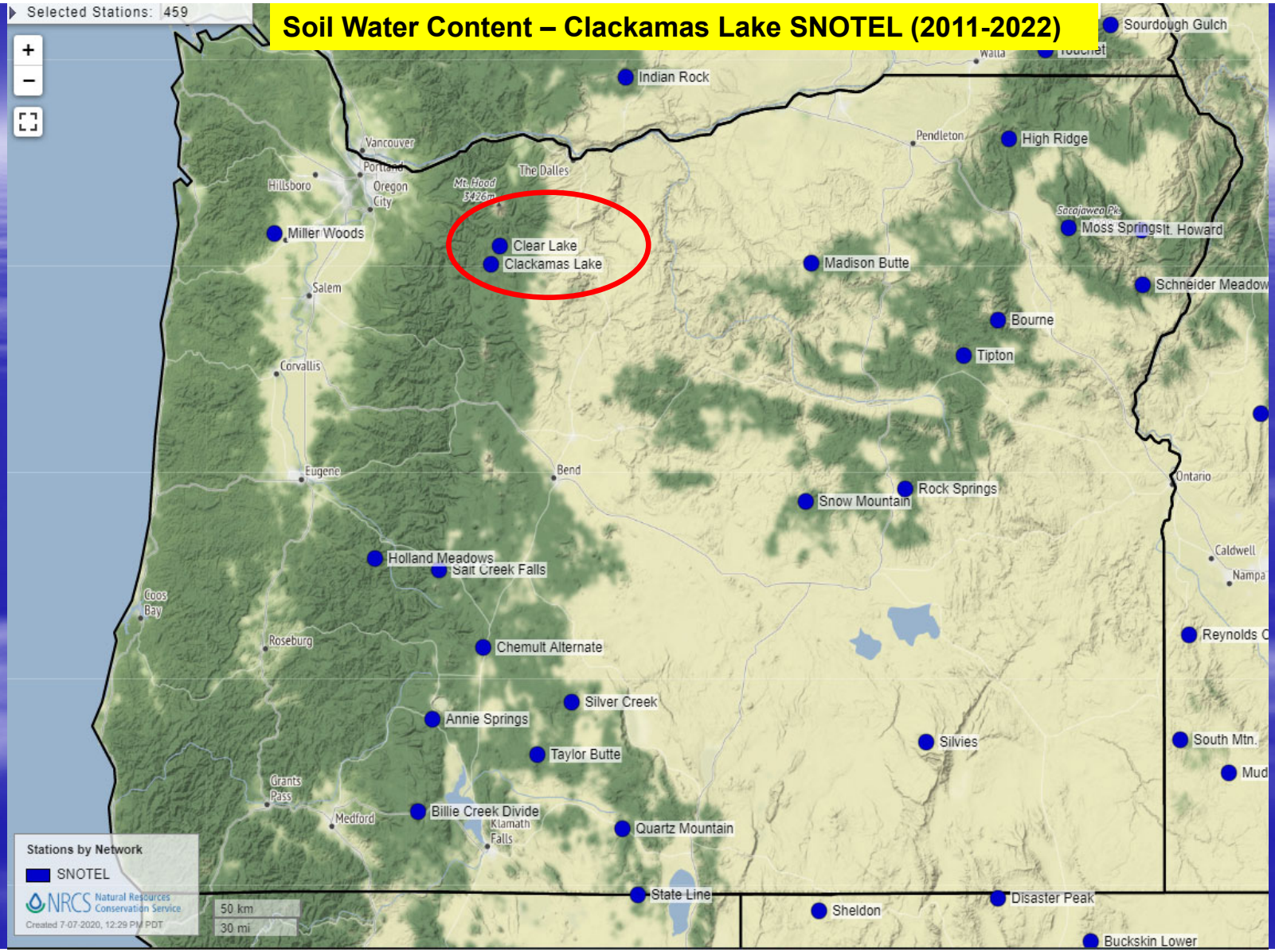
2023 SNOTEL Statewide Water Year Precipitation is 110% of 1991-2020 median



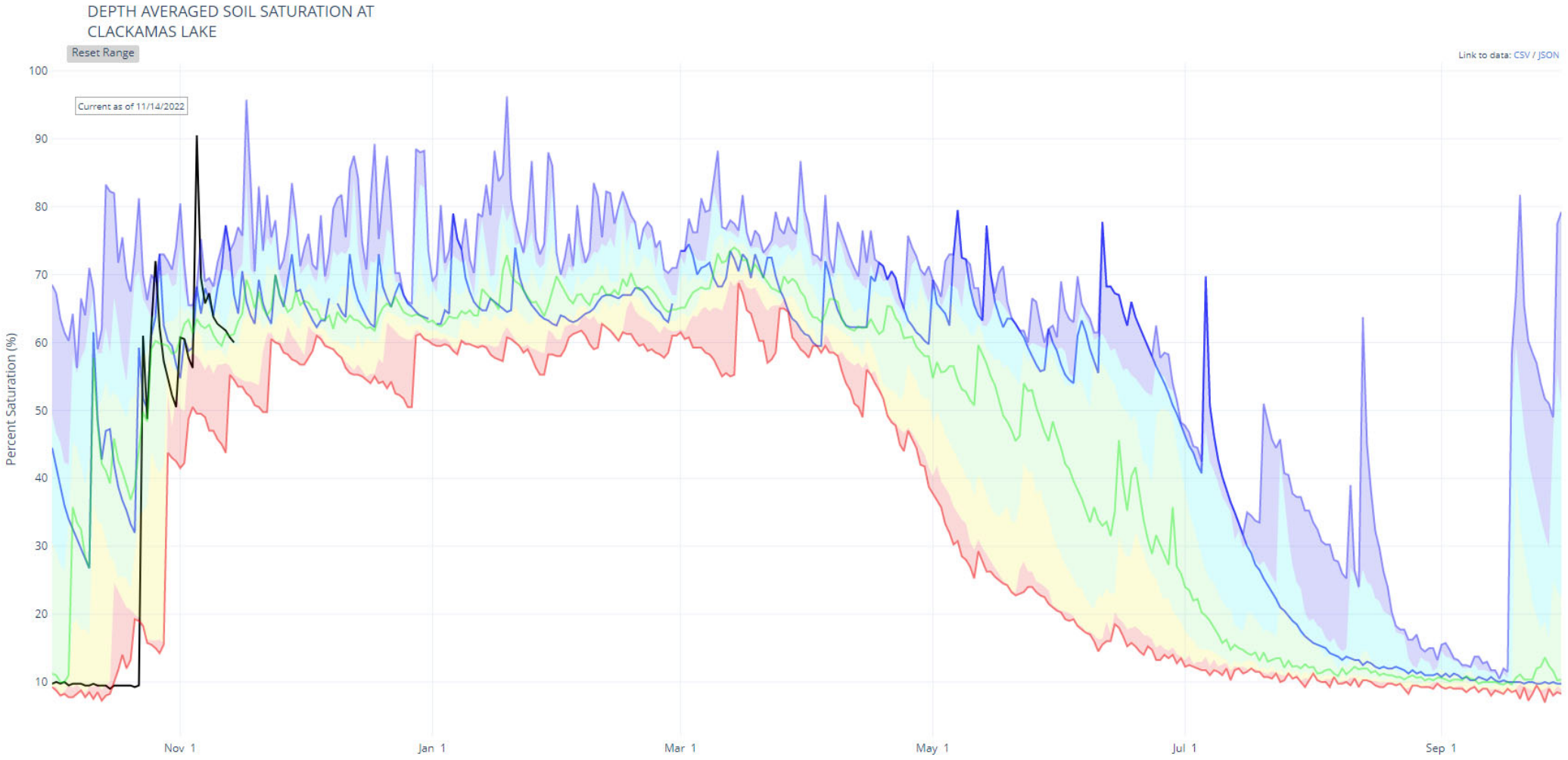
SNOTEL Precipitation (POR) Records – October 1, 2019 – November 15, 2022



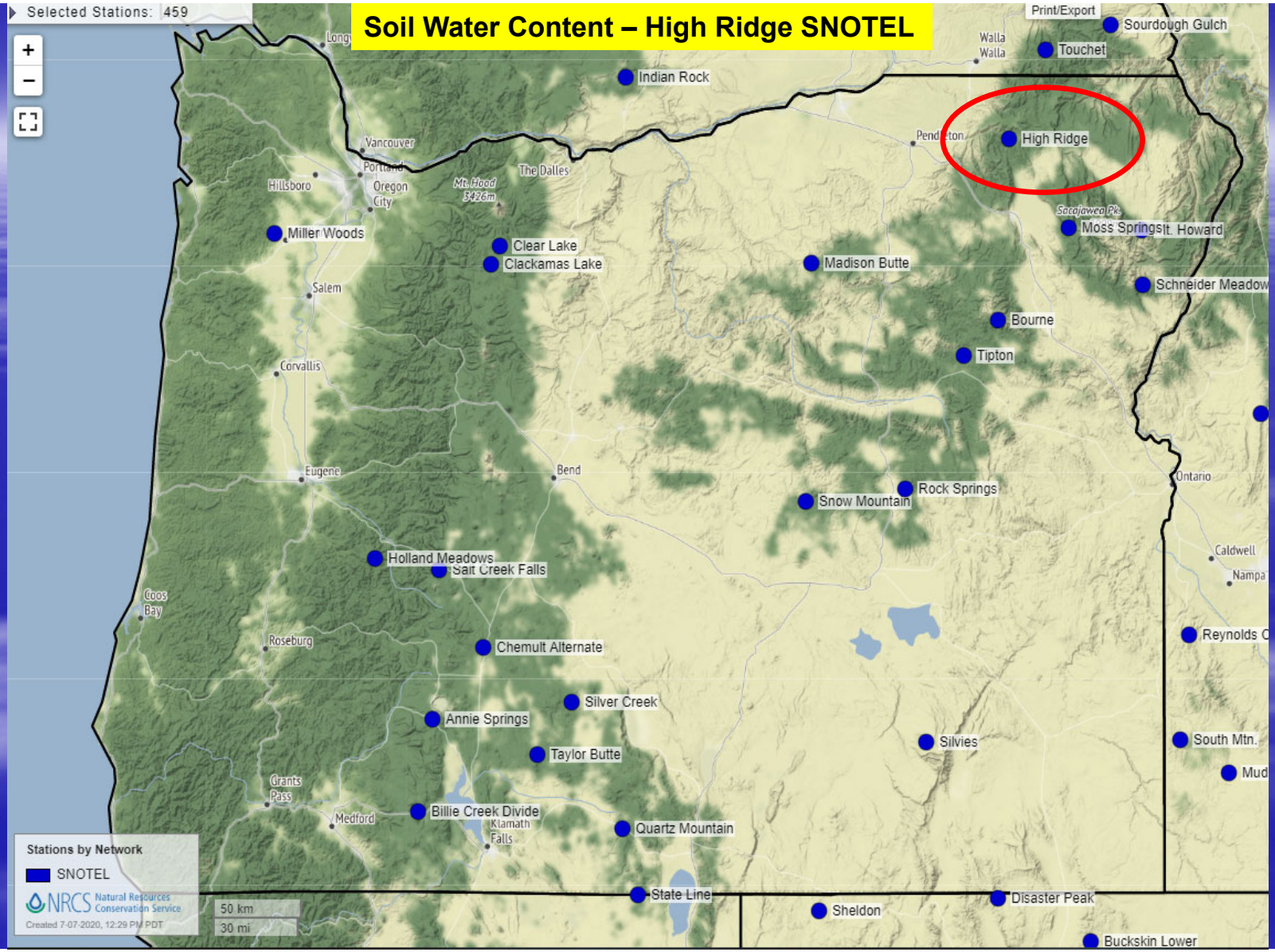
Soil Water Content – Clackamas Lake SNOTEL (2011-2022)



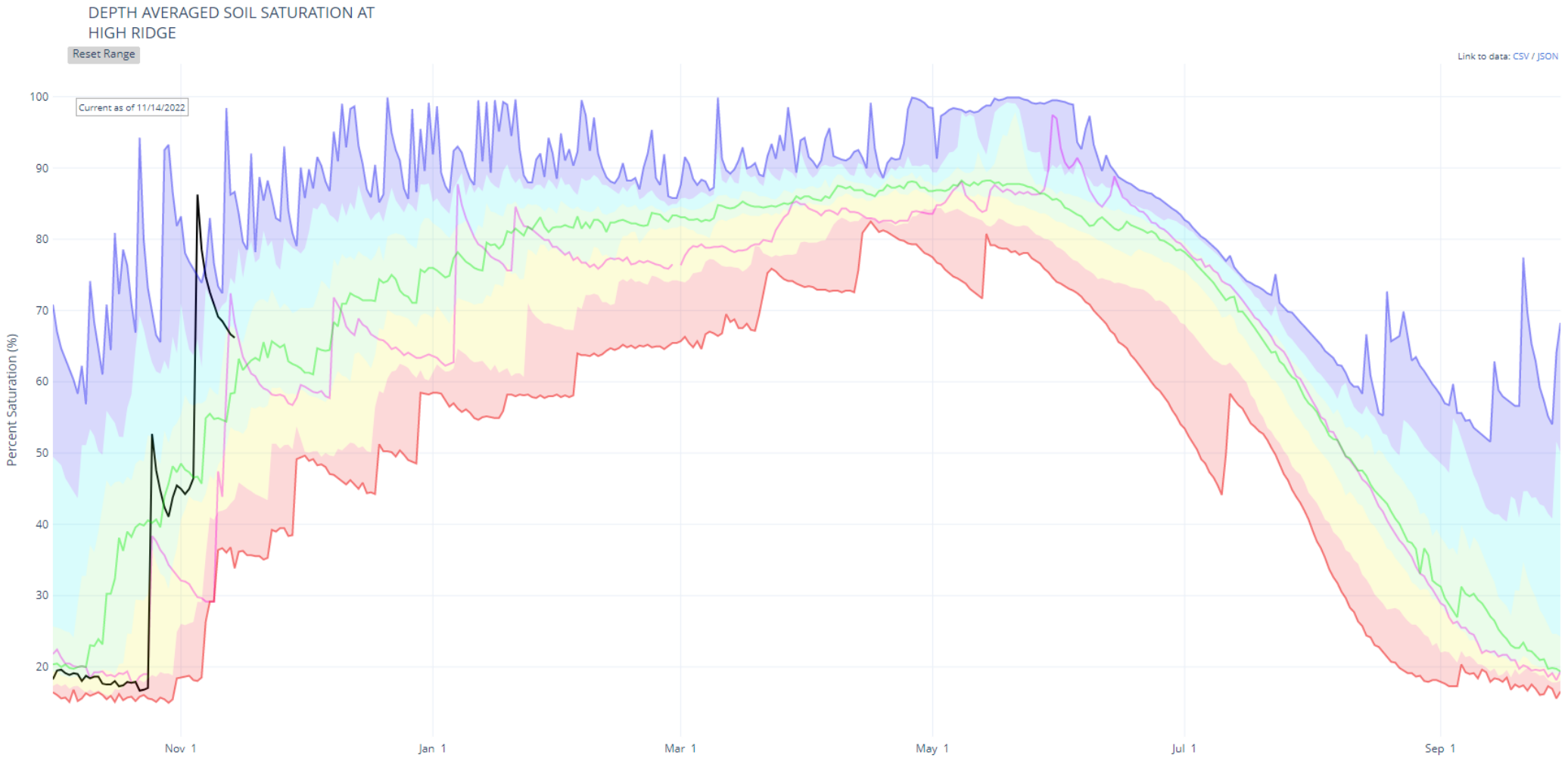
Soil Water Content – Clackamas Lake SNOTEL (2011-2022)



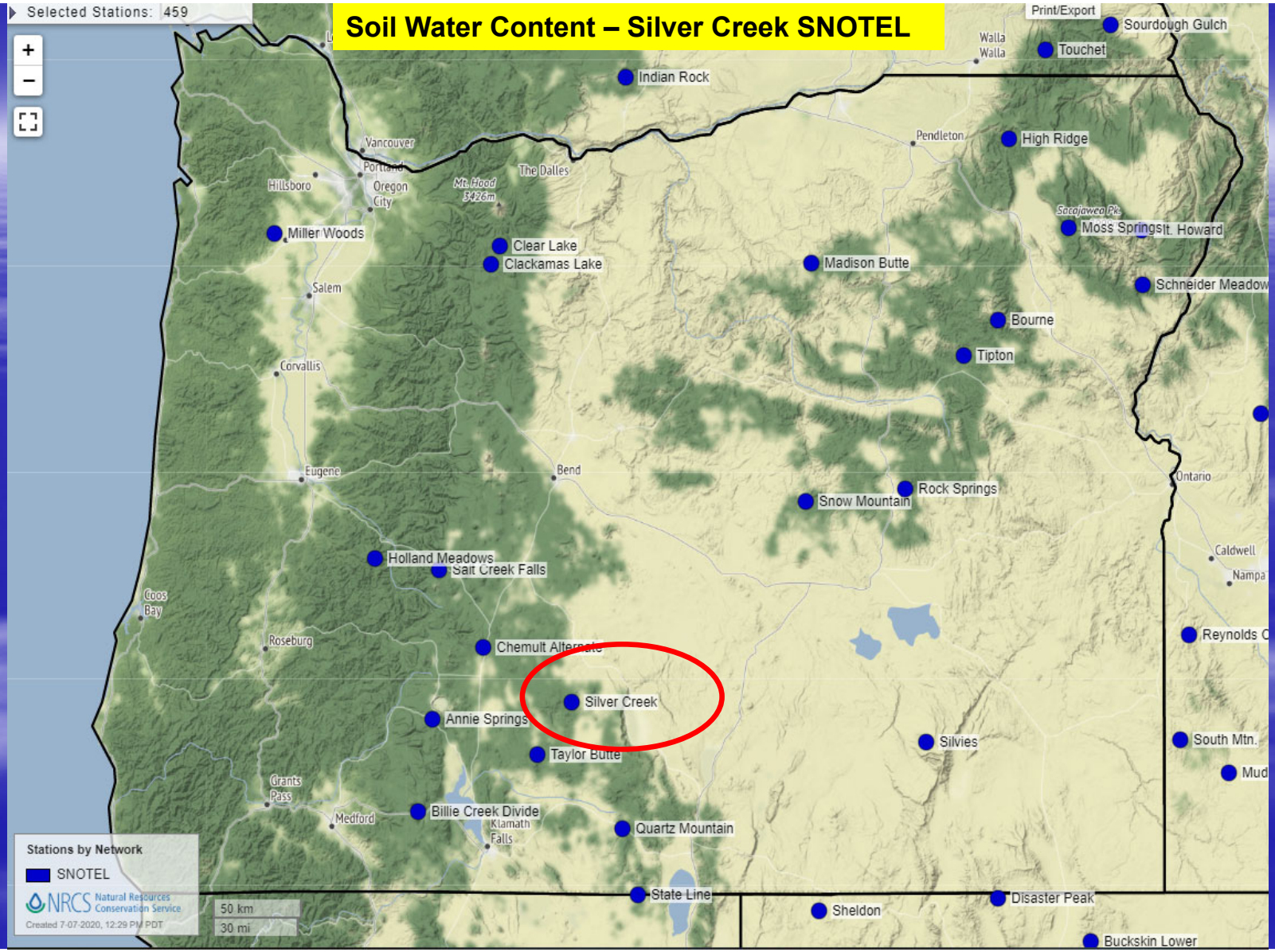
Soil Water Content – High Ridge SNOTEL



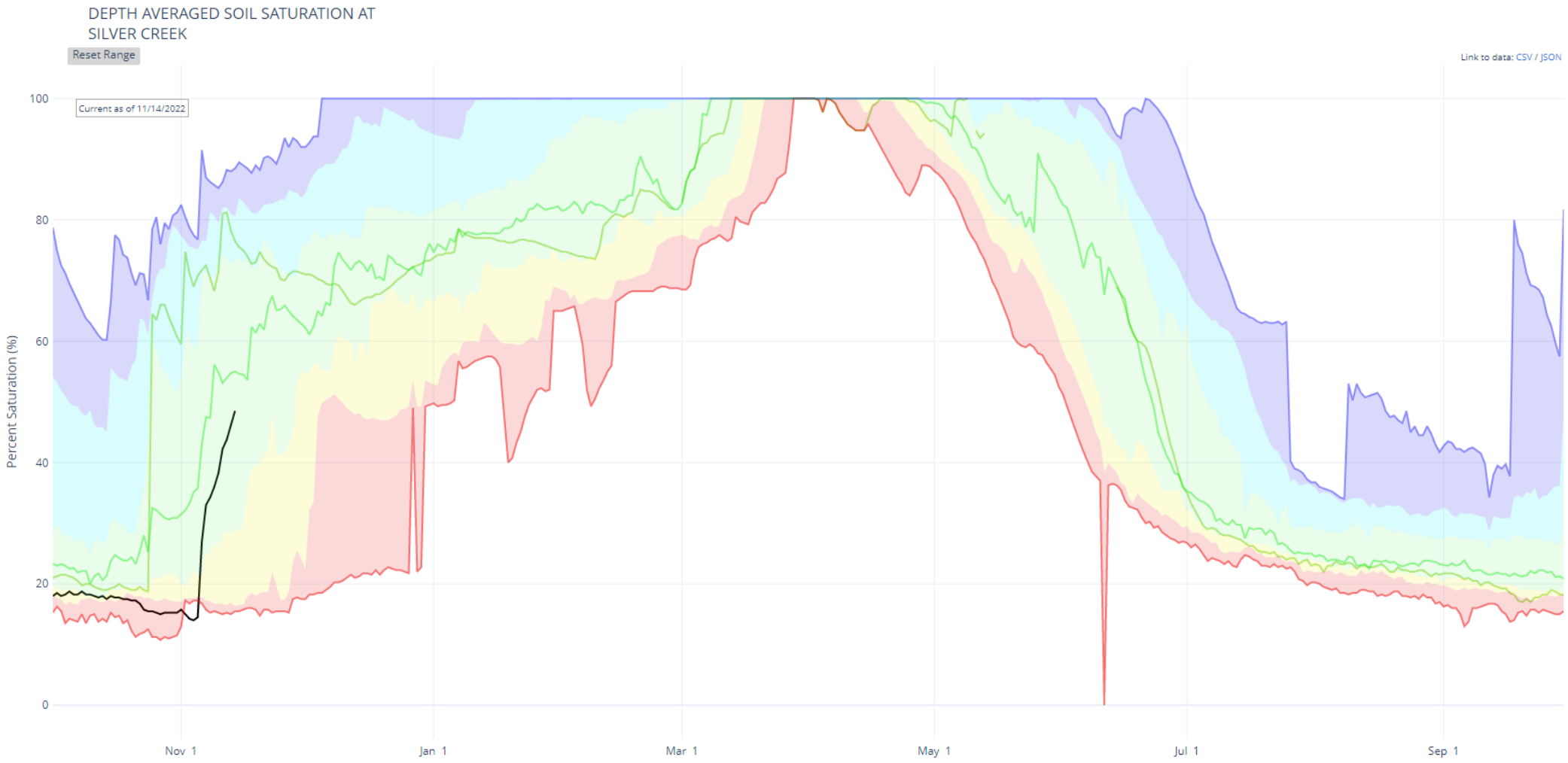
Soil Water Content – High Ridge SNOTEL (2004-2022)



Soil Water Content – Silver Creek SNOTEL



Soil Water Content – Silver Creek SNOTEL (2004-2022)



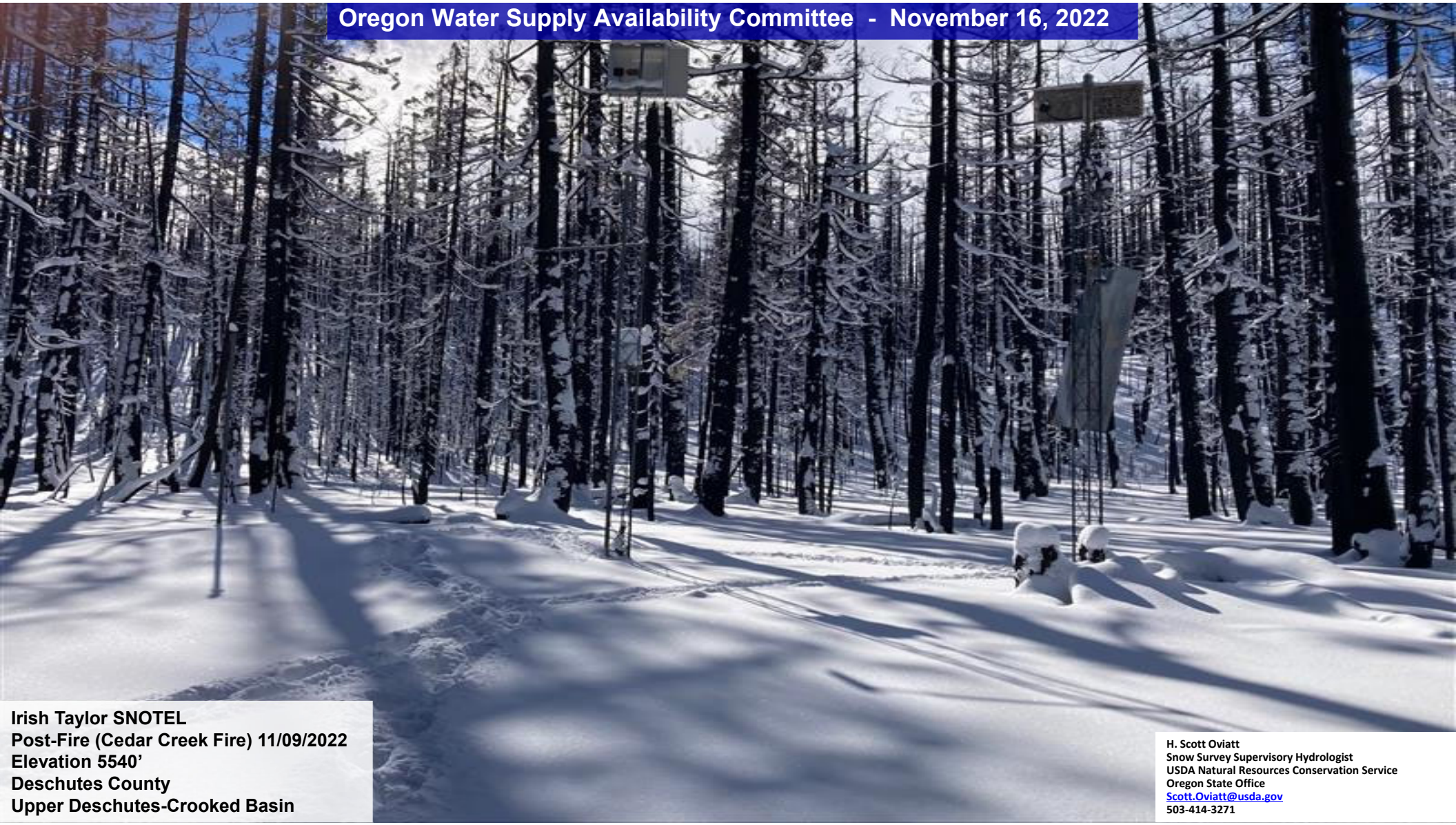
Thank you

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

Persons with disabilities who require alternative means of communication for program information (e.g., Braille, large print, audiotape, American Sign Language, etc.) should contact the responsible Agency or USDA's TARGET Center at (202) 720-2600 (voice and TTY) or contact USDA through the Federal Relay Service at (800) 877-8339. Additionally, program information may be made available in languages other than English.

To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

Oregon Water Supply Availability Committee - November 16, 2022



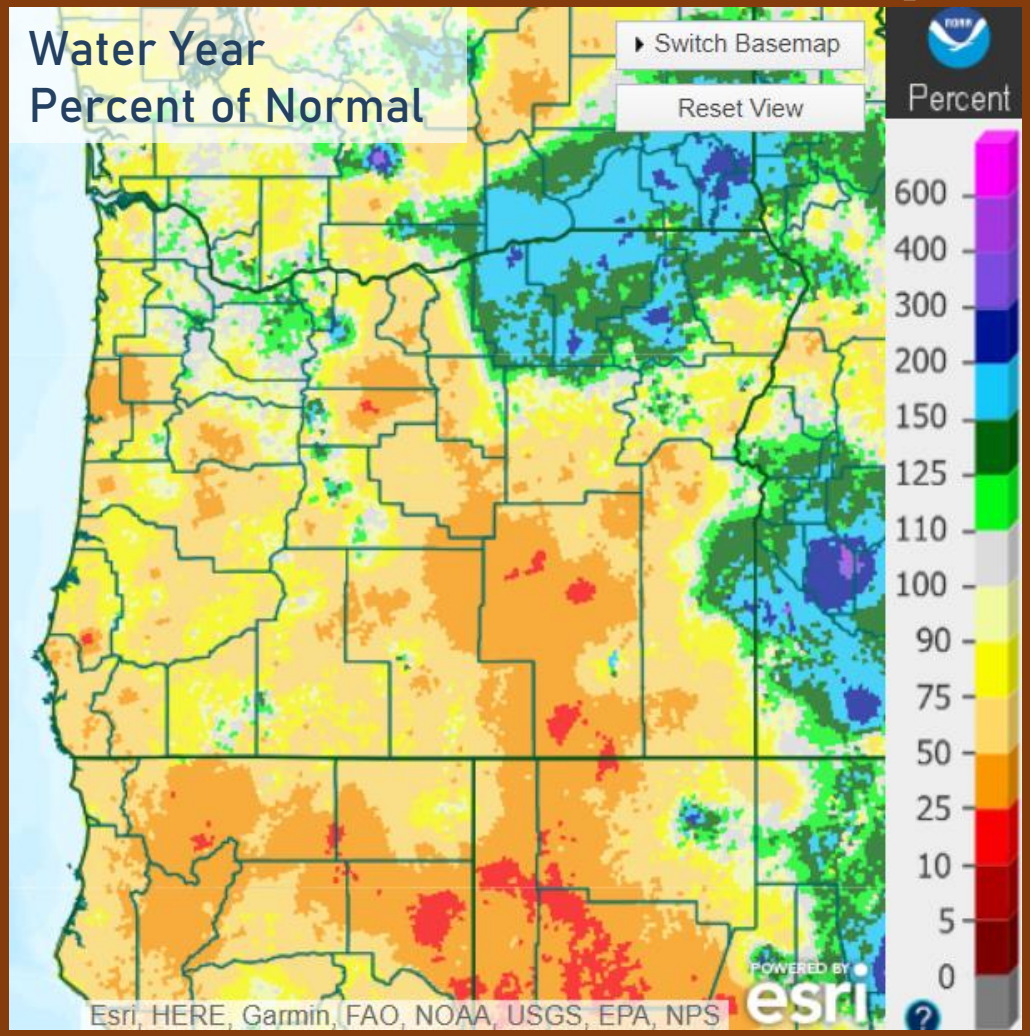
Irish Taylor SNOTEL
Post-Fire (Cedar Creek Fire) 11/09/2022
Elevation 5540'
Deschutes County
Upper Deschutes-Crooked Basin

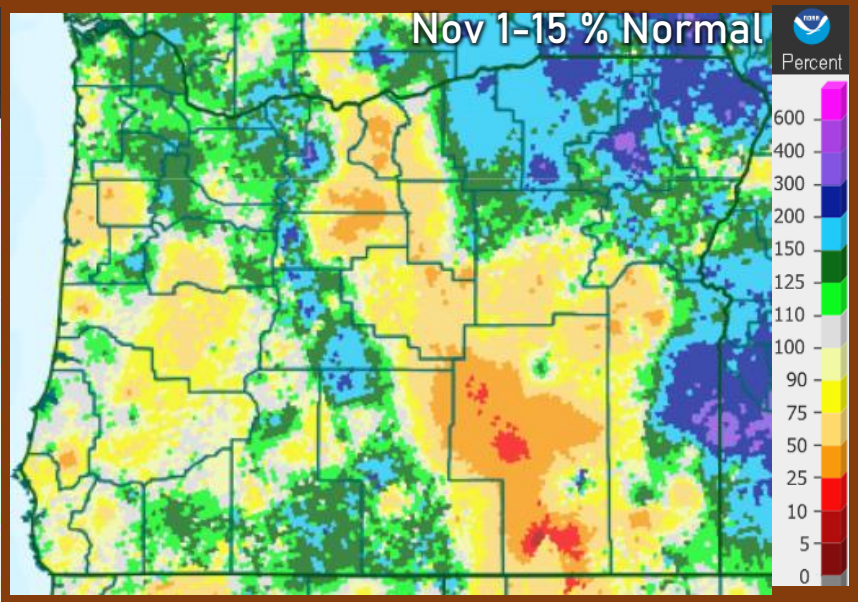
H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA Natural Resources Conservation Service
Oregon State Office
Scott.Oviatt@usda.gov
503-414-3271

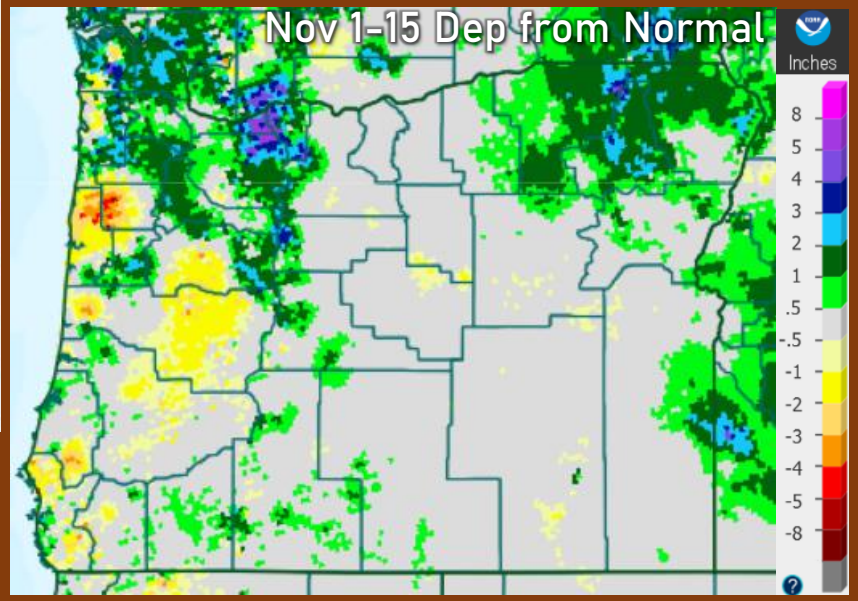
November 2022 Update for Precipitation & Temperatures

NOAA National Weather Service

Precipitation





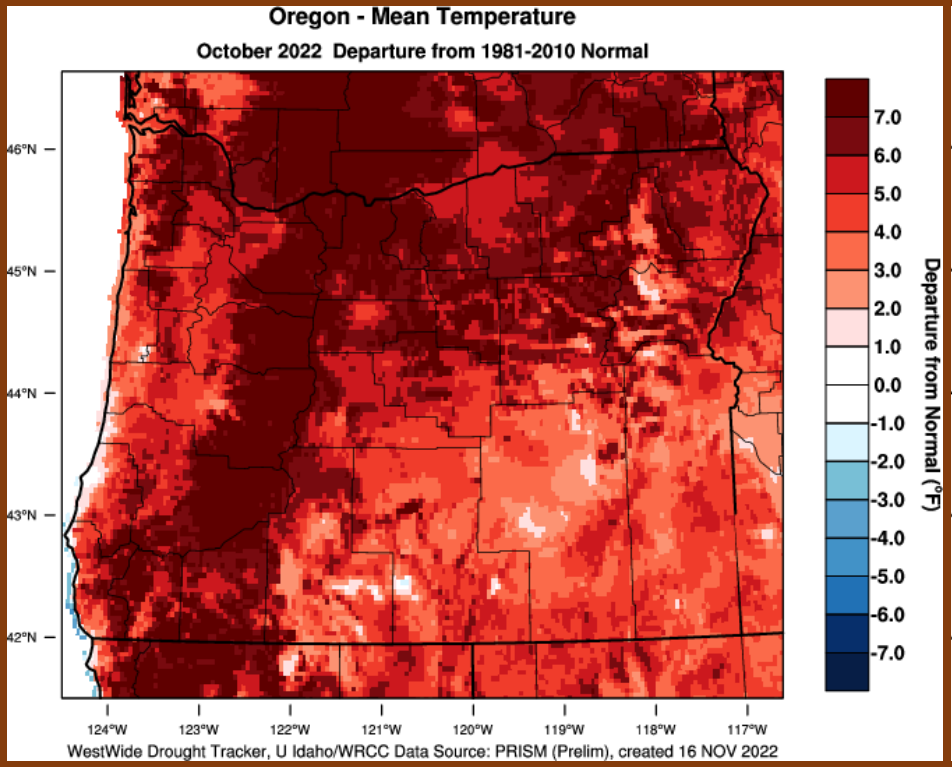


Precipitation Data as of September 13, 2022

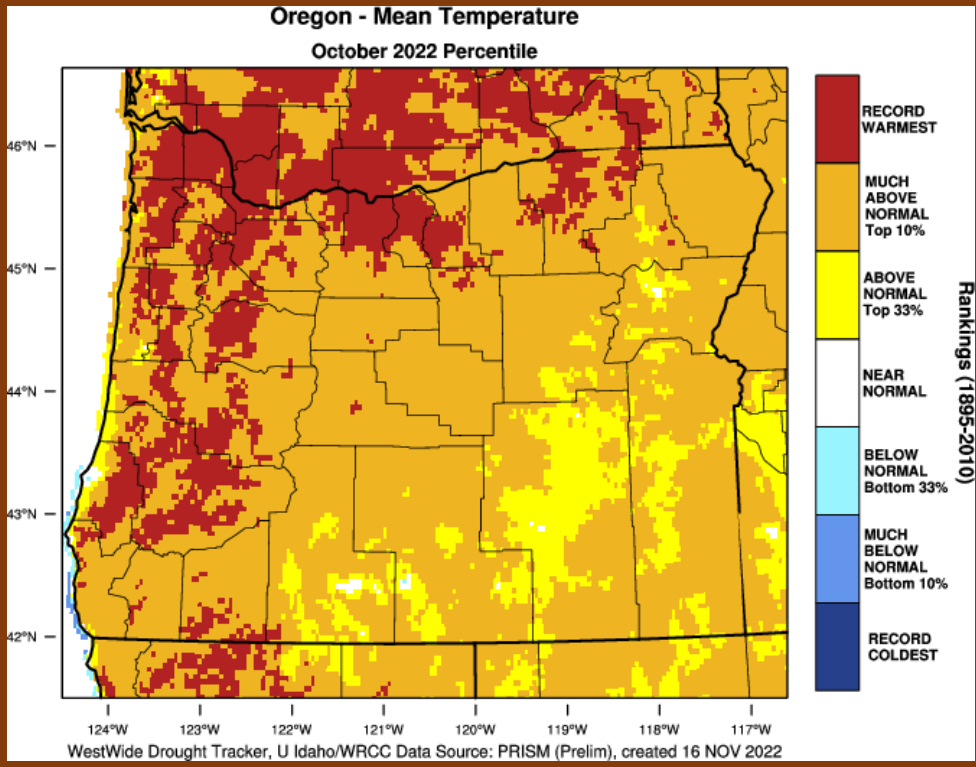
water.weather.gov/precip/index.php

October Temperatures

Departure from Normal



Percentile



https://wrcc.dri.edu/wwdt/index.php?region=pnw

October Climate Notes

October 2022 Climate Summary

Notable Records & Near-Records

Portland Airport

Warmest October on record

61.4° Previous record 60.1° (2014)

Scappoose

Driest October on Record

Previous record 1.73" in 2020

1.66"

Hillsboro

Tied with 2014 for the warmest October on record

57.9°

Portland Airport

12 days with a high temperature of **80°** or higher

(Previous record 6 in 1991)

All data is preliminary and is subject to final review. Visit weather.gov/Portland for more information.

Near-Records

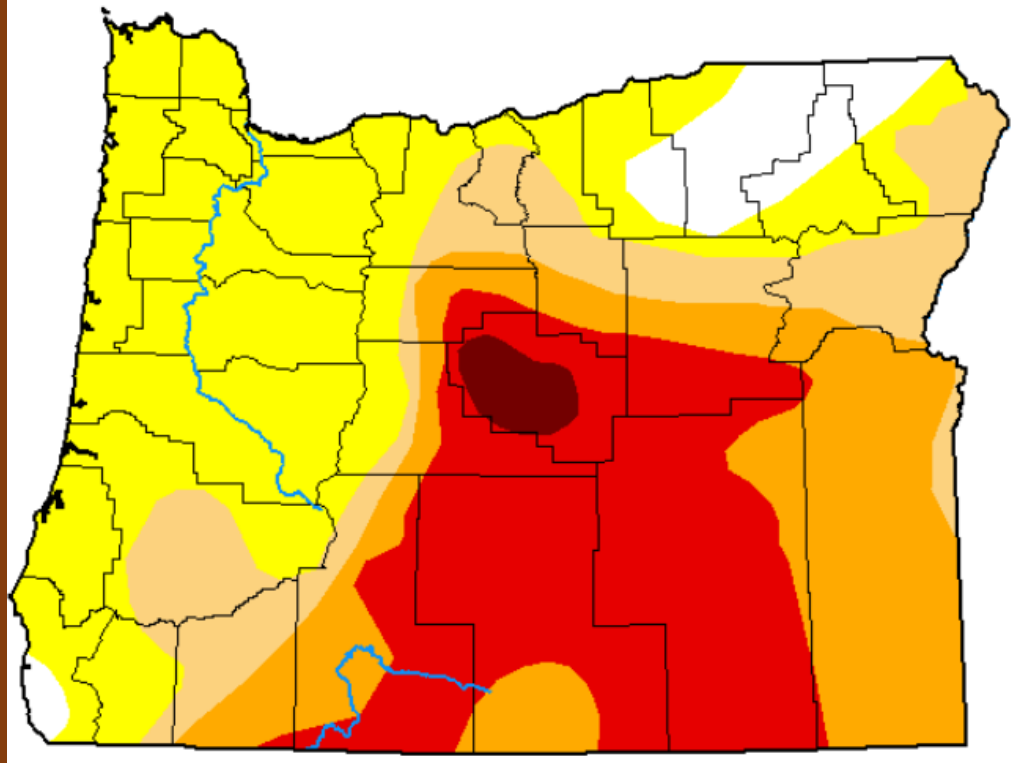
Eugene **2nd Warmest**
Troutdale **2nd Warmest**
Vancouver **2nd Warmest**
Salem **3rd Warmest**

Drought Monitor

U.S. Drought Monitor

Oregon

droughtmonitor.unl.edu



November 8, 2022

(Released Thursday, Nov. 10, 2022)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	5.37	94.63	60.16	46.22	26.18	1.40
Last Week *11-01-2022*	0.44	99.56	80.77	52.92	30.73	1.40
3 Months Ago *08-09-2022*	25.01	74.99	65.60	52.55	30.73	1.40
Start of Calendar Year *01-04-2022*	4.16	95.84	89.75	75.37	50.84	17.27
Start of Water Year *09-27-2022*	0.42	99.58	68.05	52.42	30.73	1.40
One Year Ago *11-09-2021*	1.34	98.66	98.27	94.67	71.57	25.33

Intensity:

- None
- 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. For more information on the Drought Monitor, go to https://droughtmonitor.unl.edu/About.aspx

Author:

Brian Fuchs

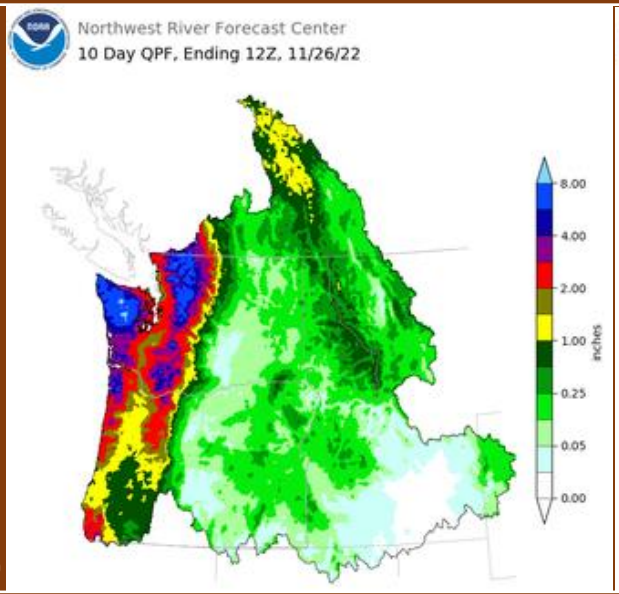
National Drought Mitigation Center

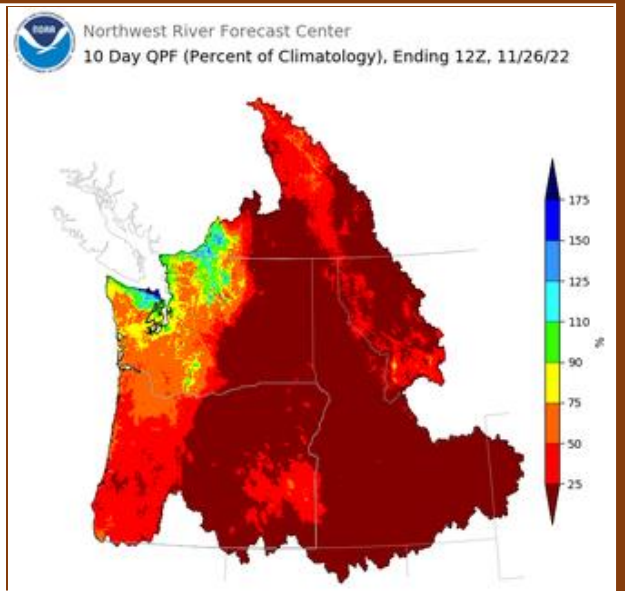
https://droughtmonitor.unl.edu

Mid September Outlook

NWRFC
10-DAY
PRECIPITATION
FORECAST

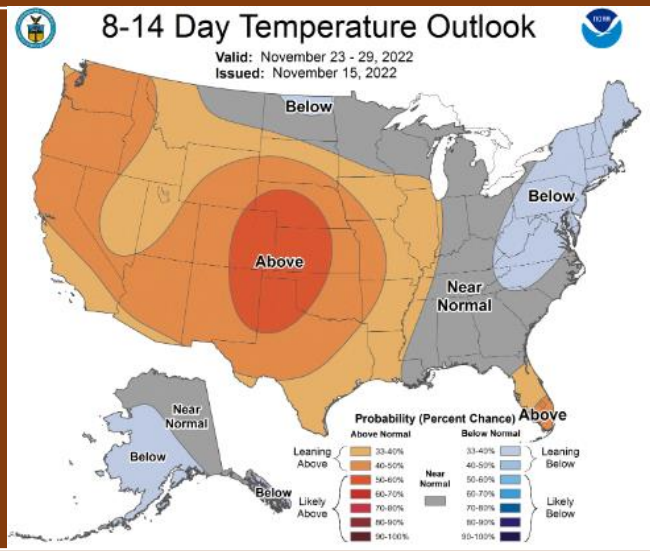
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php

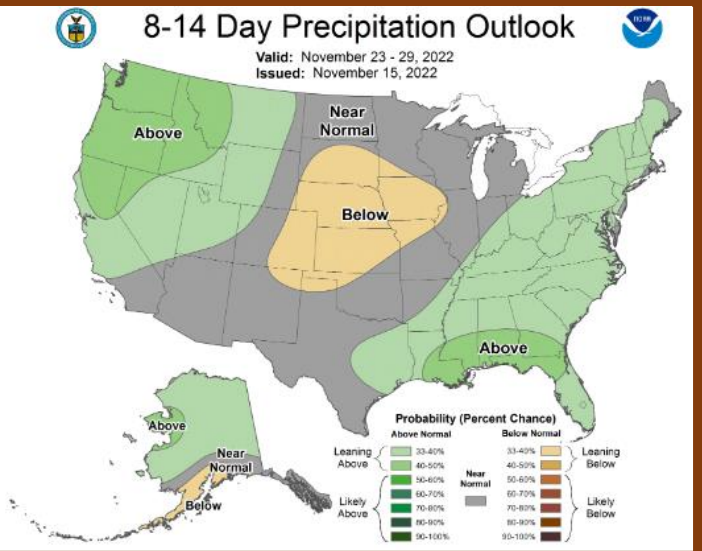




CPC
8 – 14 DAY
OUTLOOK

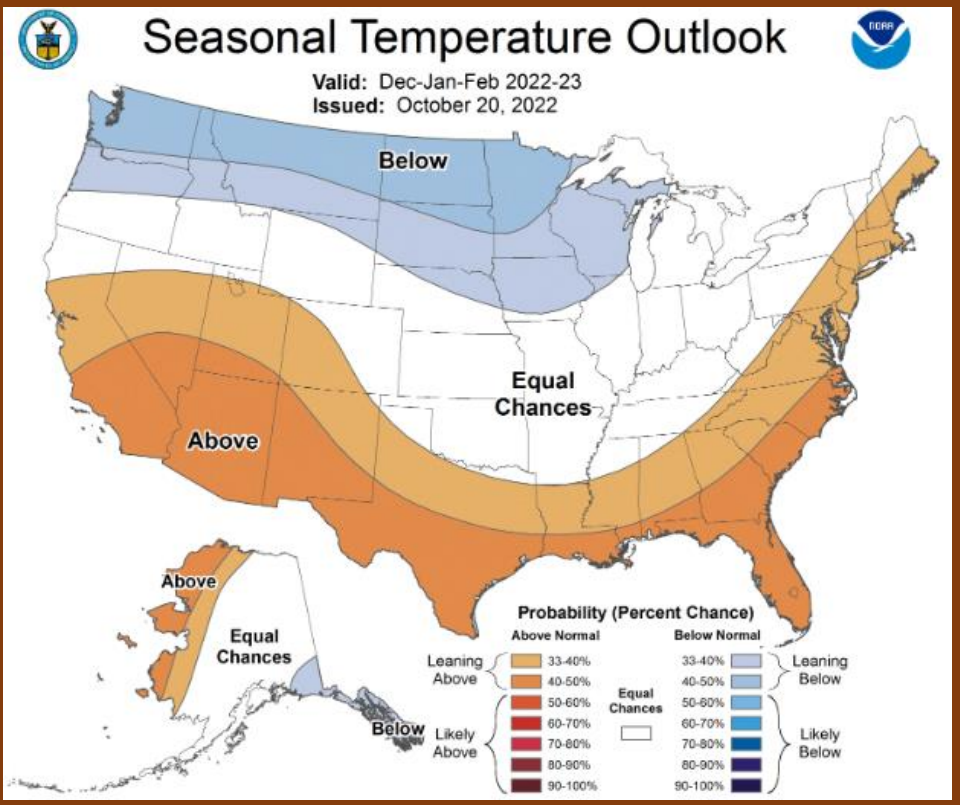
www.cpc.ncep.noaa.gov

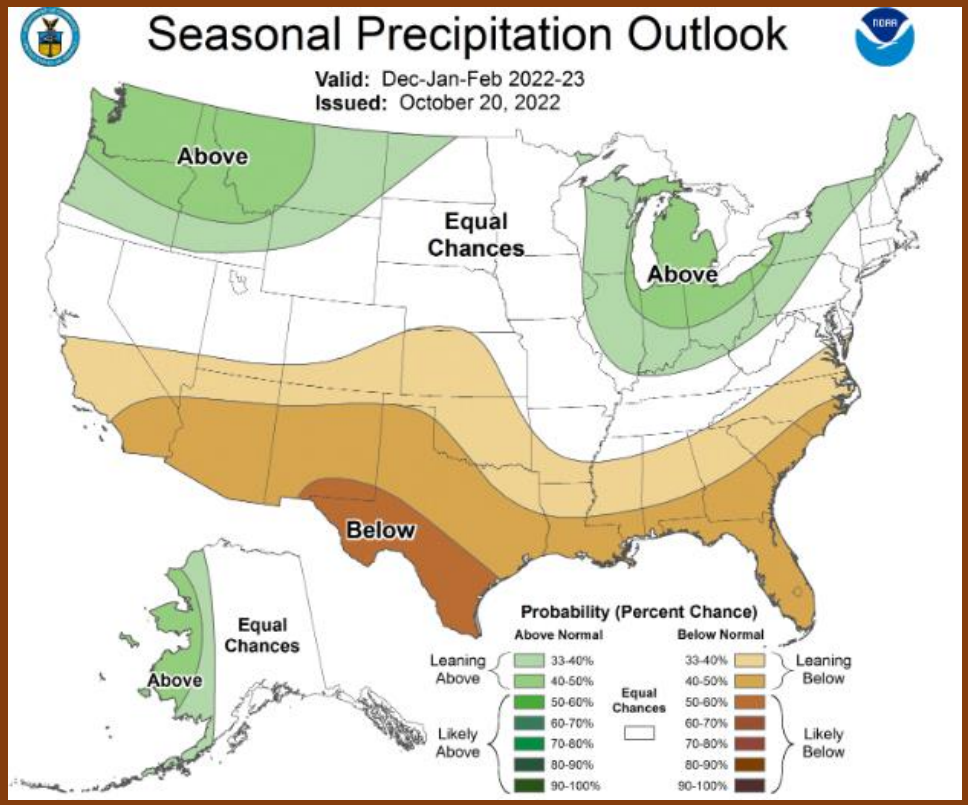




Climate Prediction Center Outlook

December 2022 – February 2023

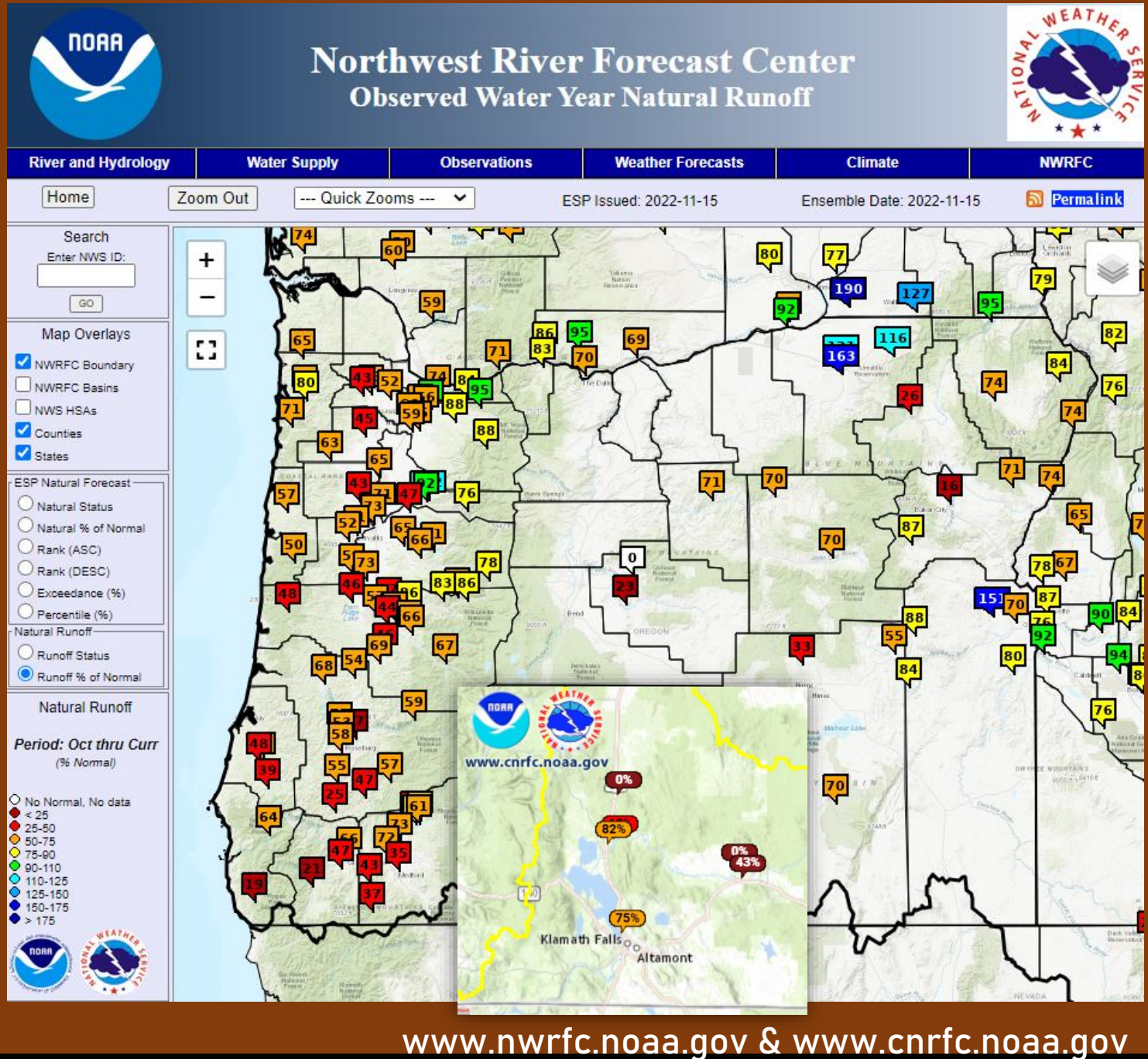




www.cpc.ncep.noaa.gov

Seasonal Observed Runoff

October 1 – November 15 2022



www.nwrfc.noaa.gov & www.cnrfc.noaa.gov

USGS
science for a changing world

Oregon Water Supply Availability Meeting

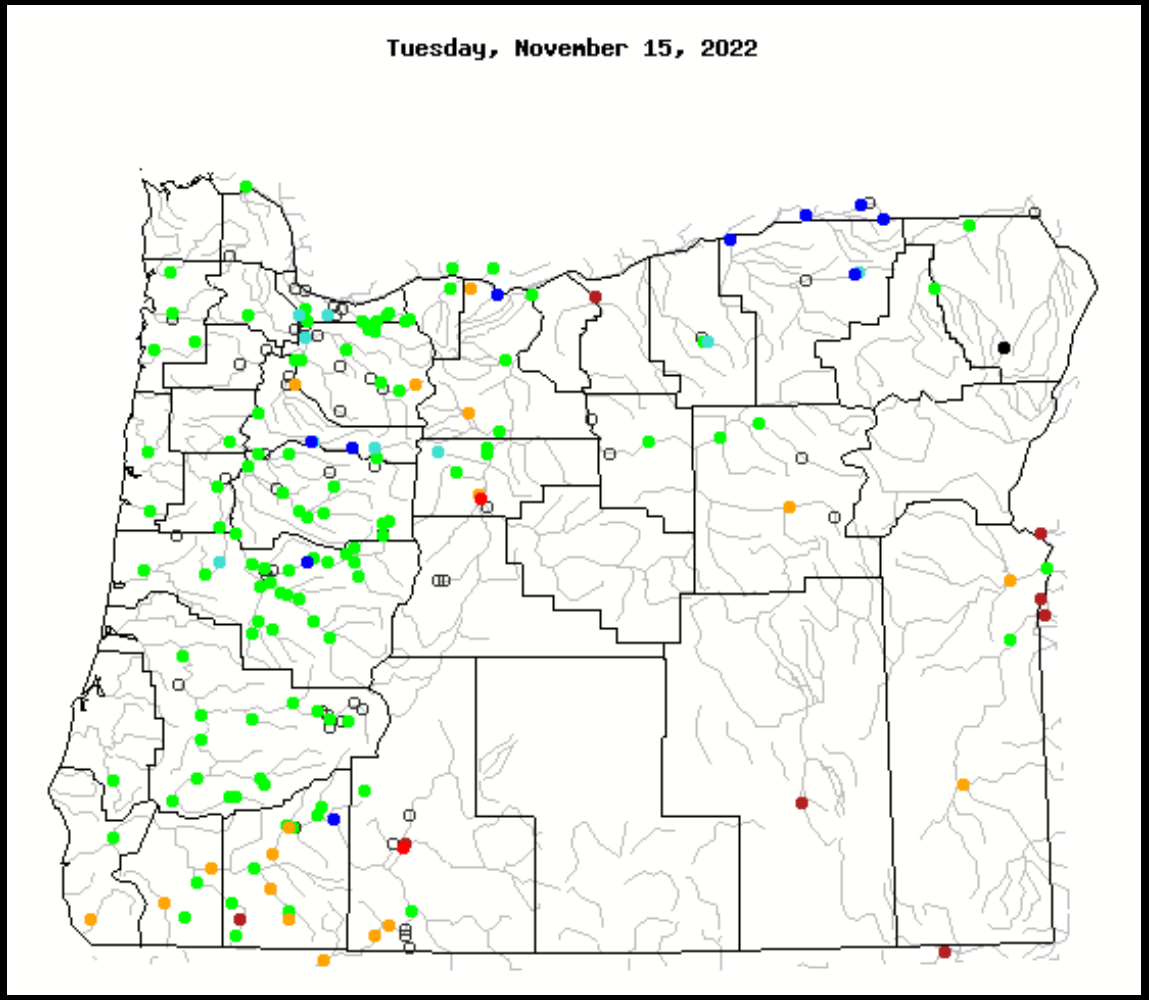
U.S. Department of the Interior
U.S. Geological Survey

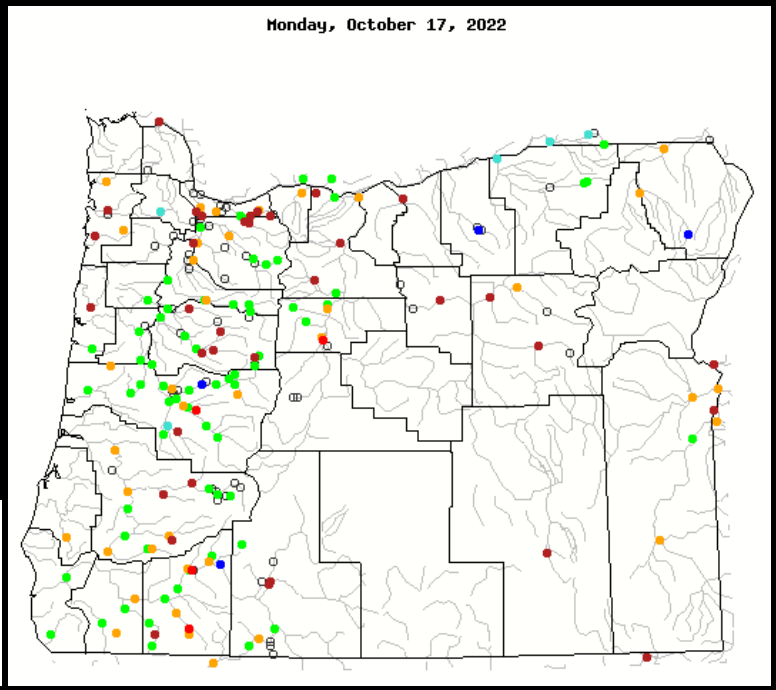
USGS Update on Surface Water Conditions

Carrie Boudreau & Marc Stewart
Oregon Water Science Center

Streamflow Conditions

28-day Average Streamflow (as compared to Historical Record)



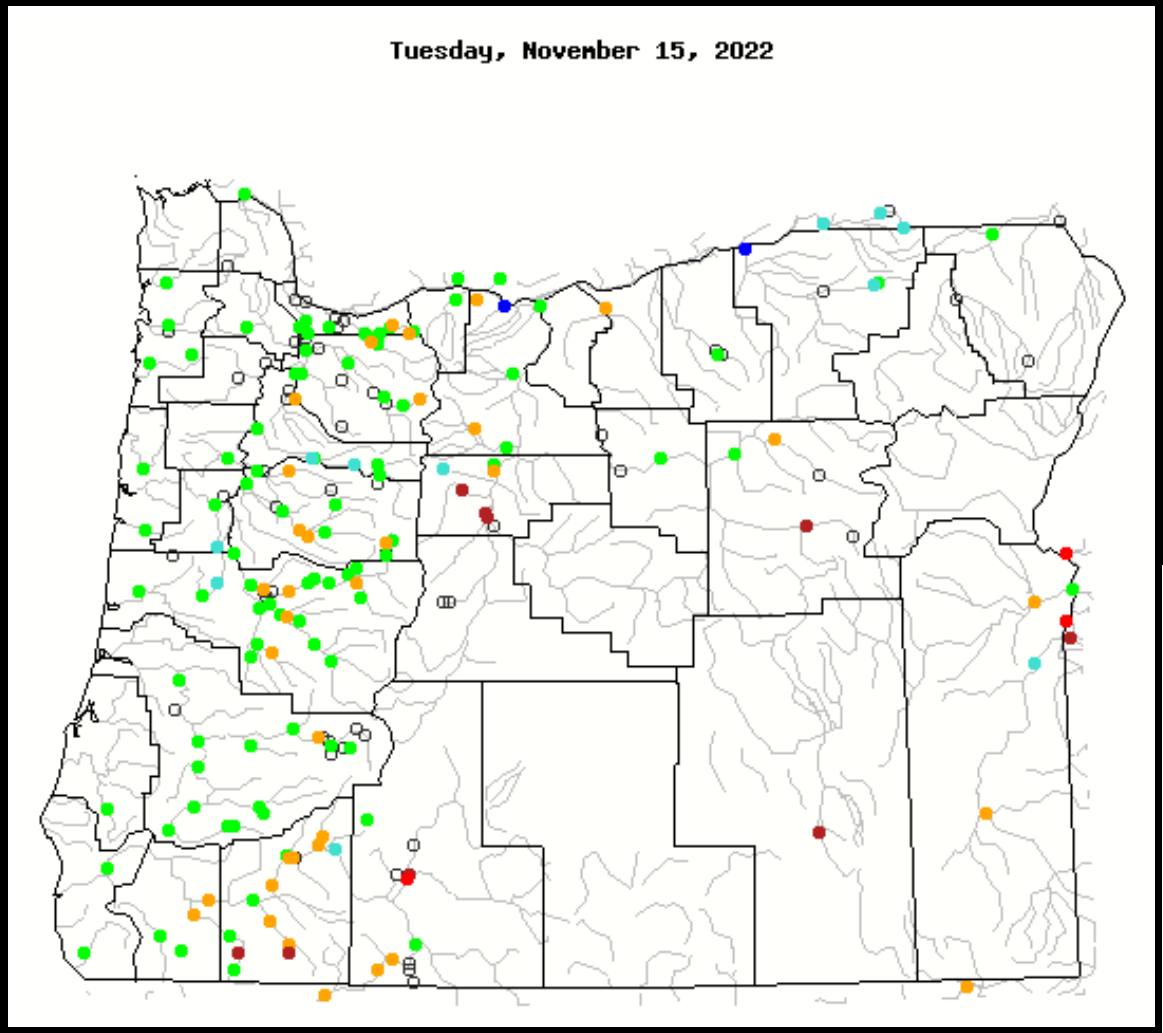


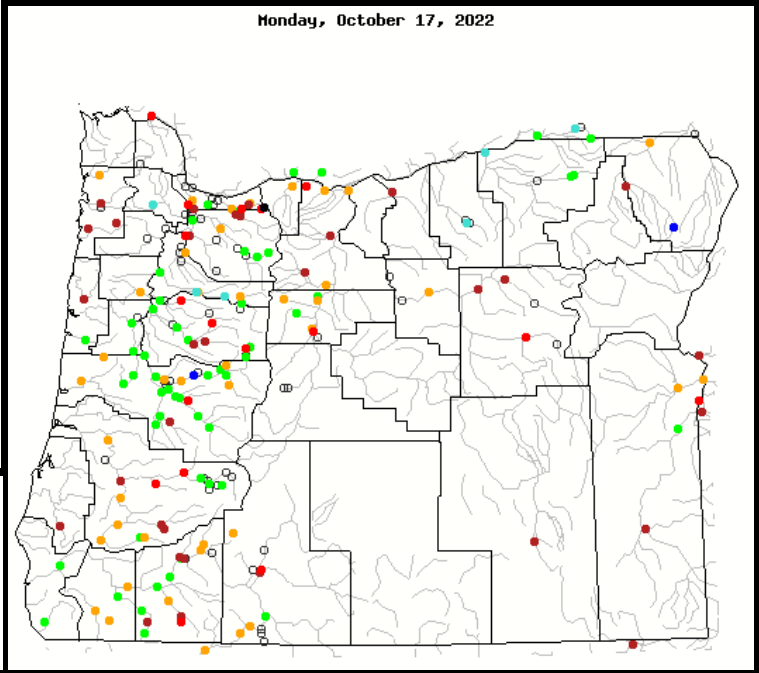
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

USGS

Streamflow Conditions

7-day Average Streamflow (as compared to Historical Record)

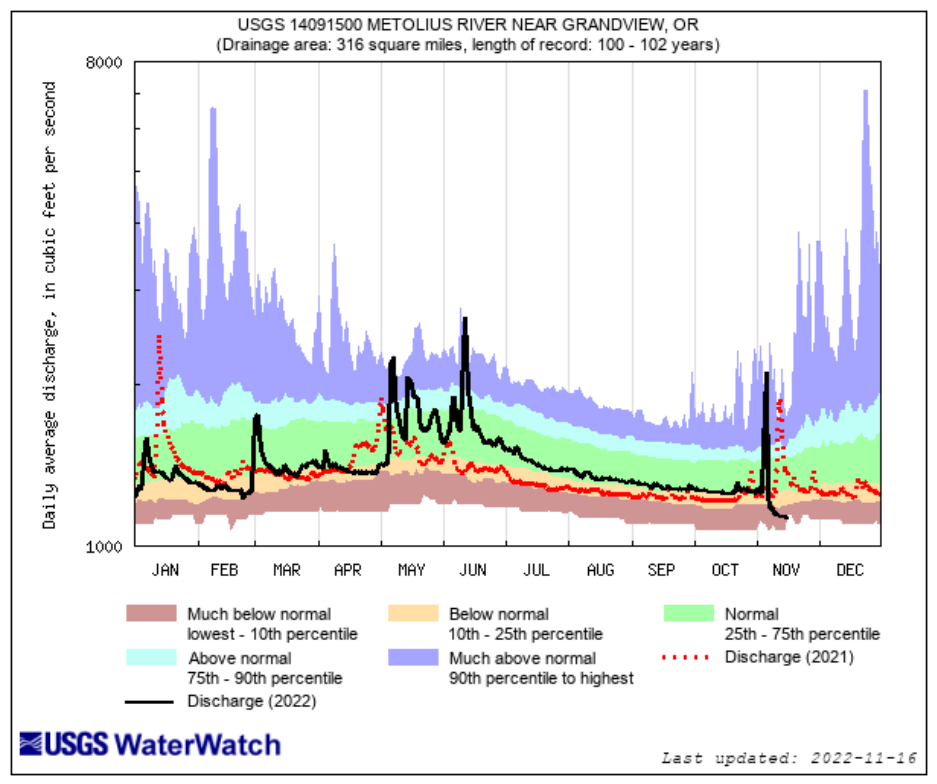


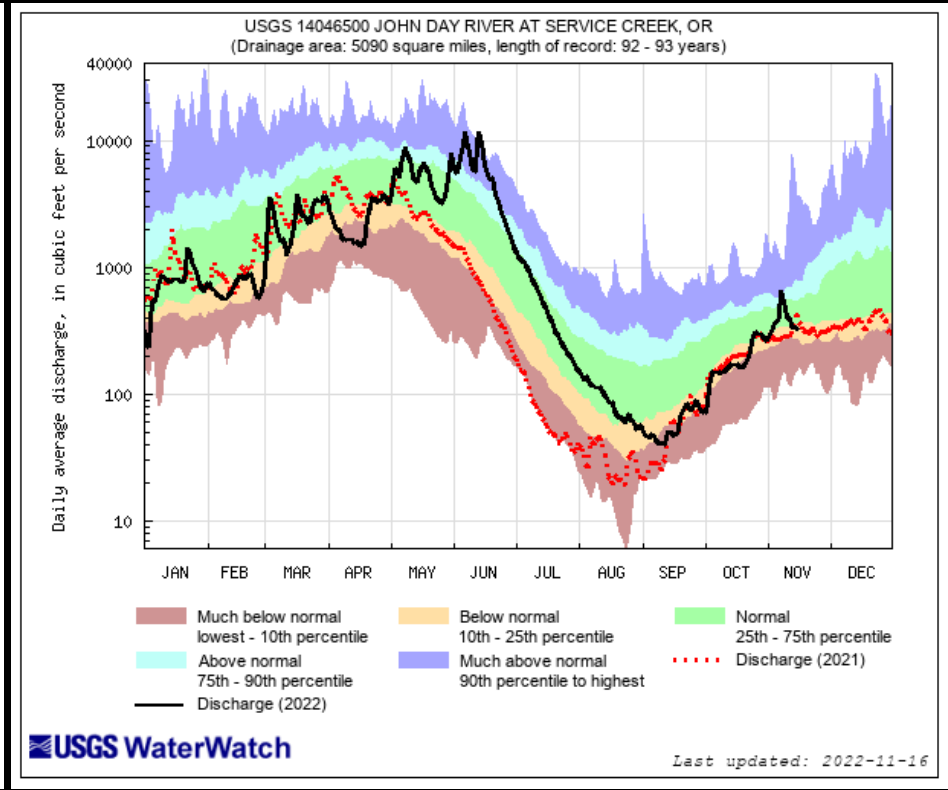


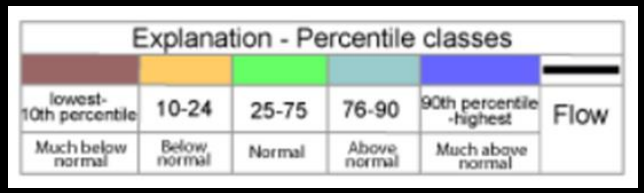
USGS

Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Northeastern OR

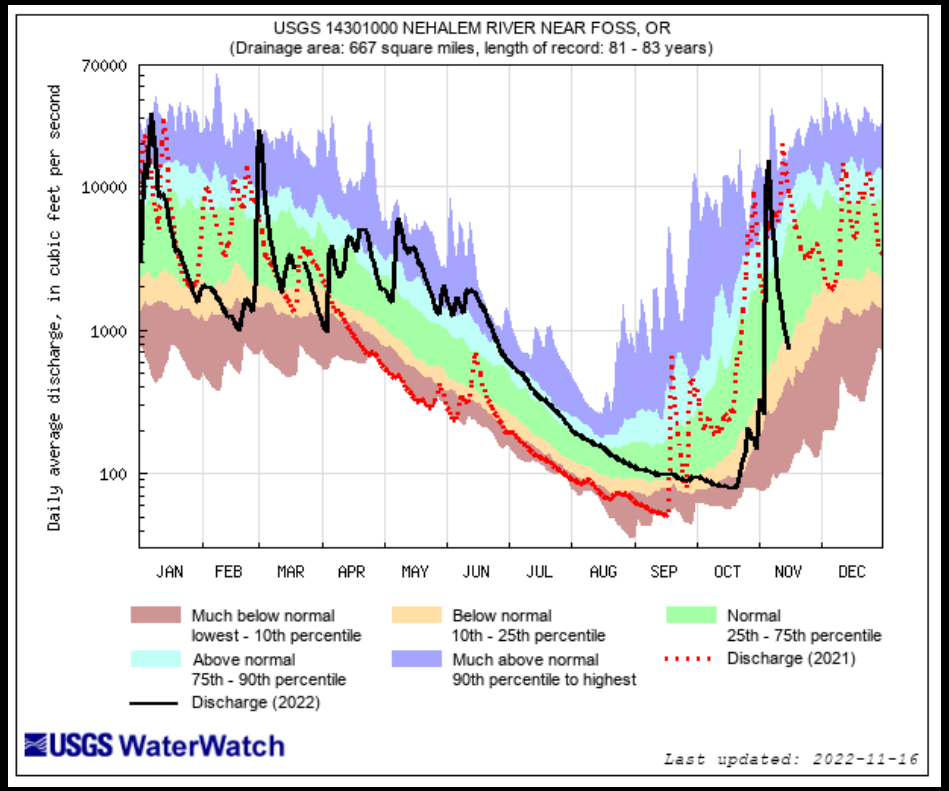


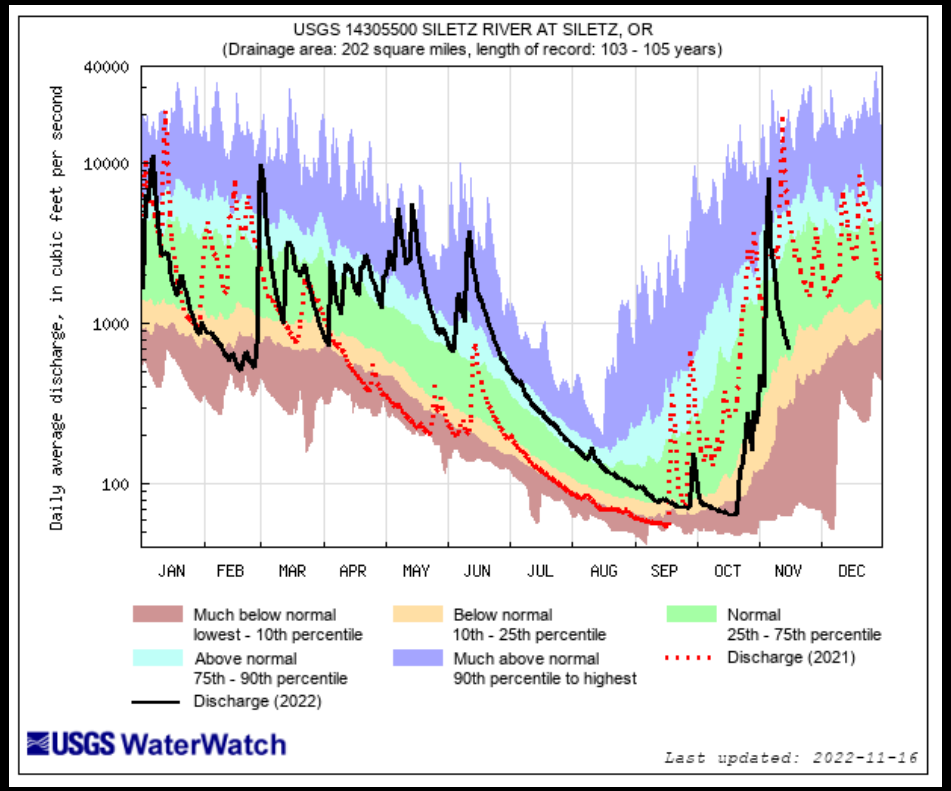


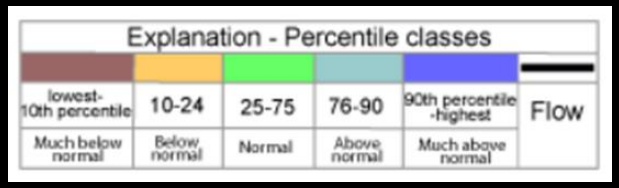


USGS

Northwestern OR

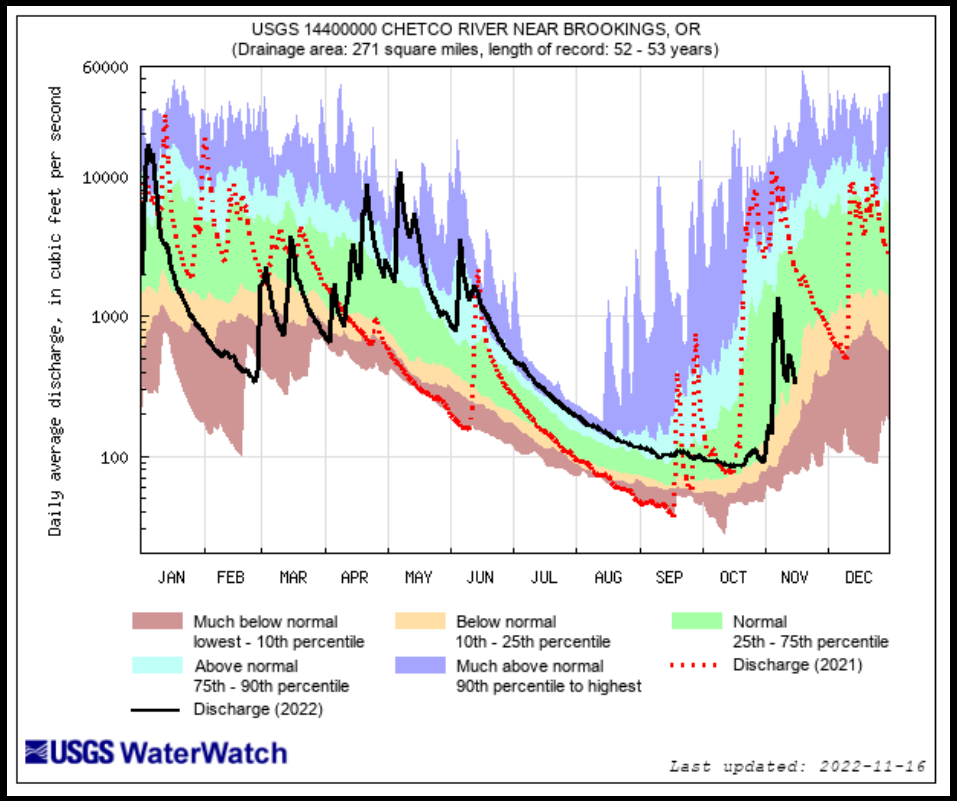


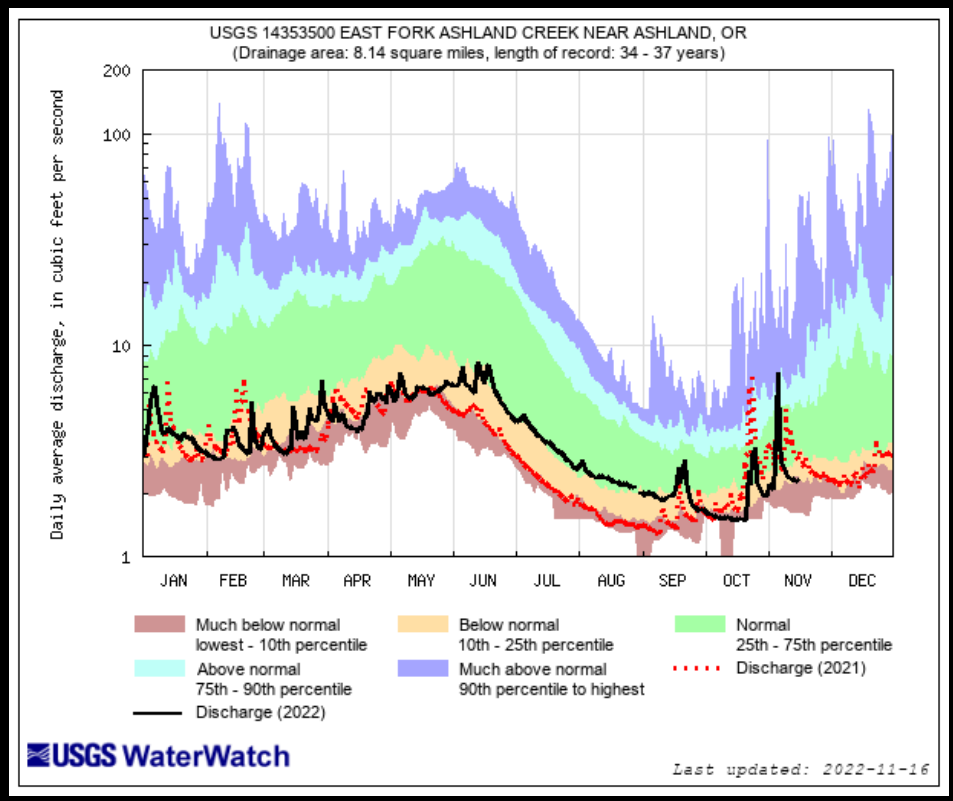


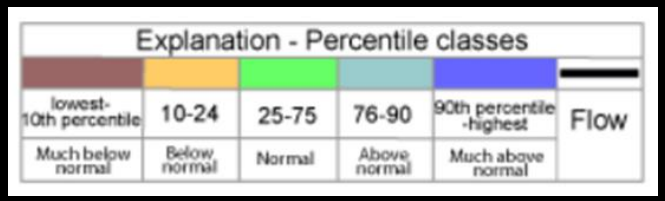


USGS

Southwestern OR

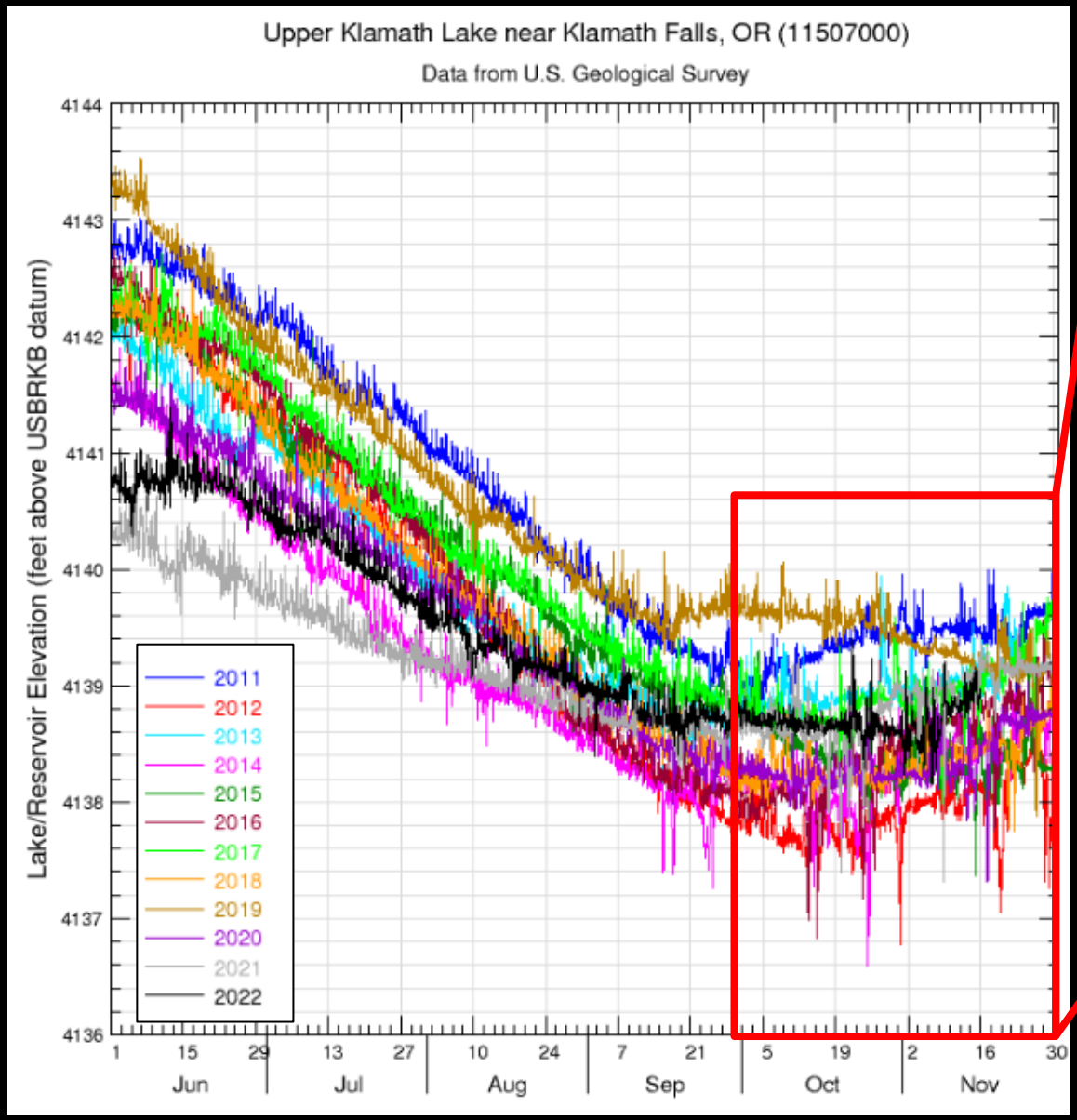


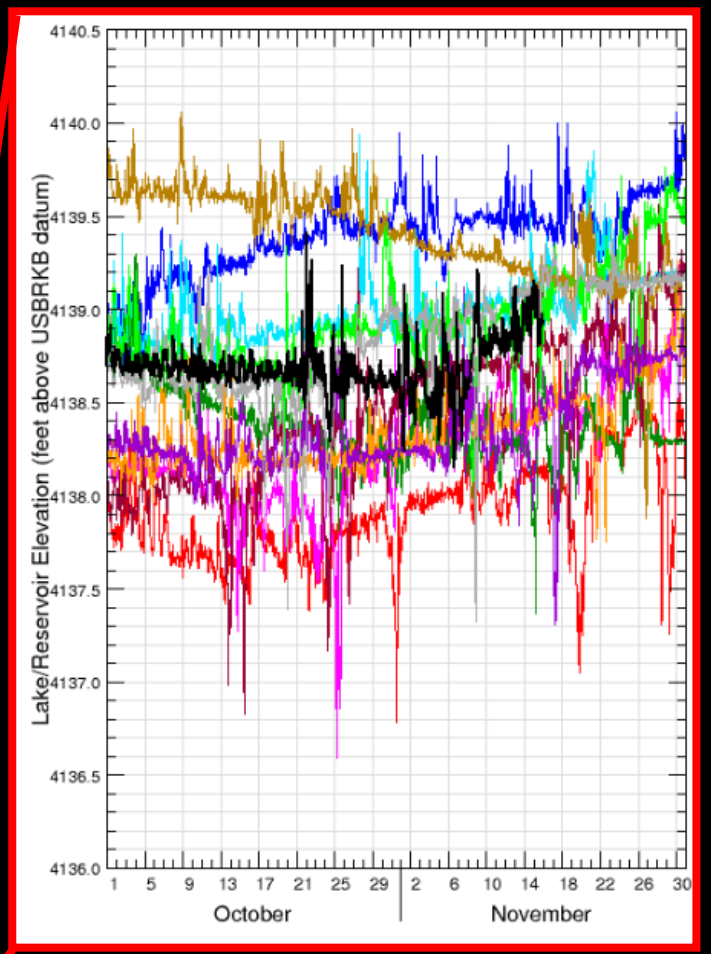




USGS

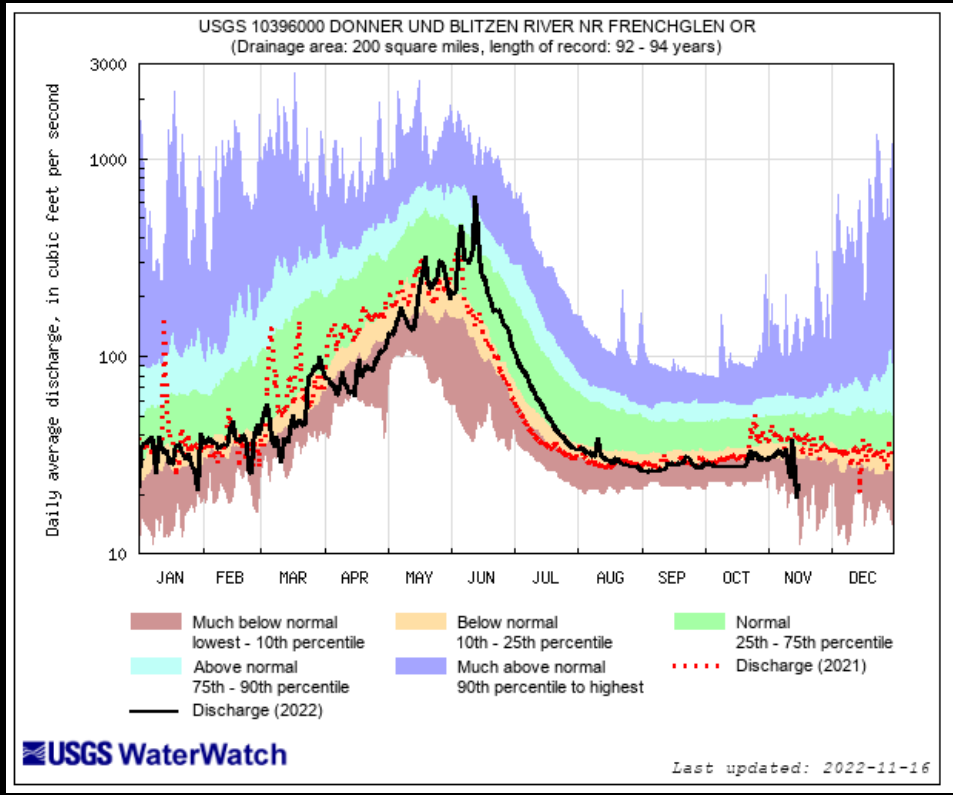
Klamath Lake

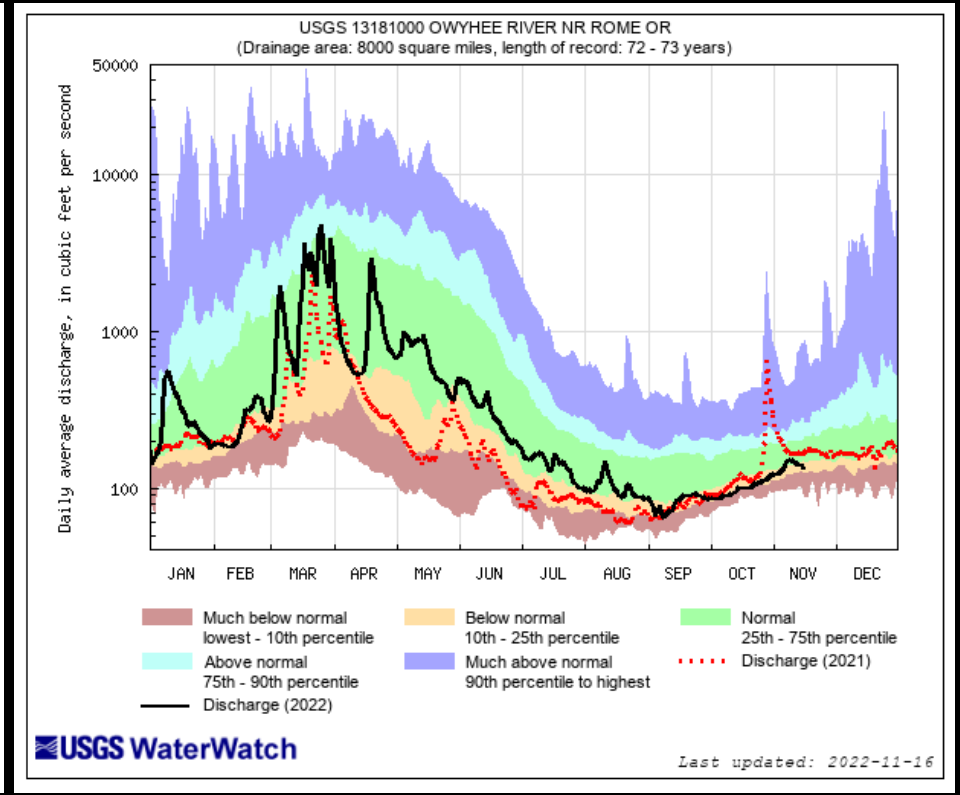


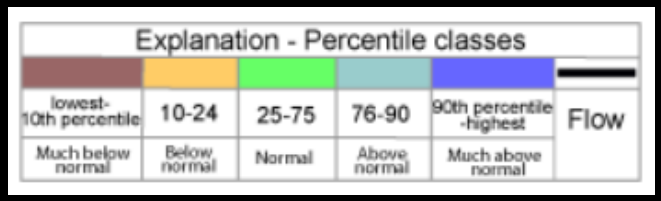


USGS

Southeastern OR







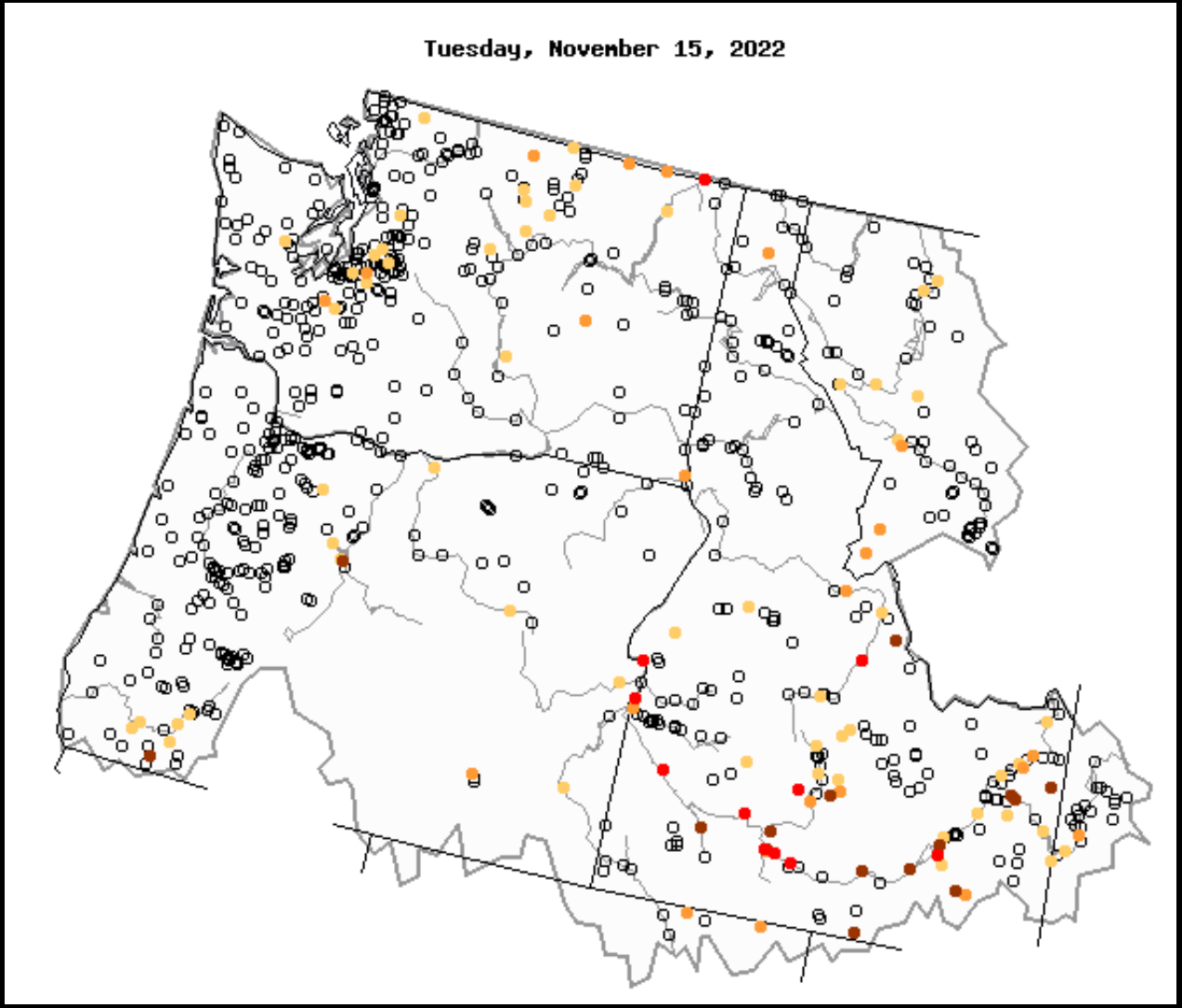
USGS

US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR OCTOBER 2022

Station	NRCS SWSI Basin	Monthly mean discharge: Cubic feet per second	Monthly mean discharge: Percent of average	Change in discharge from previous month (percent)	Accumulated Runoff For the Period Oct. to Oct.: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	29	71	4	71
(*)Deep Creek above Adel	Lake County	8	40	33	40
(*)Chewaucan River near Paisley	Lake County	29	81	12	81
Williamson River near Chiloquin	Klamath	498	88	4	88
Owyhee River near Rome	Owyhee	100	72	22	72
(*)NF Malheur River near Beulah	Malheur	45	90	13	90
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	665	85	12	85
Umatilla River nr Gibbon	Umatilla Lower John Day	49	92	9	92
John Day River at Service Crk	Upper John Day	189	57	155	57
(*)Little Deschutes River nr LaPine	Upper Deschutes	35	47	-38	47
Hood River nr Hood River	Lower Deschutes Mt.Hood	342	67	23	67
Willamette River at Salem	Willamette	12,300	97	43	97
Wilson River near Tillamook	North Coast	83	15	19	15
Umpqua River near Elkton	Rogue/Umpqua	1,140	64	8	64
Rogue River near Agness	Rogue/Umpqua	1,530	78	-19	78
SF Coquille River at Powers	South Coast	24	15	9	15
Chetco River near Brookings	South Coast	93	16	-11	16

All data should be considered provisional and subject to revision.
Percent of average computed using 30-year base period, water years 1991-2020.
(*) provided by Oregon Water Resources Department

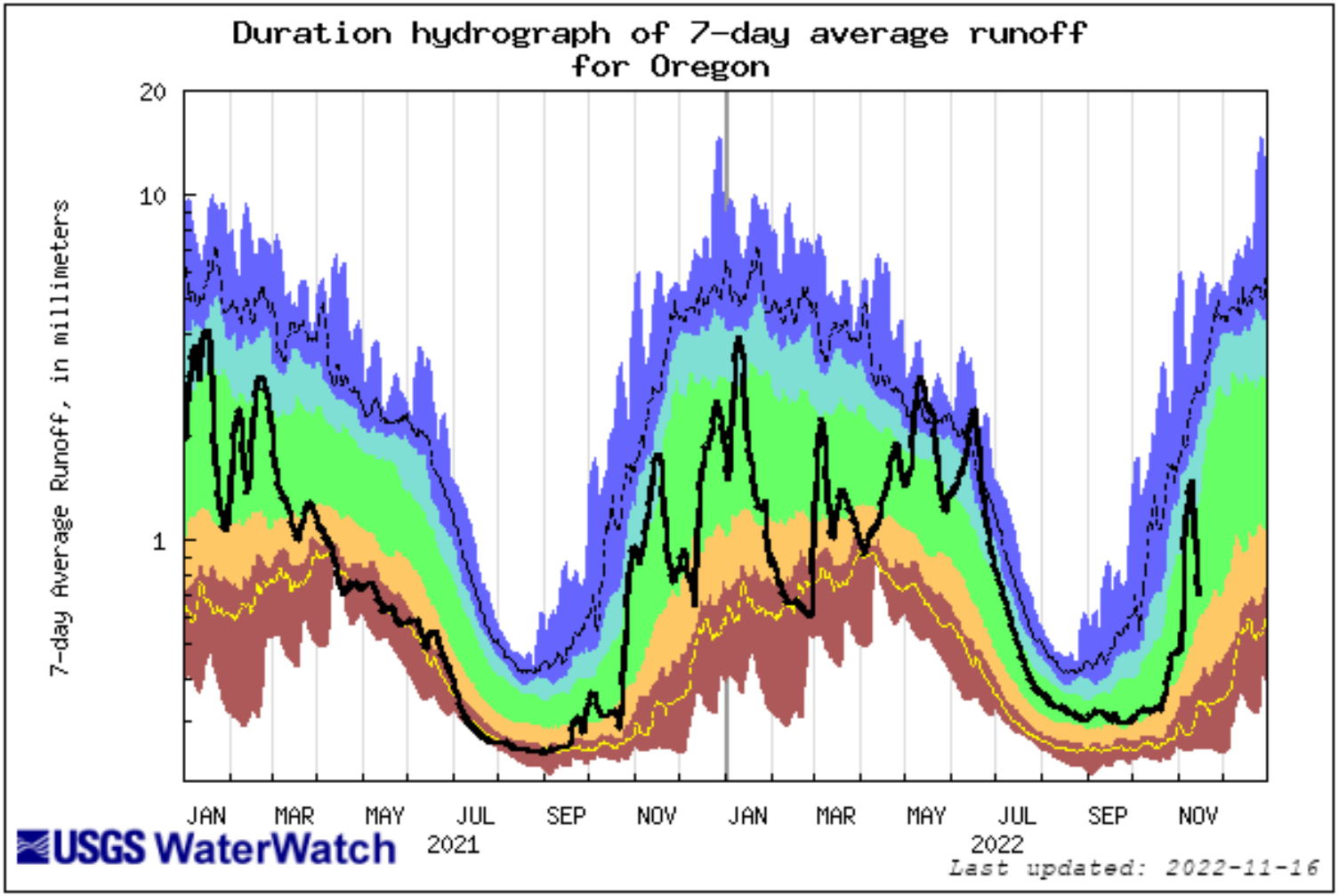
11/04/2022



Map of below normal 14-day average streamflow compared to historical streamflow for the day of year

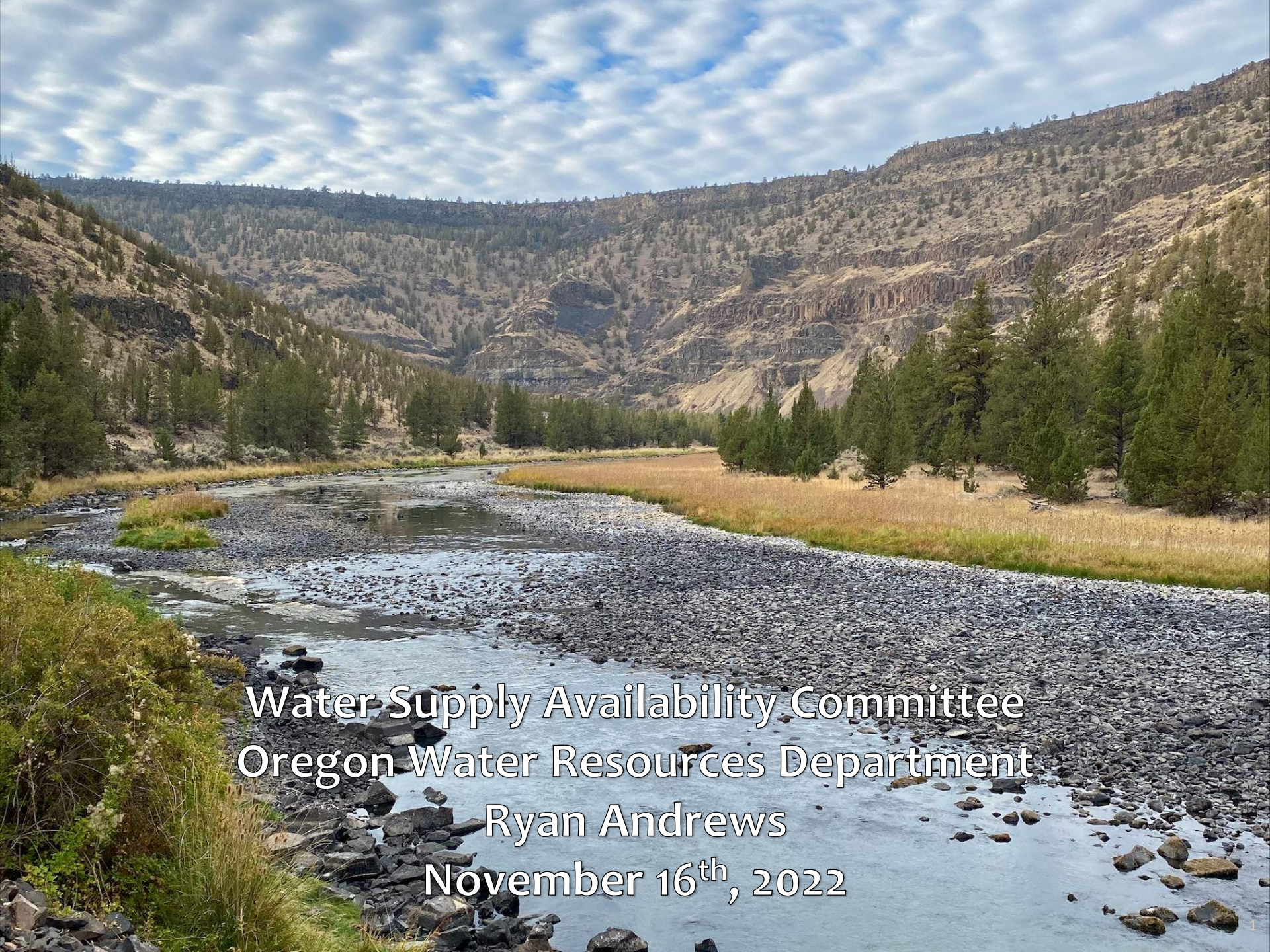
Explanation - Percentile classes				
New low	<=5	6-9	10-24	Not ranked
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

USGS



Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Runoff
Much below Normal		Below normal	Normal	Above normal	Much above normal		

USGS



Water Supply Availability Committee

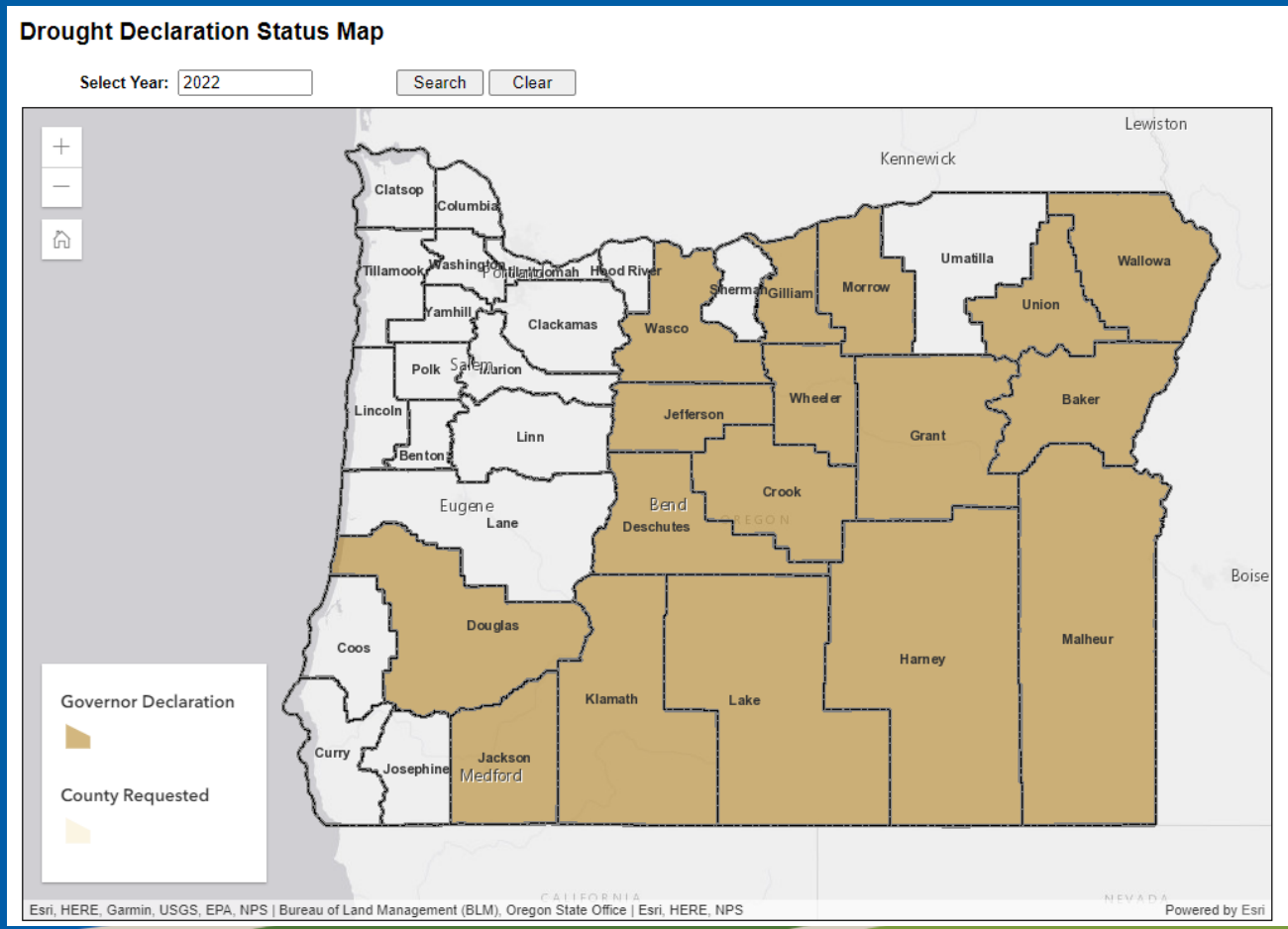
Oregon Water Resources Department

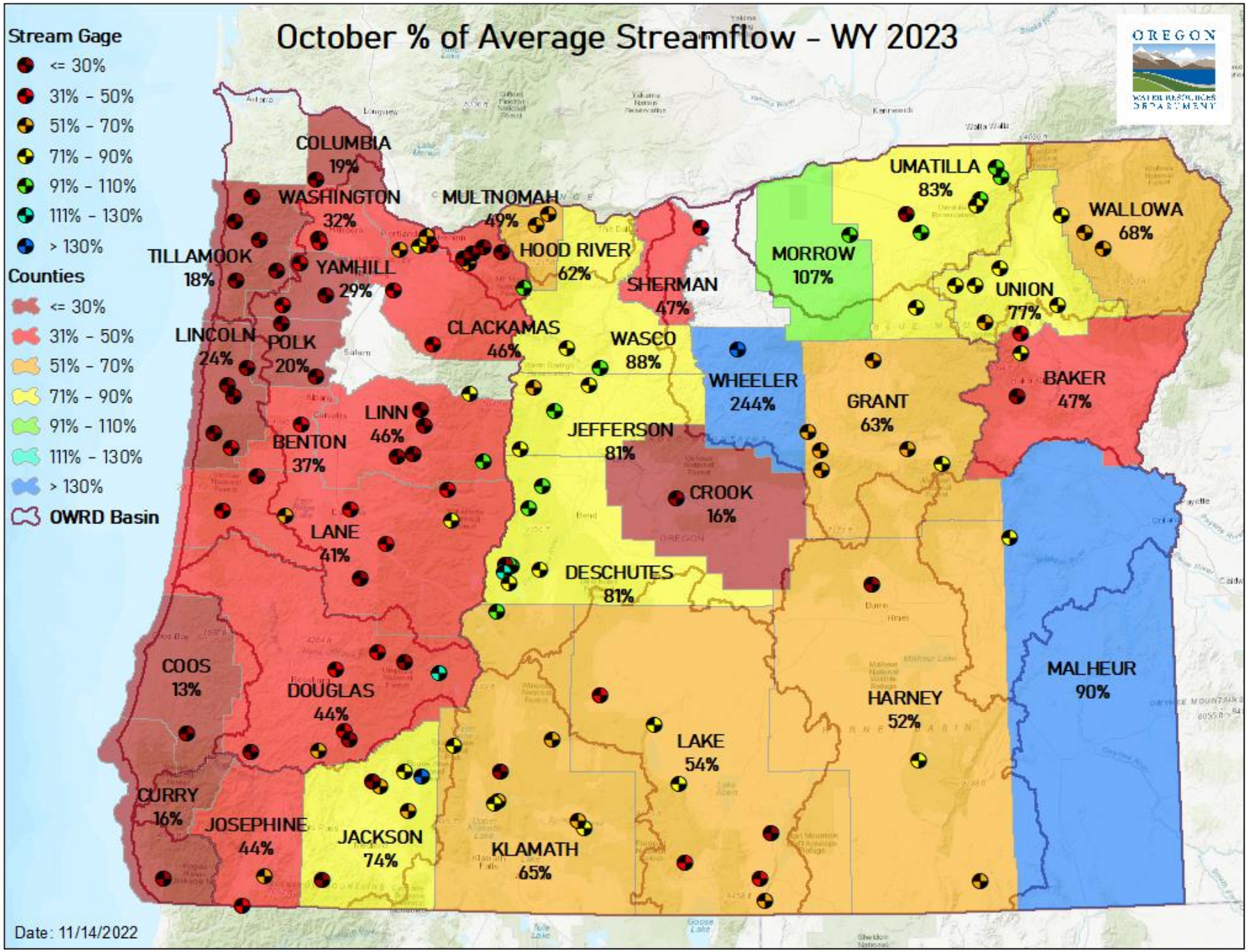
Ryan Andrews

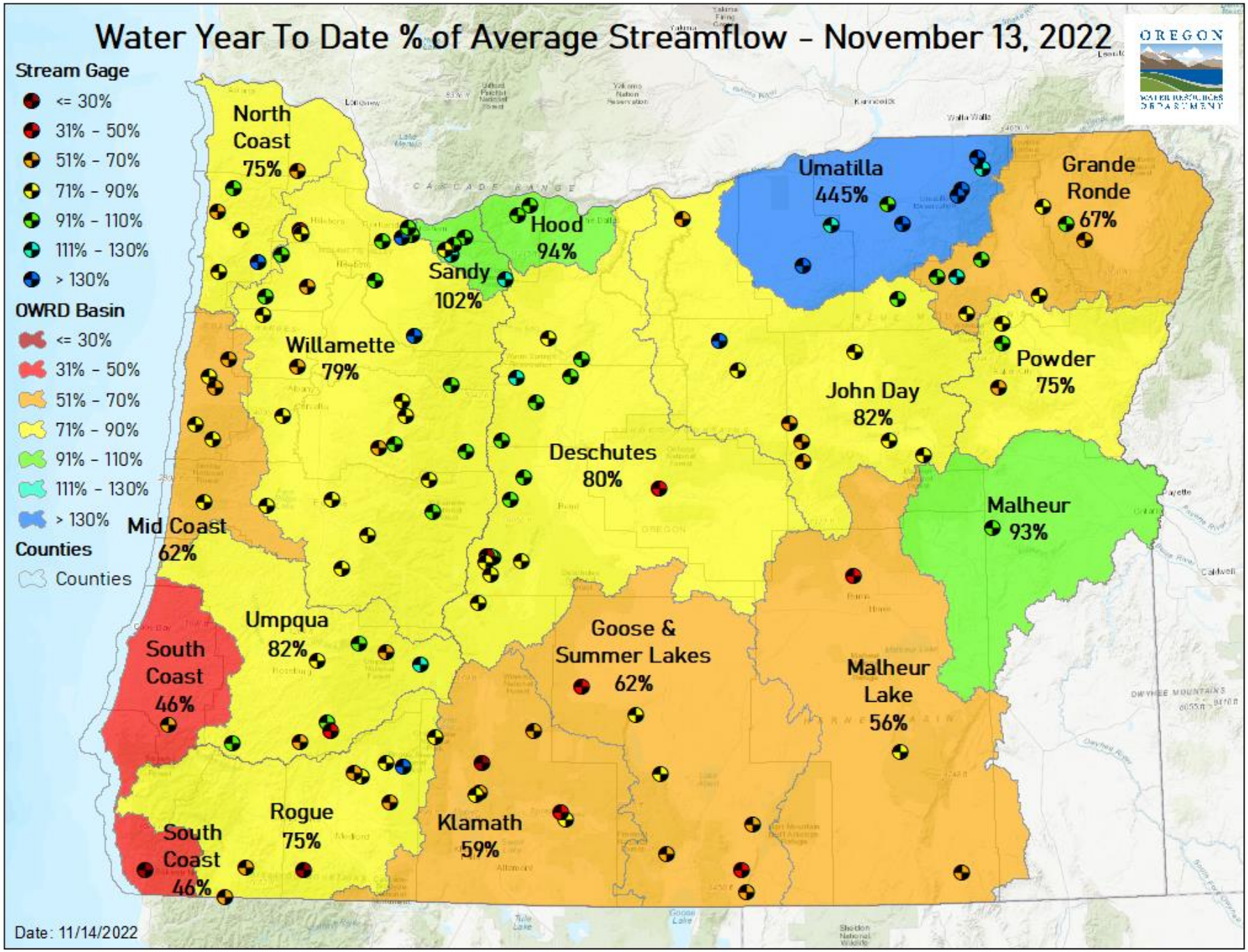
November 16th, 2022

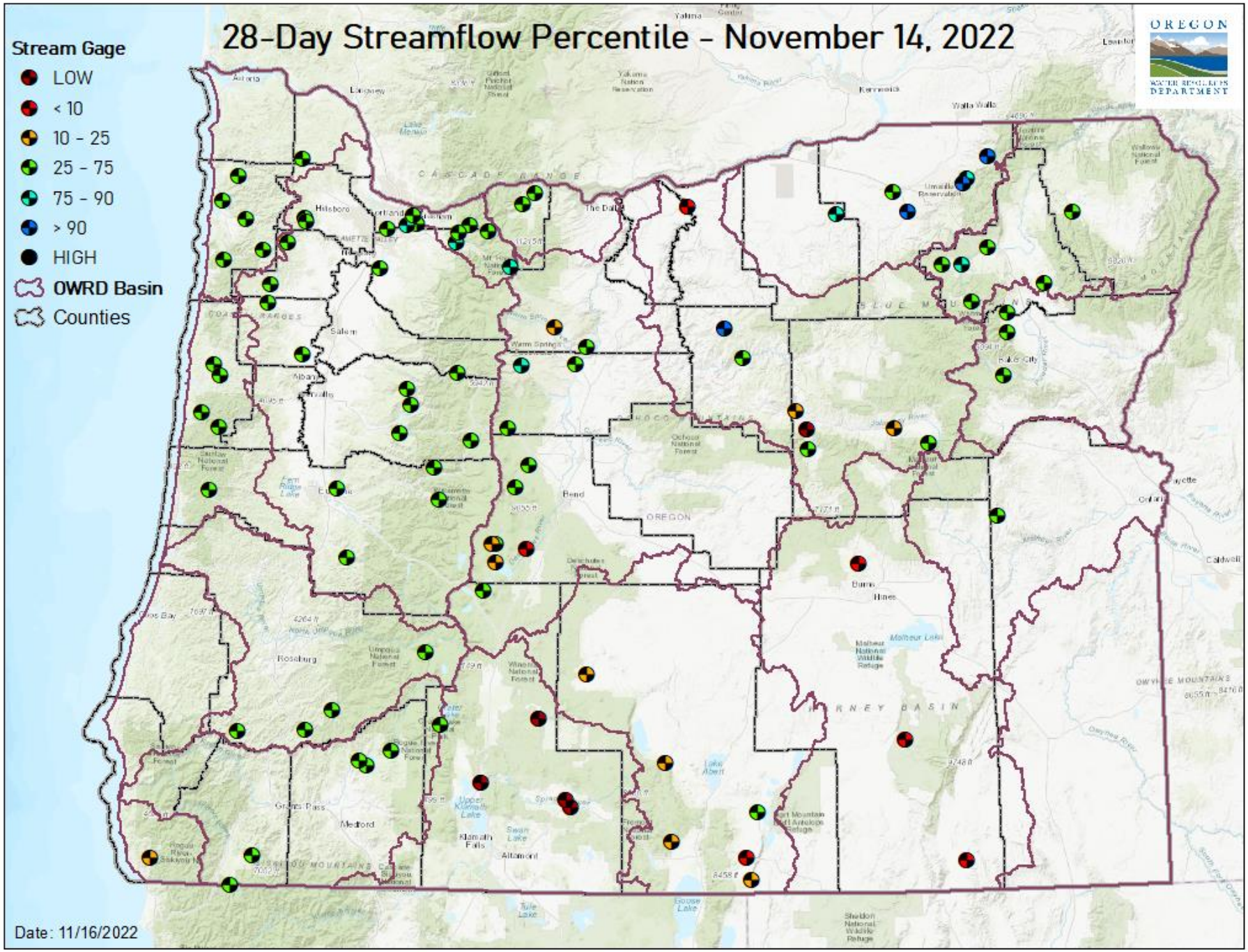
Drought Declarations

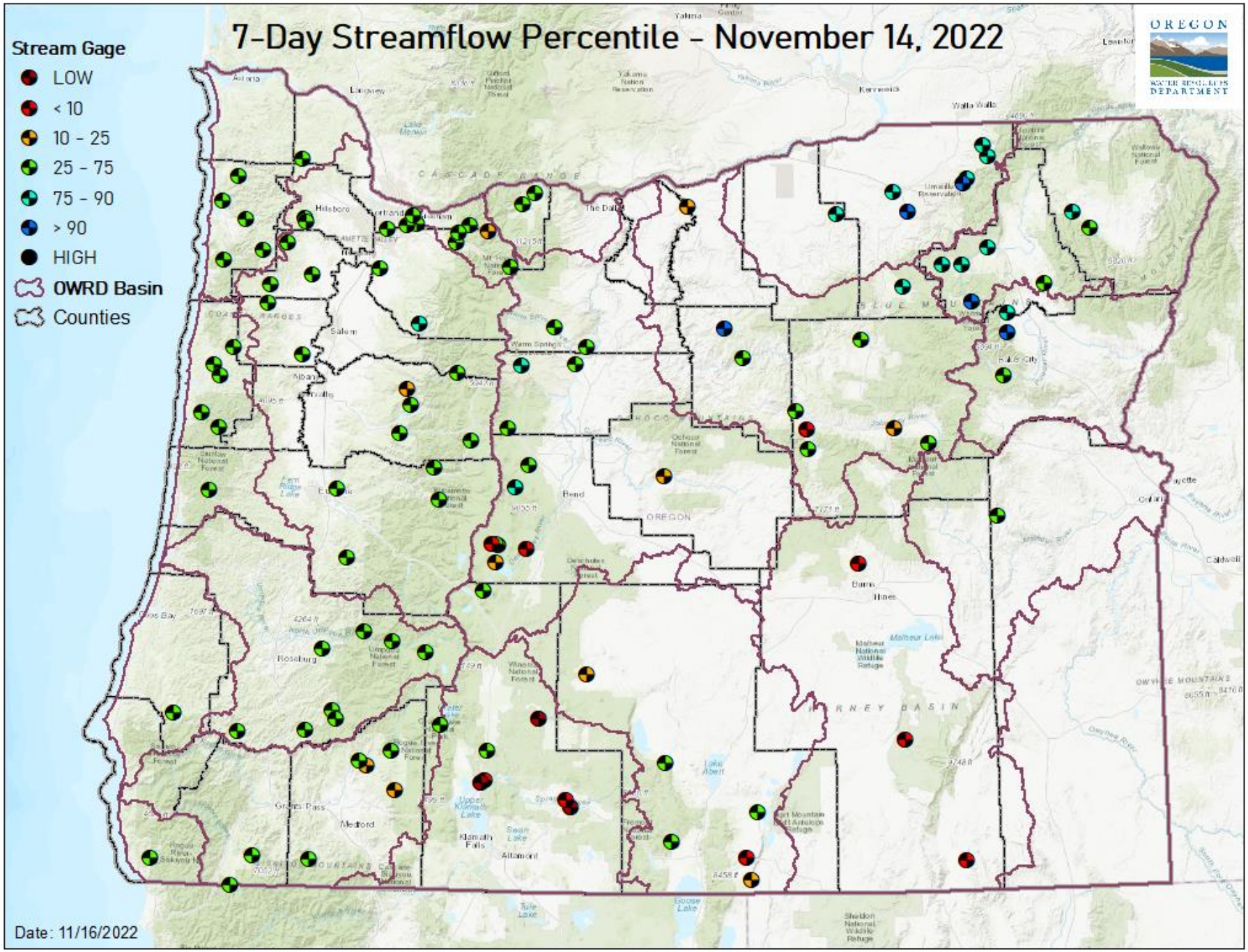
- 17 counties with ORS 536 declarations
- 29 counties with USDA crop disaster designations due to drought
- Expire end of calendar year

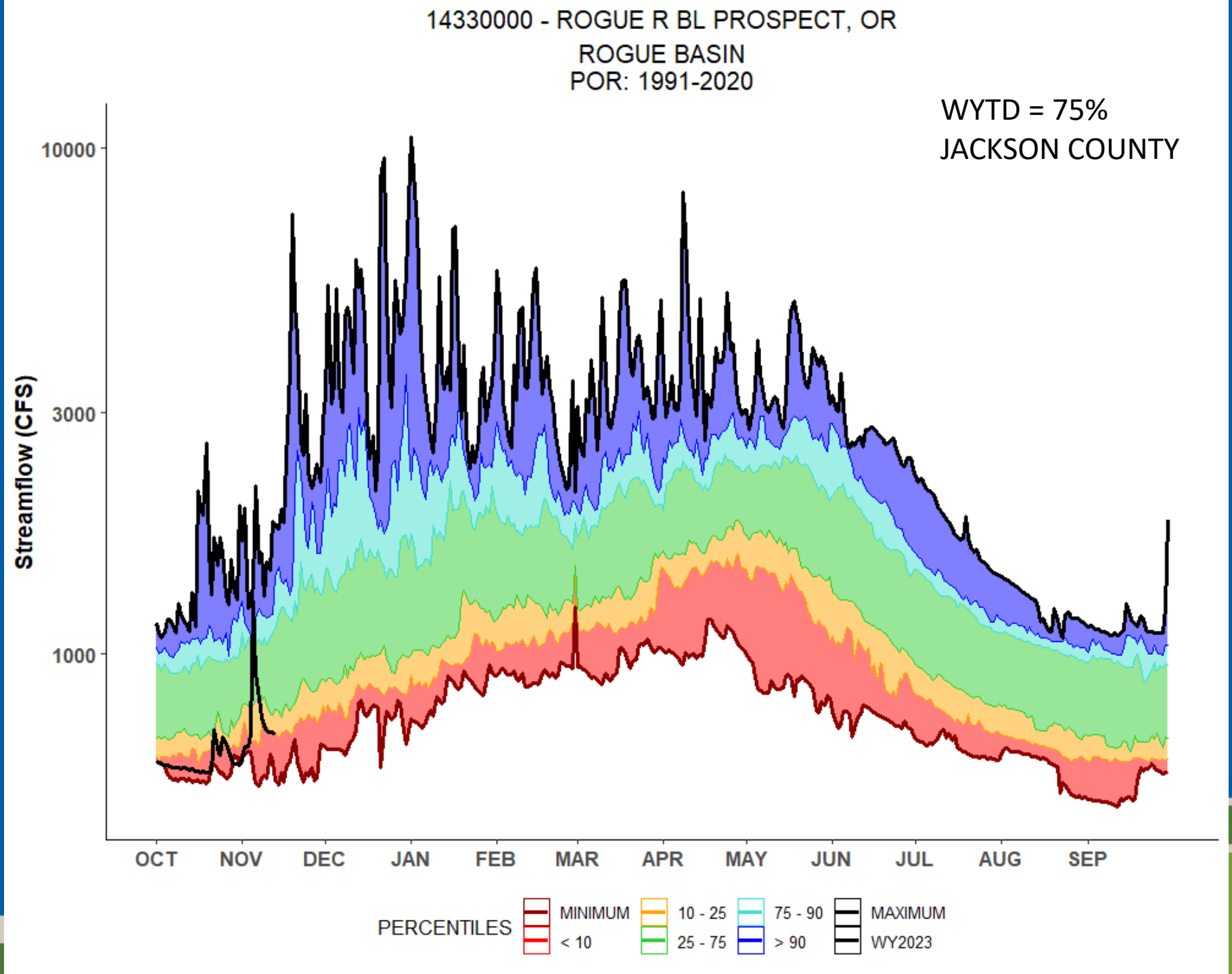


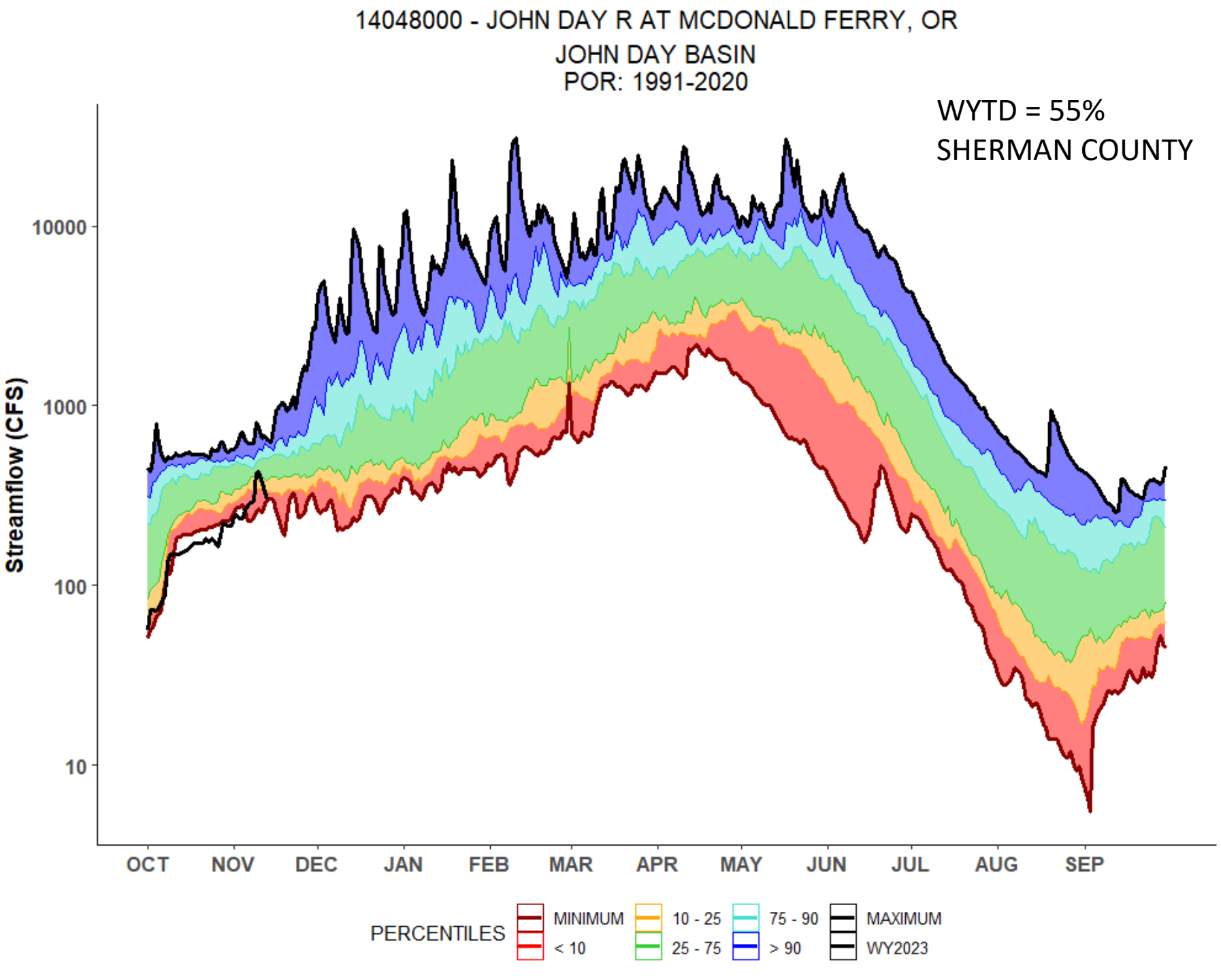

October % of Average Streamflow - WY 2023
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
COLUMBIA 19%
WASHINGTON 32%
MULTNOMAH 49%
TILLAMOOK 18%
YAMHILL 29%
HOOD RIVER 62%
SHERMAN 47%
UMATILLA 83%
MORROW 107%
WALLOWA 68%
UNION 77%
LINCOLN 24%
POLK 20%
CLACKAMAS 46%
WASCO 88%
WHEELER 244%
GRANT 63%
BAKER 47%
LINN 46%
BENTON 37%
JEFFERSON 81%
CROOK 16%
LANE 41%
DESCHUTES 81%
COOS 13%
DOUGLAS 44%
MALHEUR 90%
HARNEY 52%
LAKE 54%
CURRY 16%
JOSEPHINE 44%
JACKSON 74%
KLAMATH 65%
Date: 11/14/2022

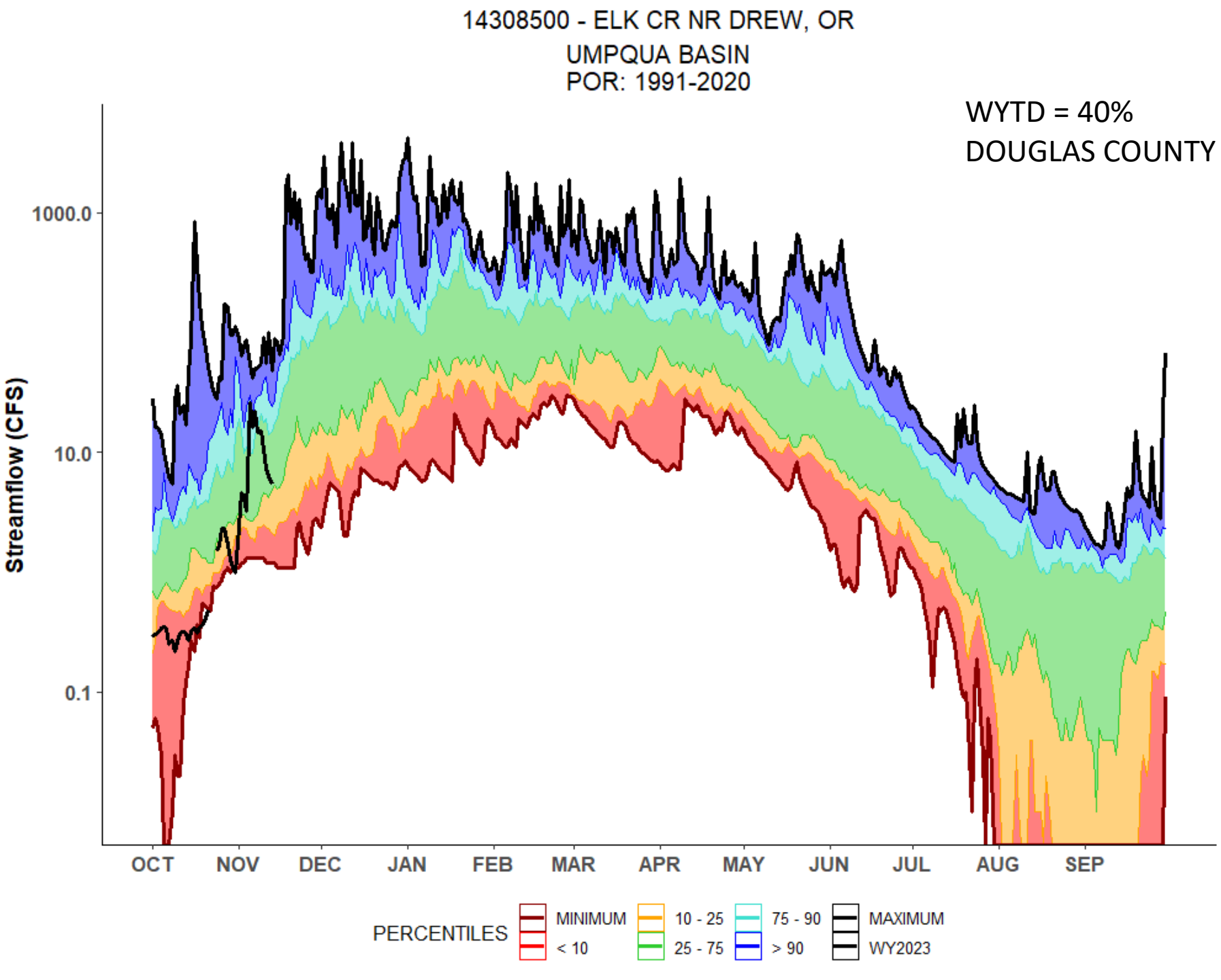

Water Year To Date % of Average Streamflow - November 13, 2022
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
Counties
OREGON
WATER RESOURCES DEPARTMENT
North Coast 75%
Umatilla 445%
Grande Ronde 67%
Hood 94%
Sandy 102%
Willamette 79%
Powder 75%
John Day 82%
Deschutes 80%
Malheur 93%
Mid Coast 62%
Umpqua 82%
South Coast 46%
Goose & Summer Lakes 62%
Malheur Lake 56%
Rogue 75%
Klamath 59%
South Coast 46%
Date: 11/14/2022

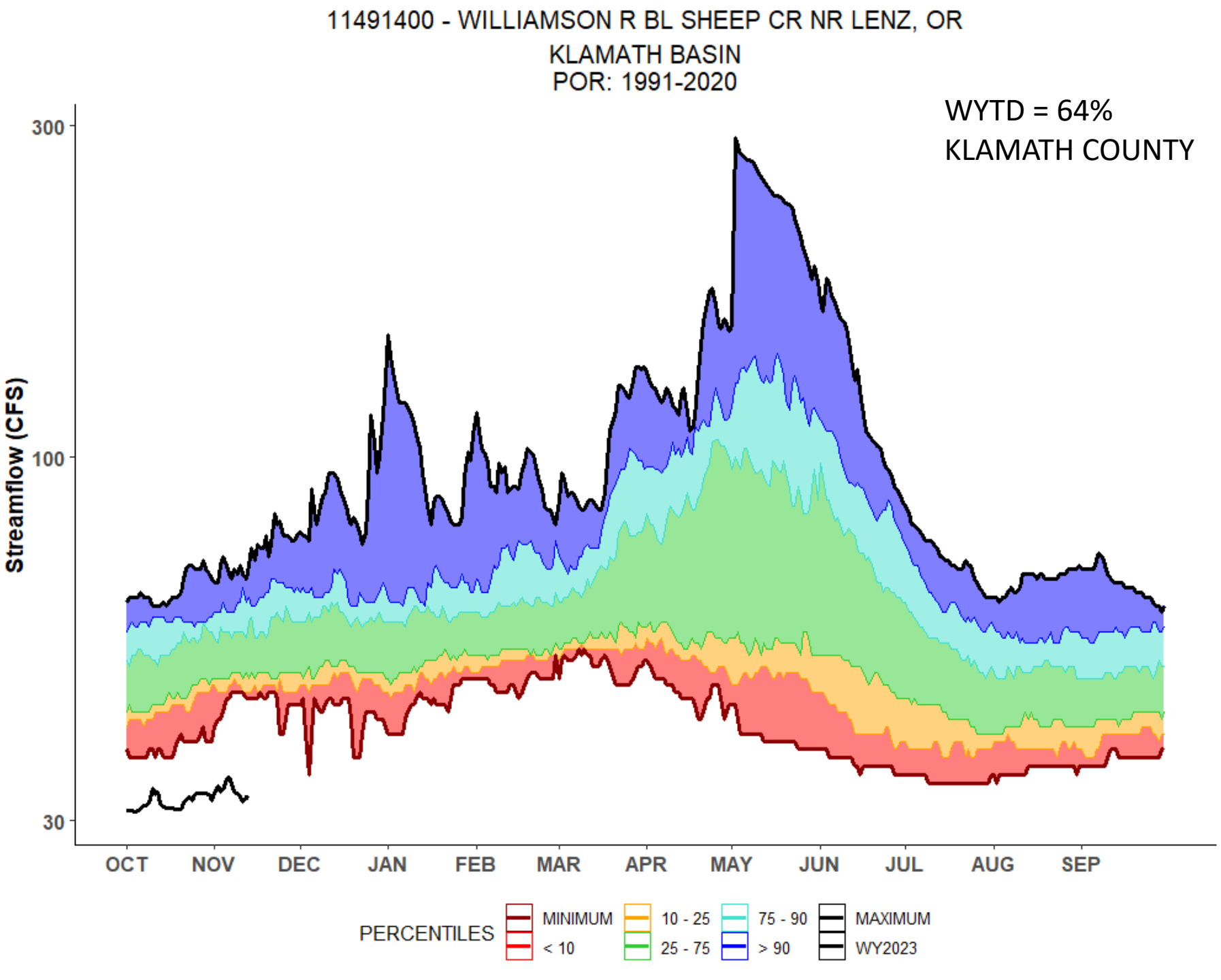

28-Day Streamflow Percentile - November 14, 2022
Stream Gage
LOW
< 10
10 - 25
25 - 75
75 - 90
> 90
HIGH
OWRD Basin
Counties
OREGON
WATER RESOURCES DEPARTMENT
Date: 11/16/2022


7-Day Streamflow Percentile - November 14, 2022
Stream Gage
LOW
< 10
10 - 25
25 - 75
75 - 90
> 90
HIGH
OWRD Basin
Counties
OREGON
WATER RESOURCES DEPARTMENT
Date: 11/16/2022


14330000 - ROGUE R BL PROSPECT, OR
ROGUE BASIN
POR: 1991-2020
WYTD = 75%
JACKSON COUNTY
Streamflow (CFS)
10000
3000
1000
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023


14048000 - JOHN DAY R AT MCDONALD FERRY, OR
JOHN DAY BASIN
POR: 1991-2020
WYTD = 55%
SHERMAN COUNTY
Streamflow (CFS)
10000
1000
100
10
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023


14308500 - ELK CR NR DREW, OR
UMPQUA BASIN
POR: 1991-2020
WYTD = 40%
DOUGLAS COUNTY
Streamflow (CFS)
1000.0
10.0
0.1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023


11491400 - WILLIAMSON R BL SHEEP CR NR LENZ, OR
KLAMATH BASIN
POR: 1991-2020
WYTD = 64%
KLAMATH COUNTY
Streamflow (CFS)
300
100
30
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023

Summary

- Late start to water year – well below average October statewide
  - Early November precipitation elevated streamflows in western and NE Oregon

- Brief spike in streamflow, peaks quickly receded

OREGON
WATER RESOURCES
DEPARTMENT

QUESTIONS?

BUREAU OF RECLAMATION

Reclamation Storage Update

Oregon Water Supply Availability Committee Meeting

November 16, 2022

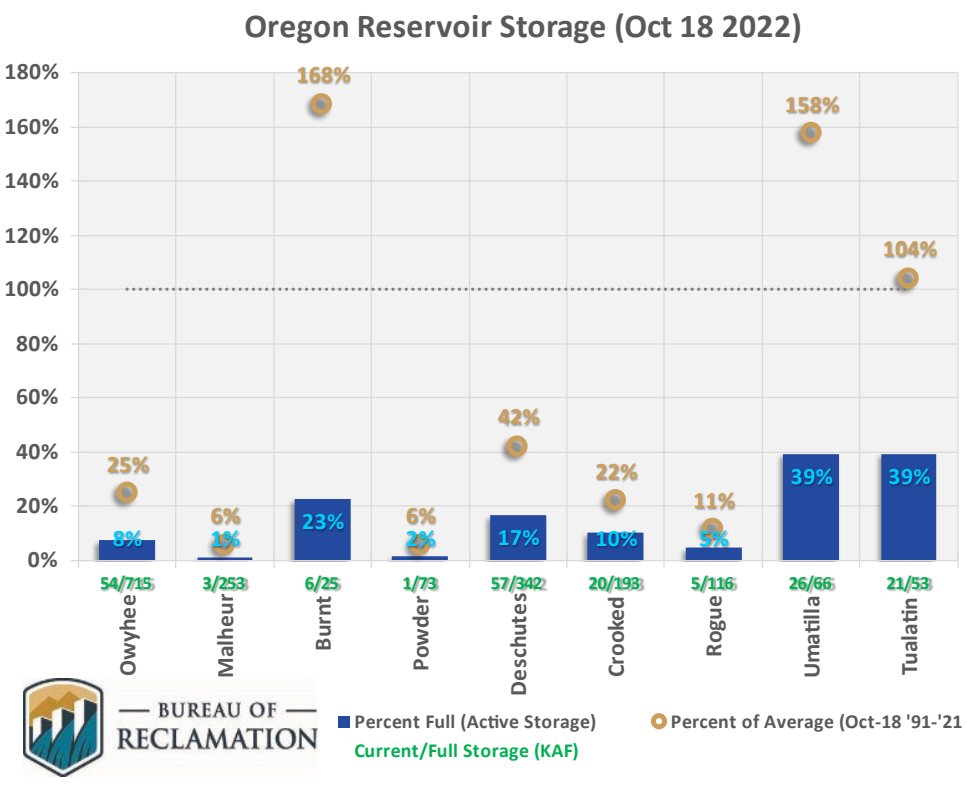
Owyhee Dam
Photo Credit:
Kirsten Strough, Reclamation
April 4, 2017

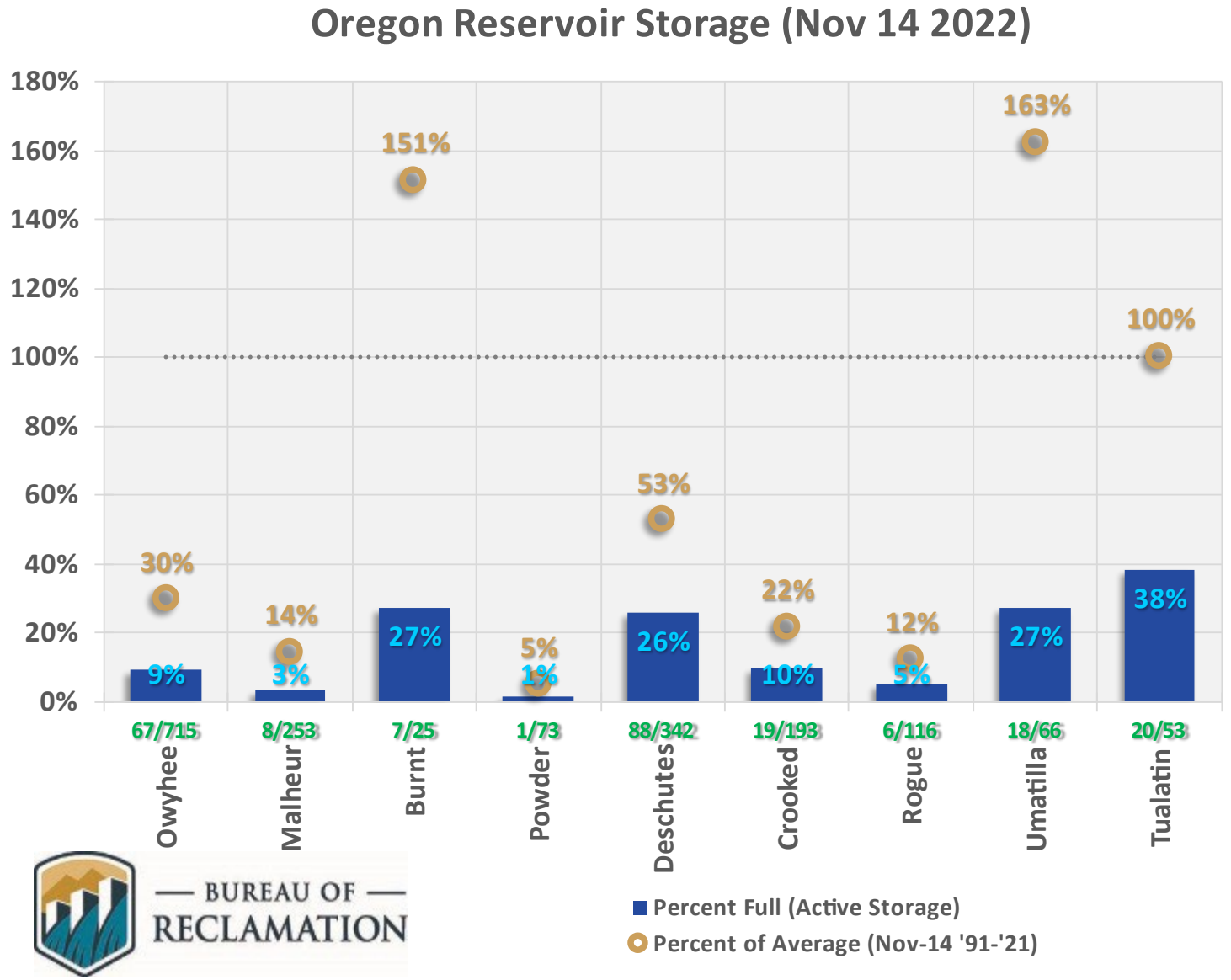
Basin Operations Summary

- Operations Activities:
  - Reservoirs are releasing winter minimums to continue filling
  - No FRM operations

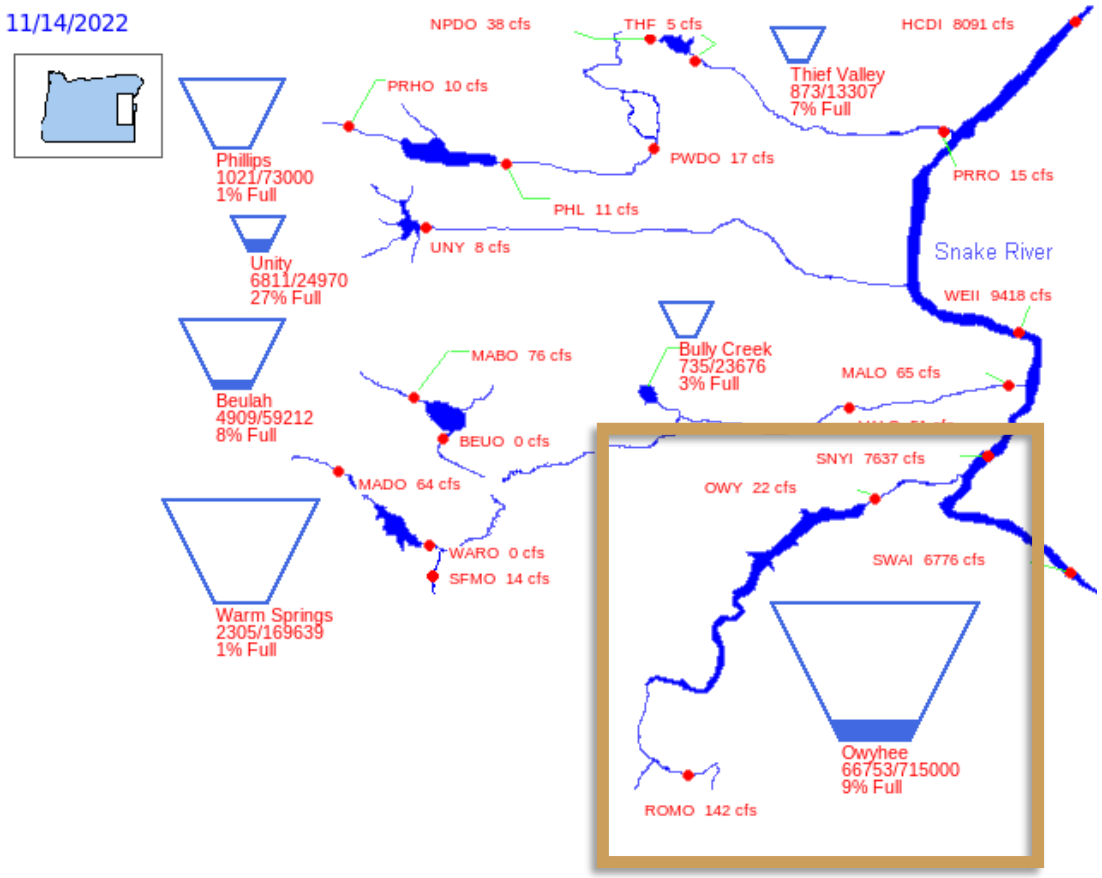
- Water Supply Notes
  - Much below normal storage content in the southern, central and southeastern basins (Rogue, Deschutes, Crooked, Malheur, Powder, Owyhee) => similar to WY2022
  - Above normal and higher storage content than WY2022 in the northern basins (Unity, McKay, Scoggins)

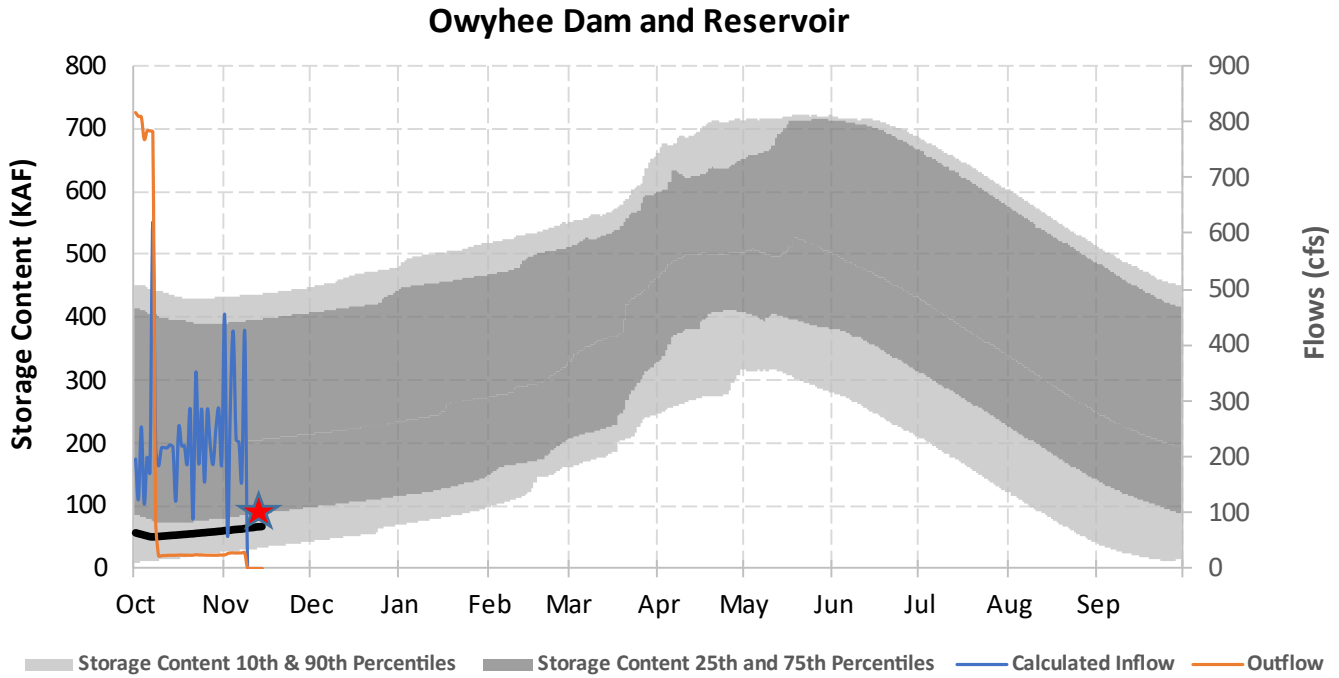
Storage Conditions



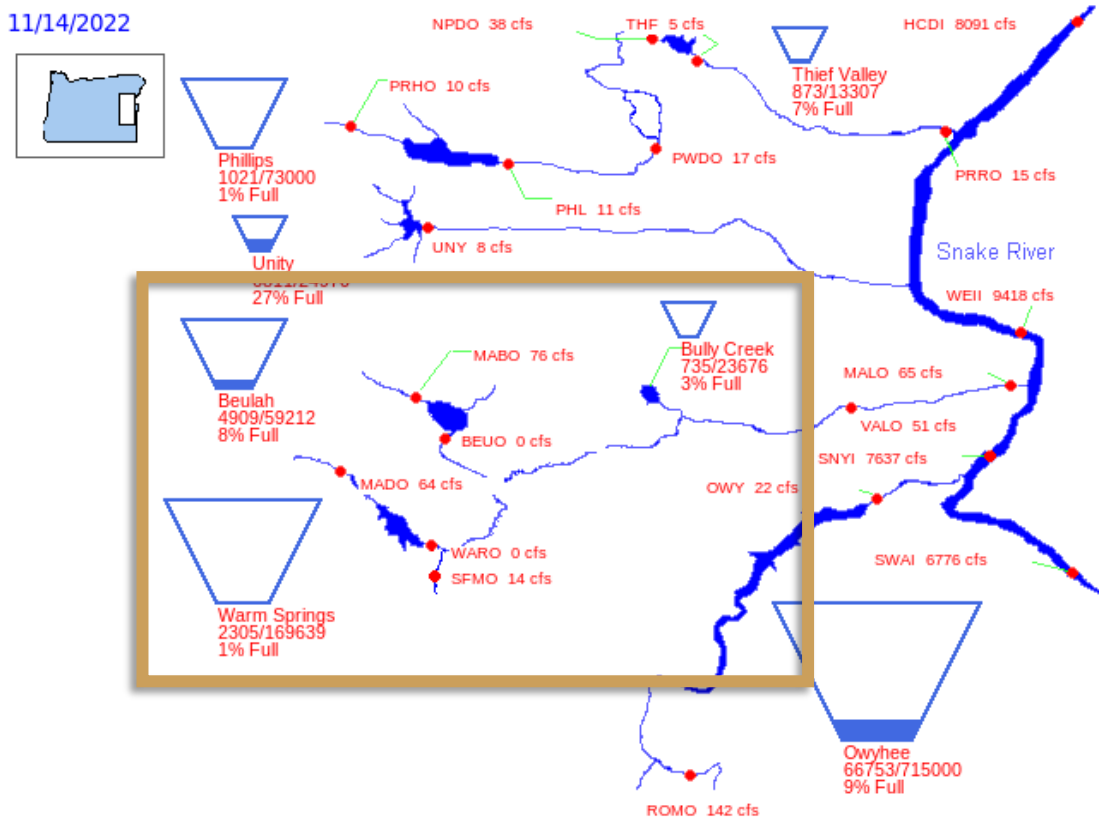


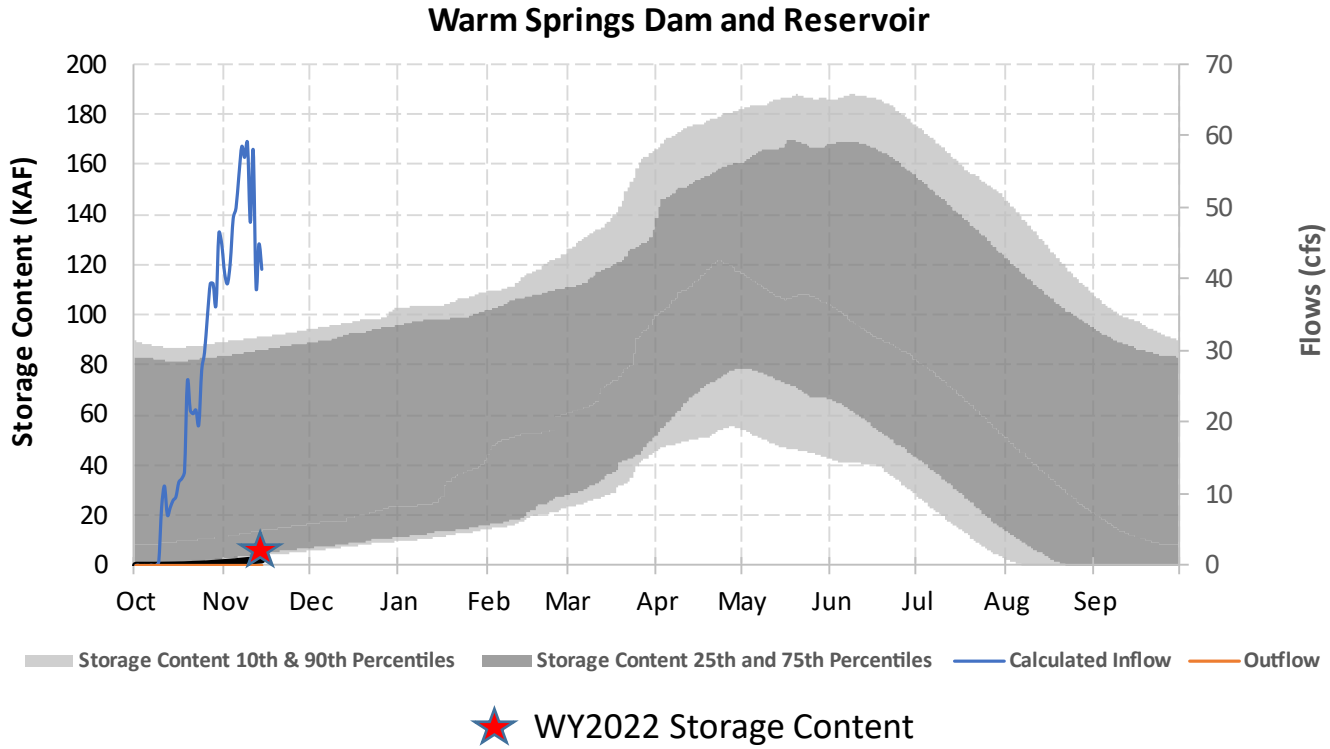
Owyhee River Basin



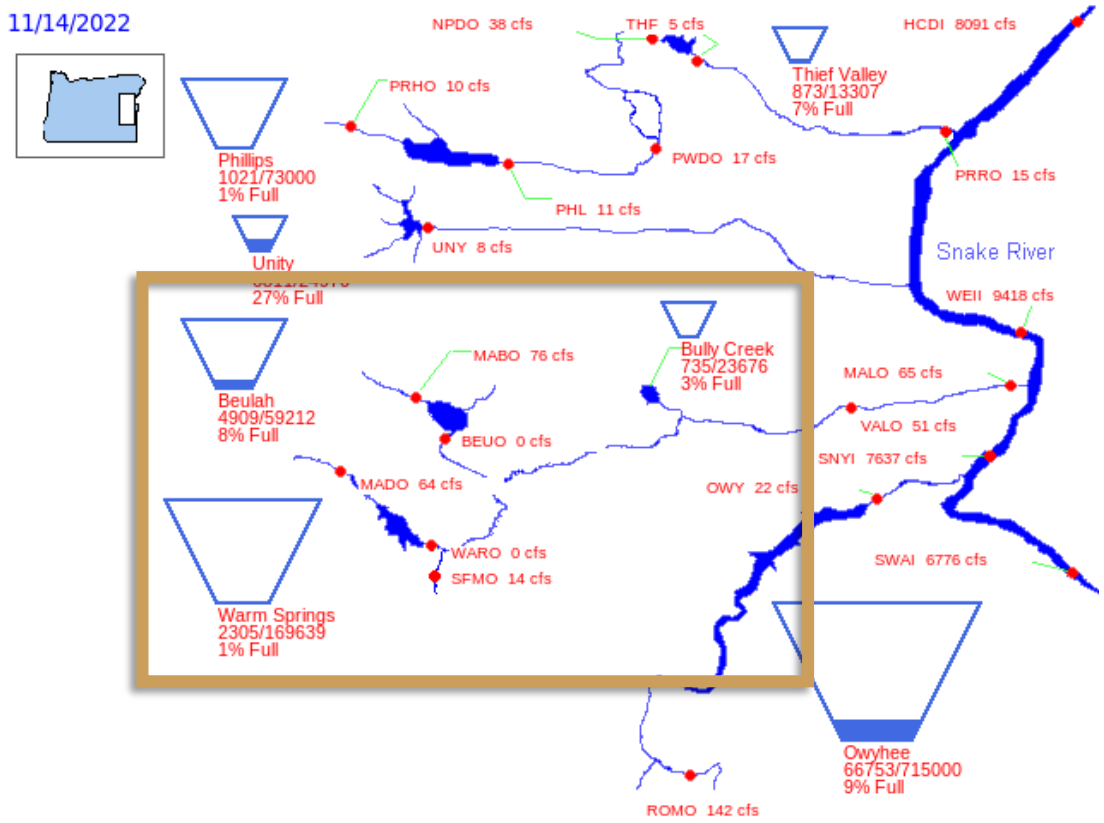


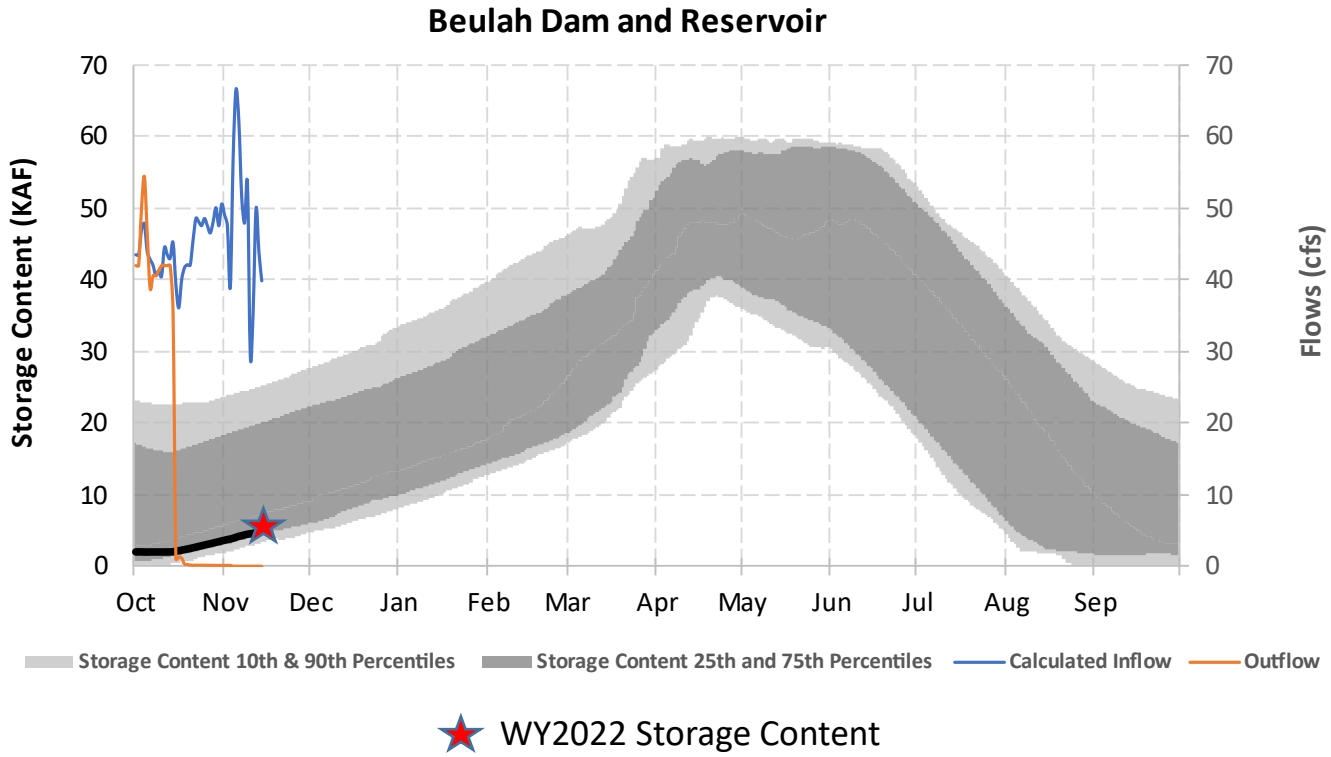
Malheur River Basin



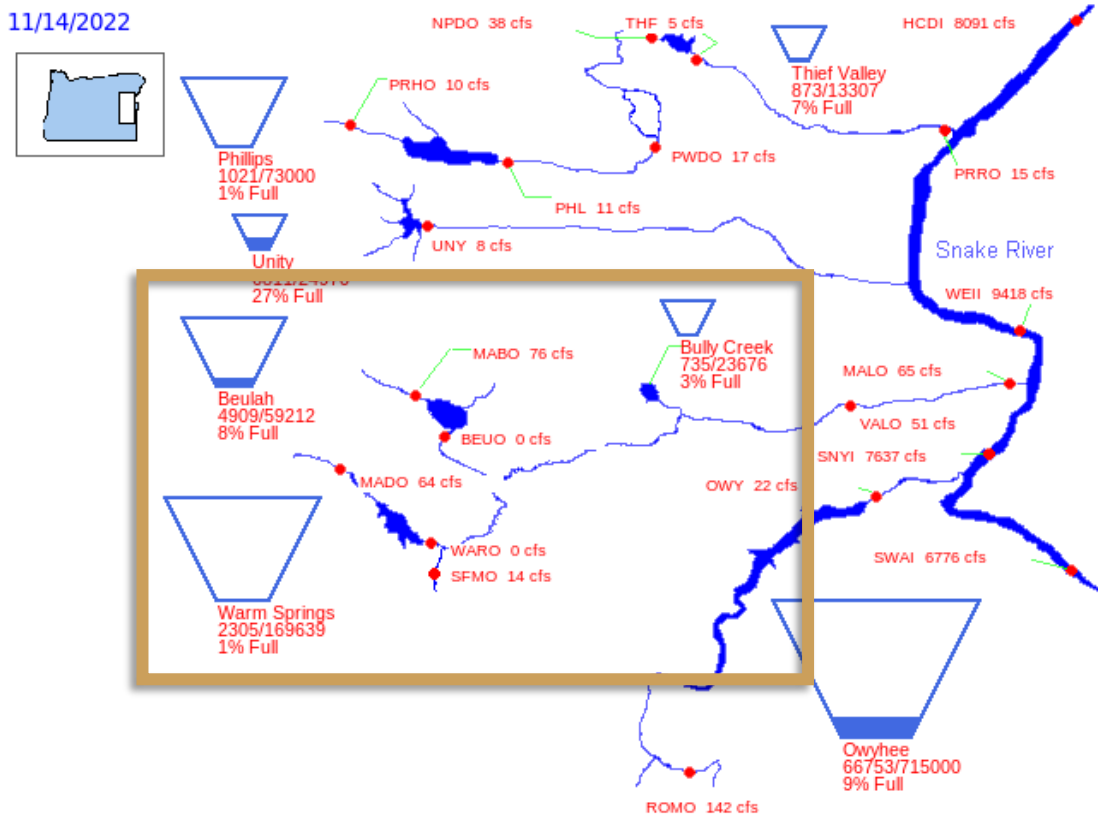


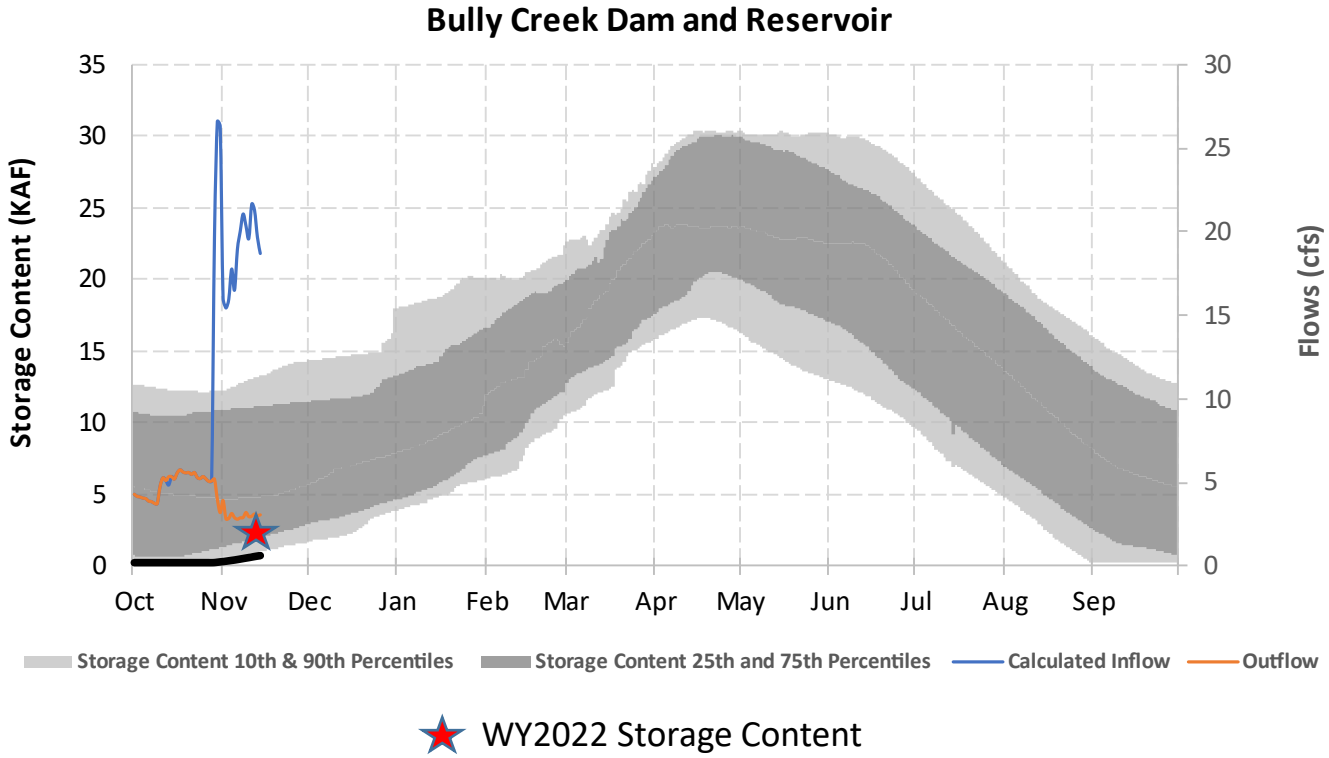
Malheur River Basin



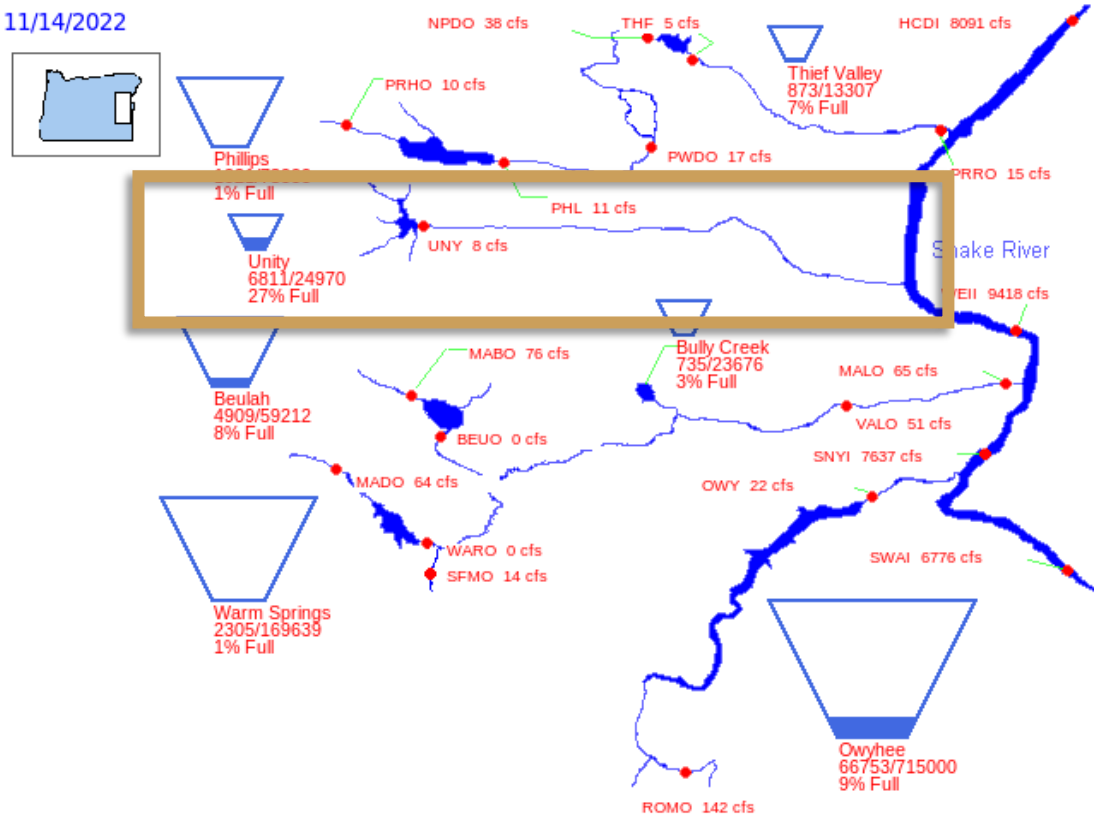


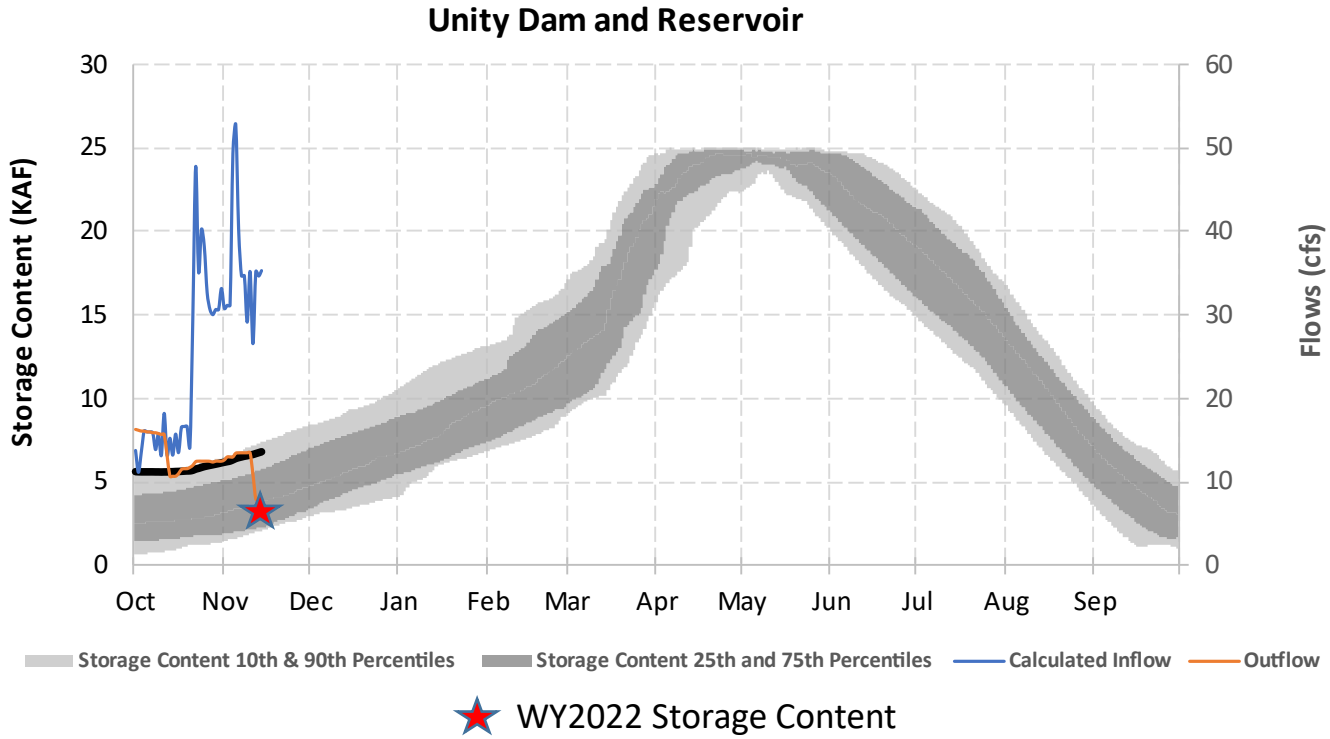
Malheur River Basin



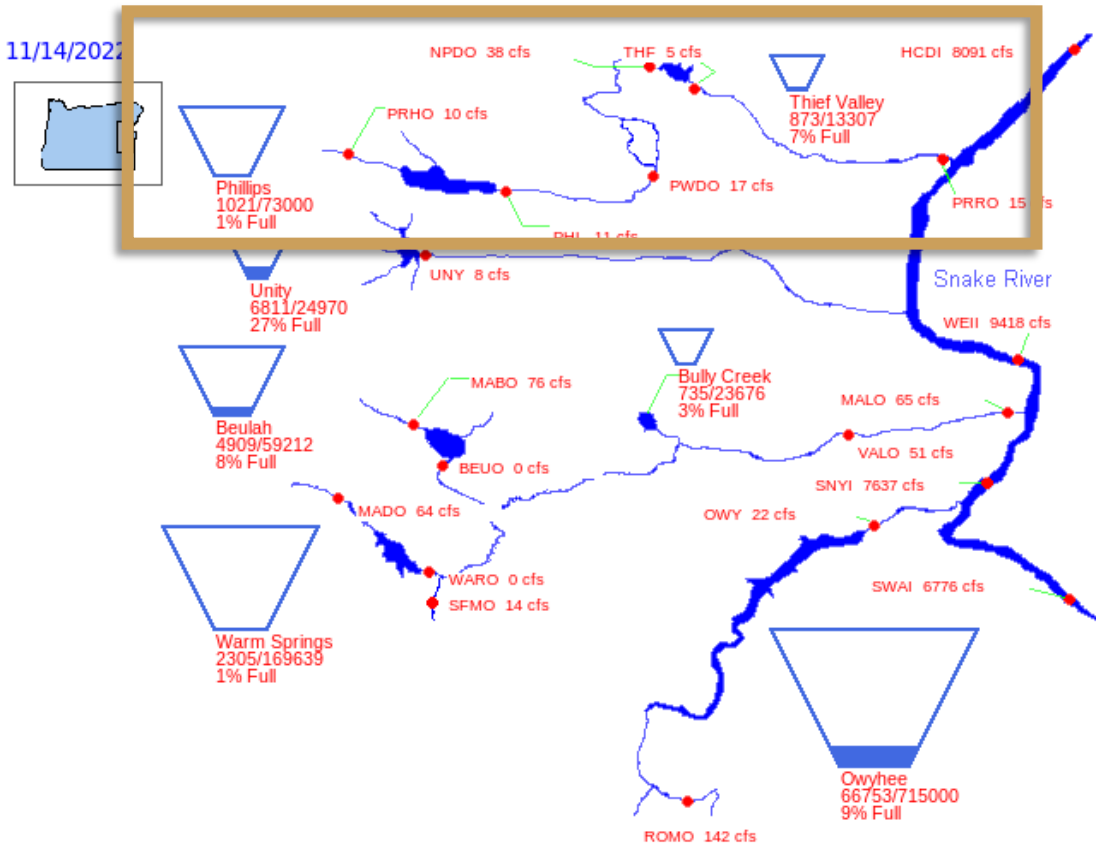


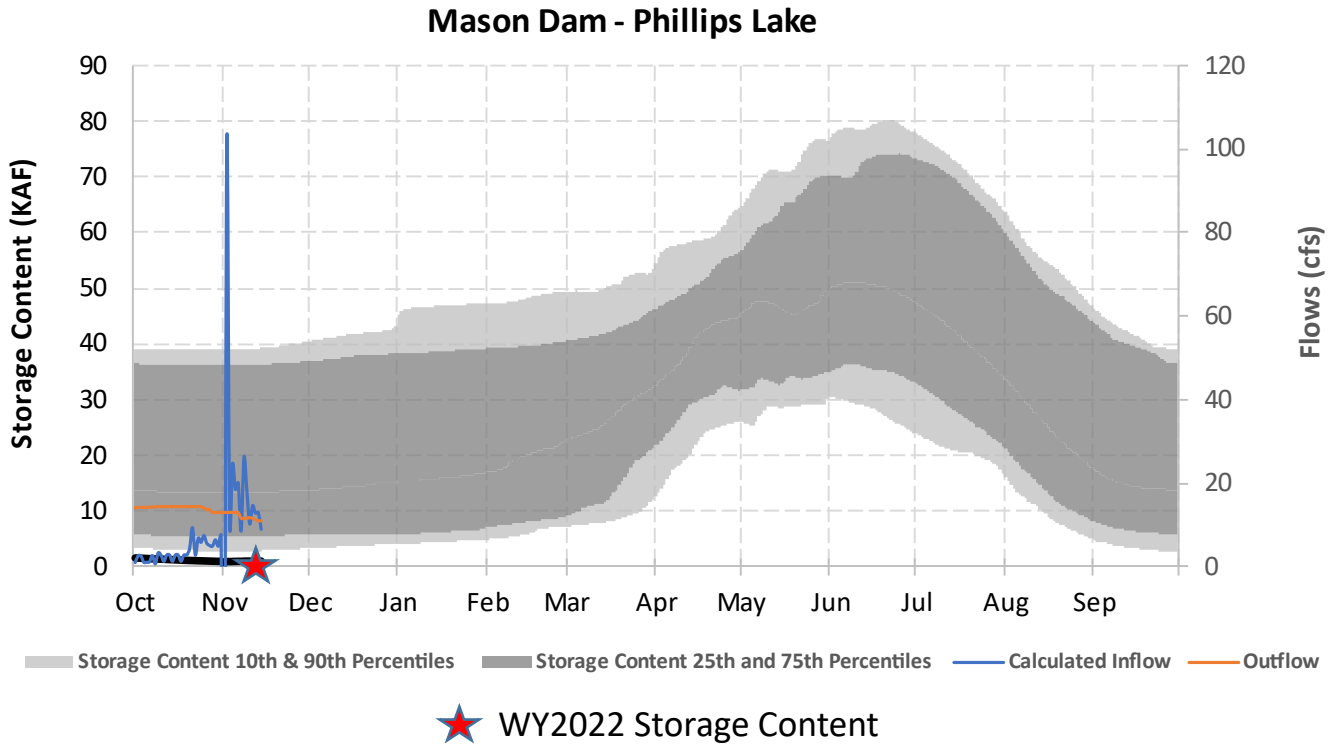
Burnt River Basin



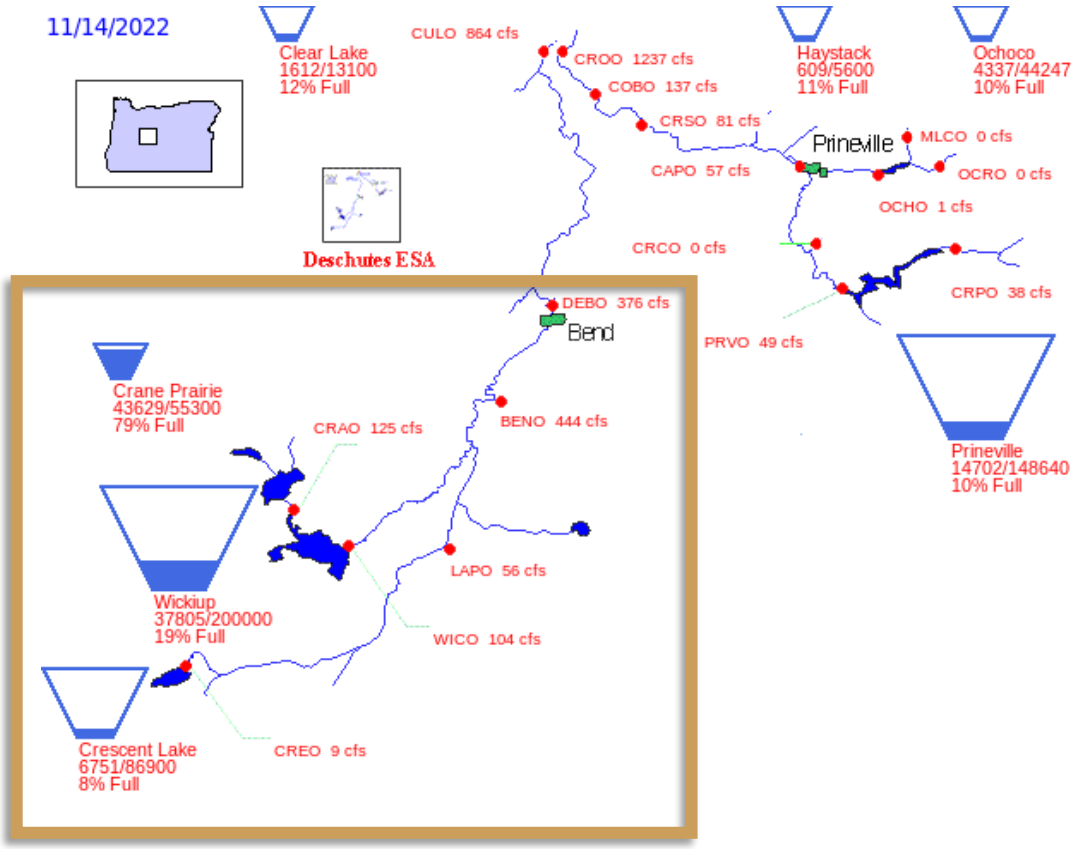


Powder River Basin

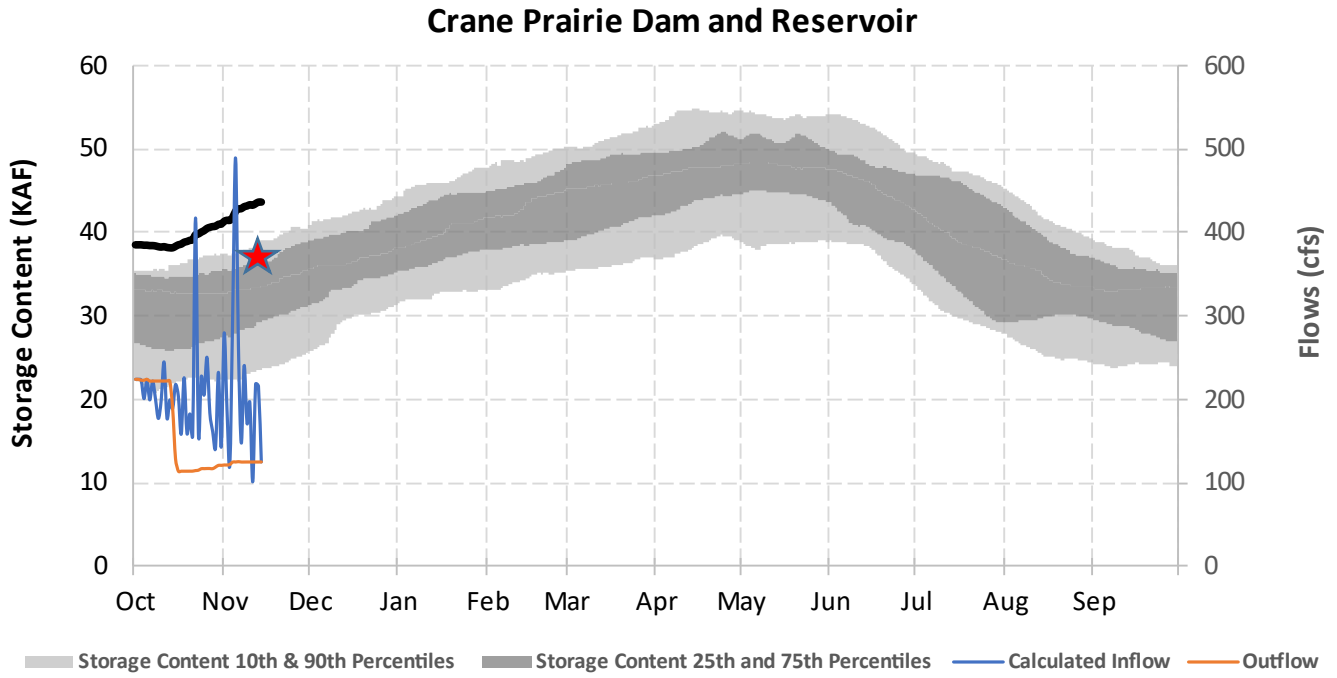


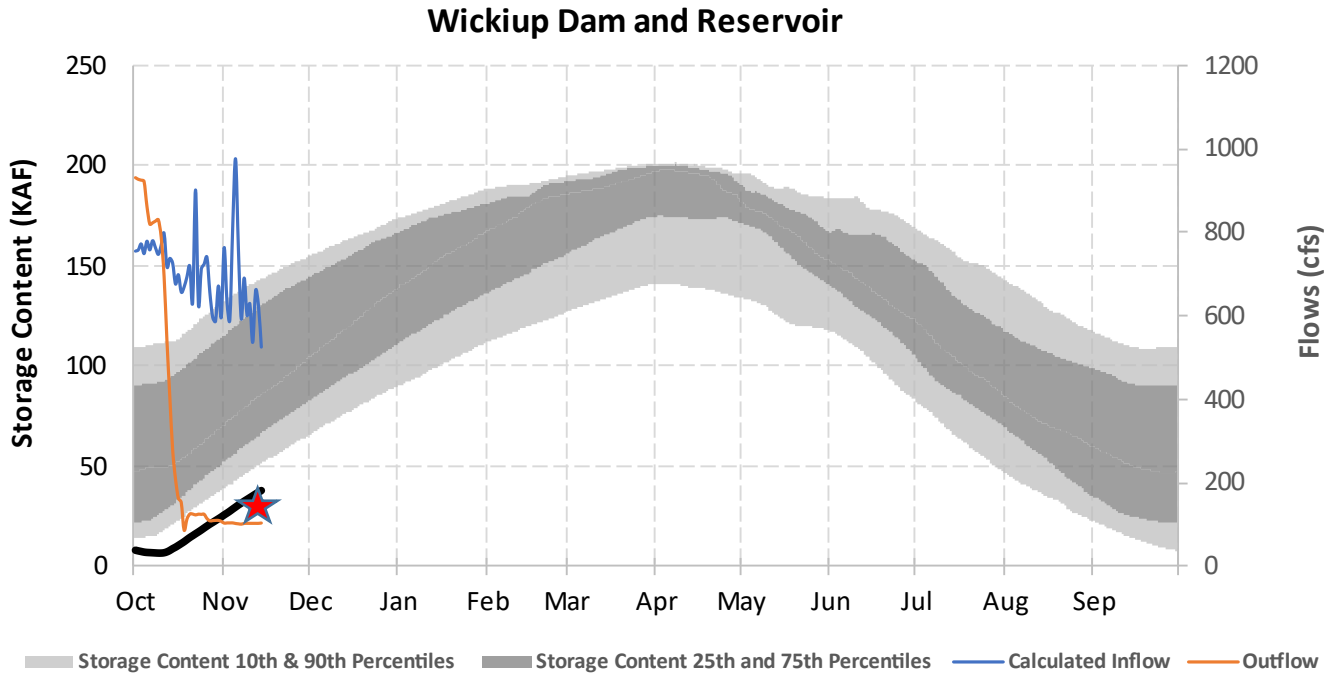


Deschutes River Basin

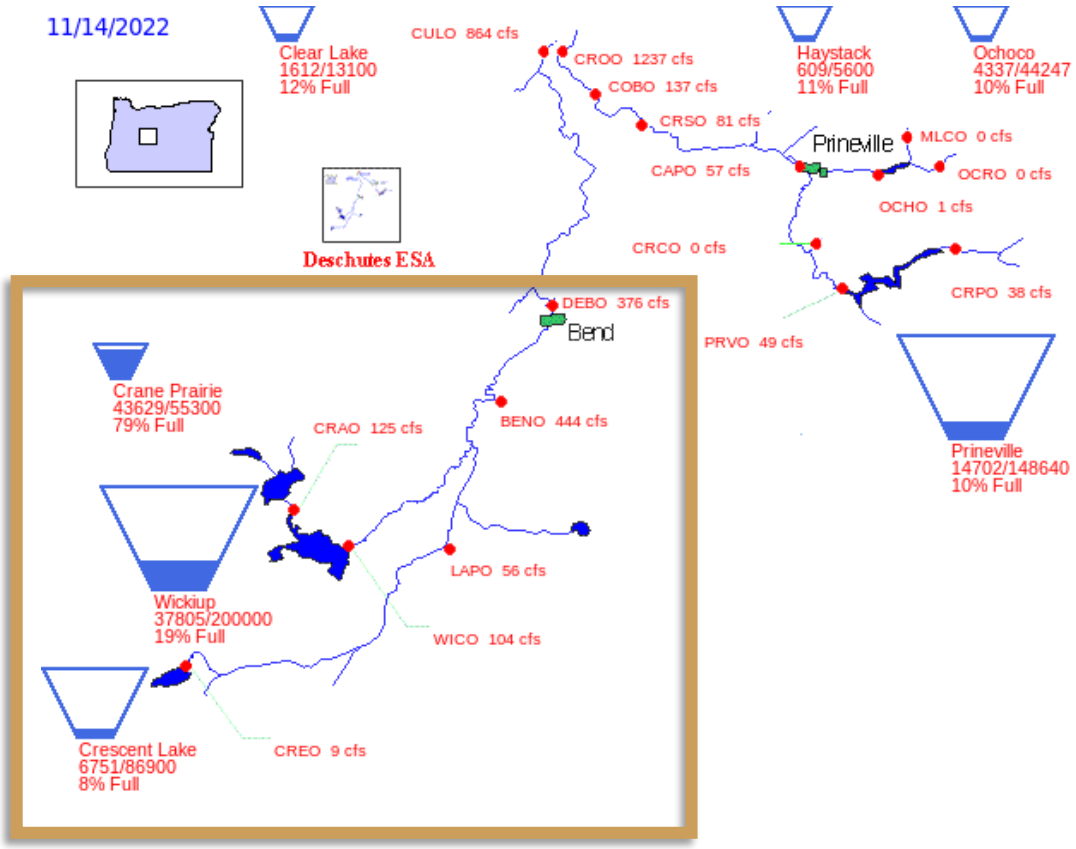


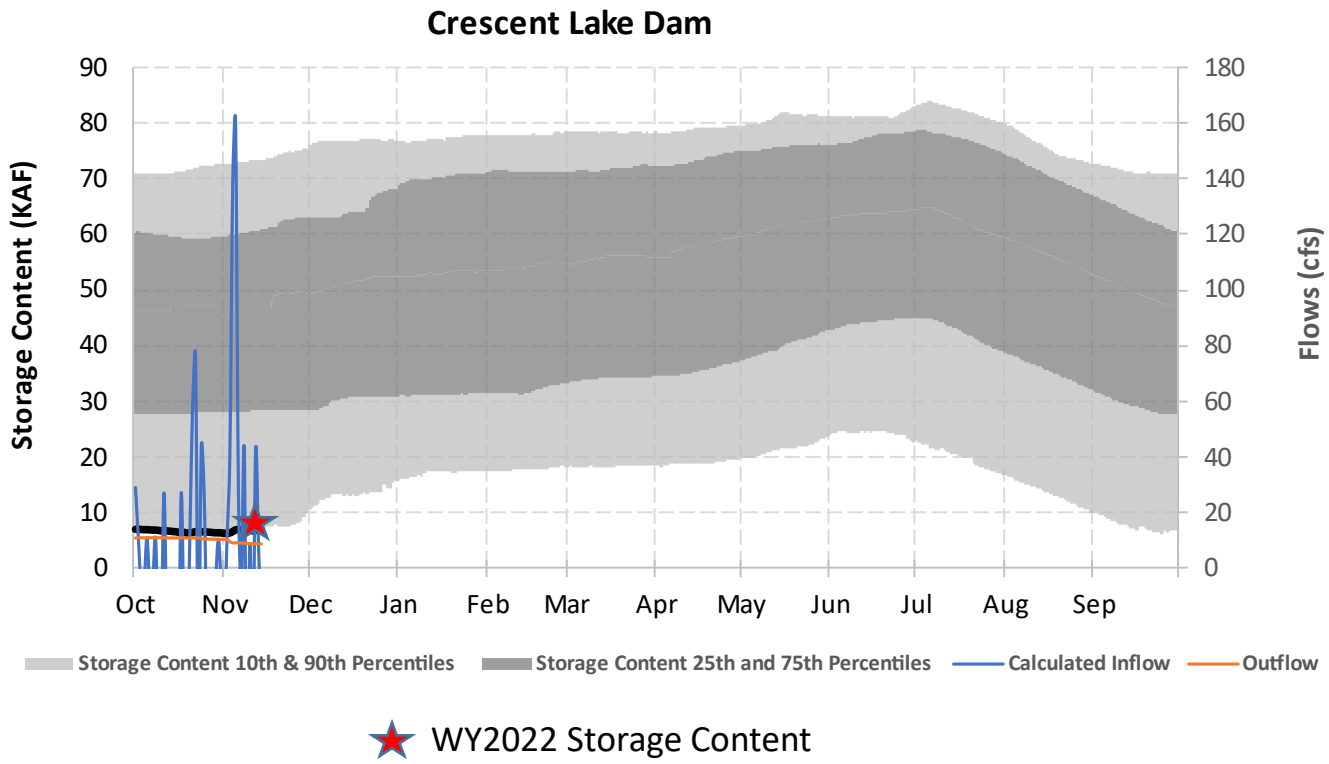
★ WY2022 Storage Content





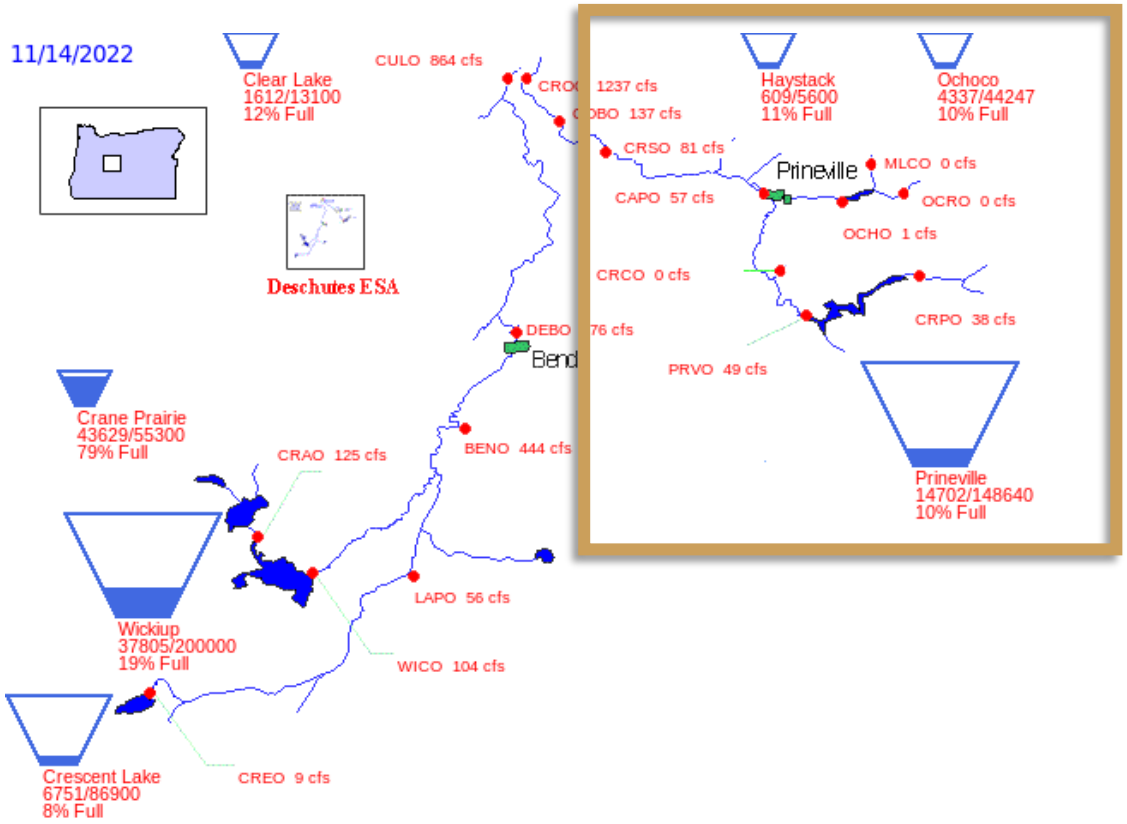
Deschutes River Basin

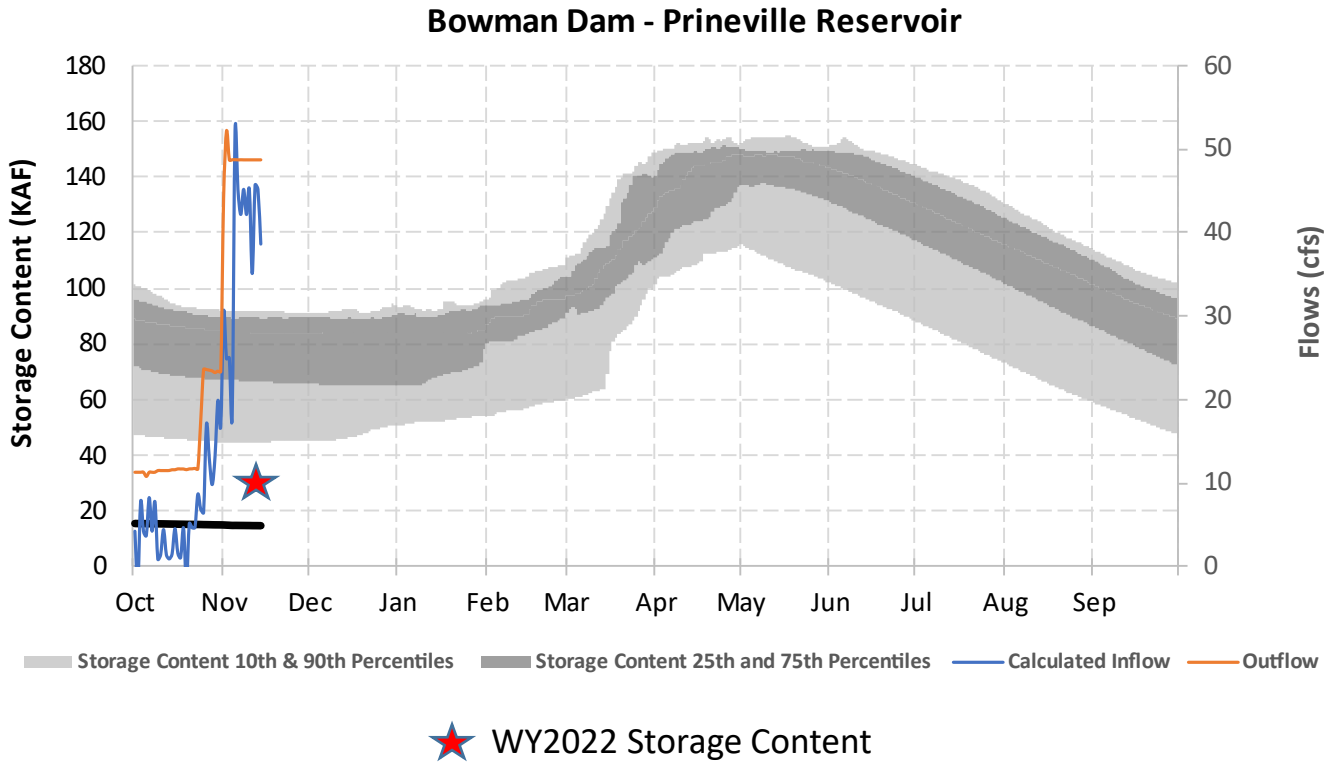




★ WY2022 Storage Content

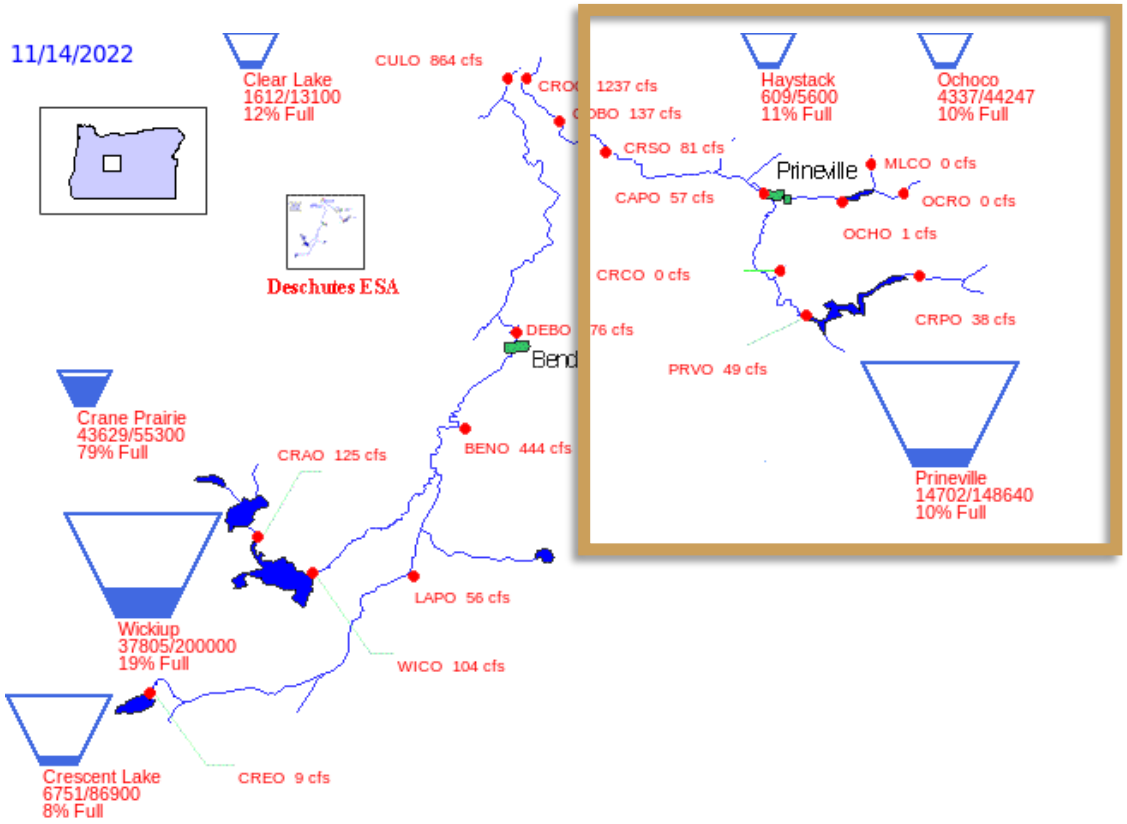
Crooked River Basin

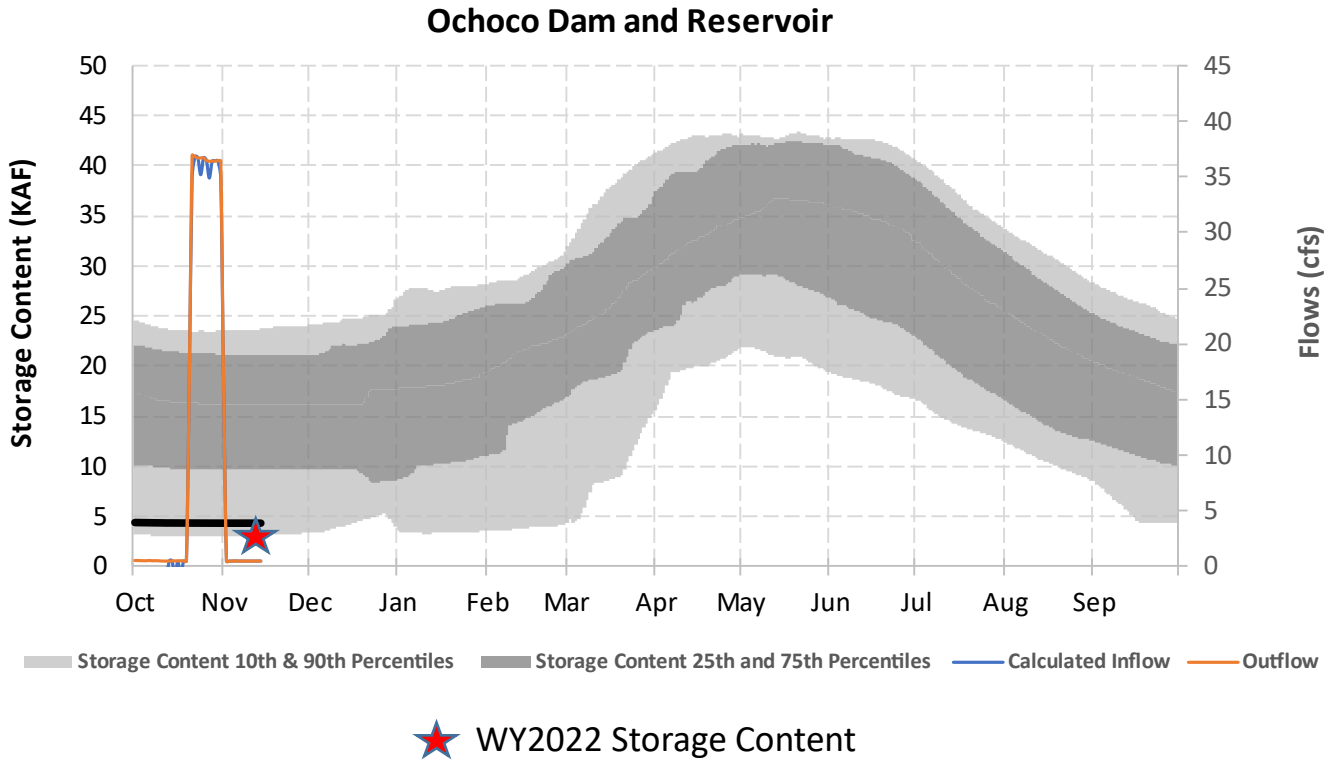




WY2022 Storage Content

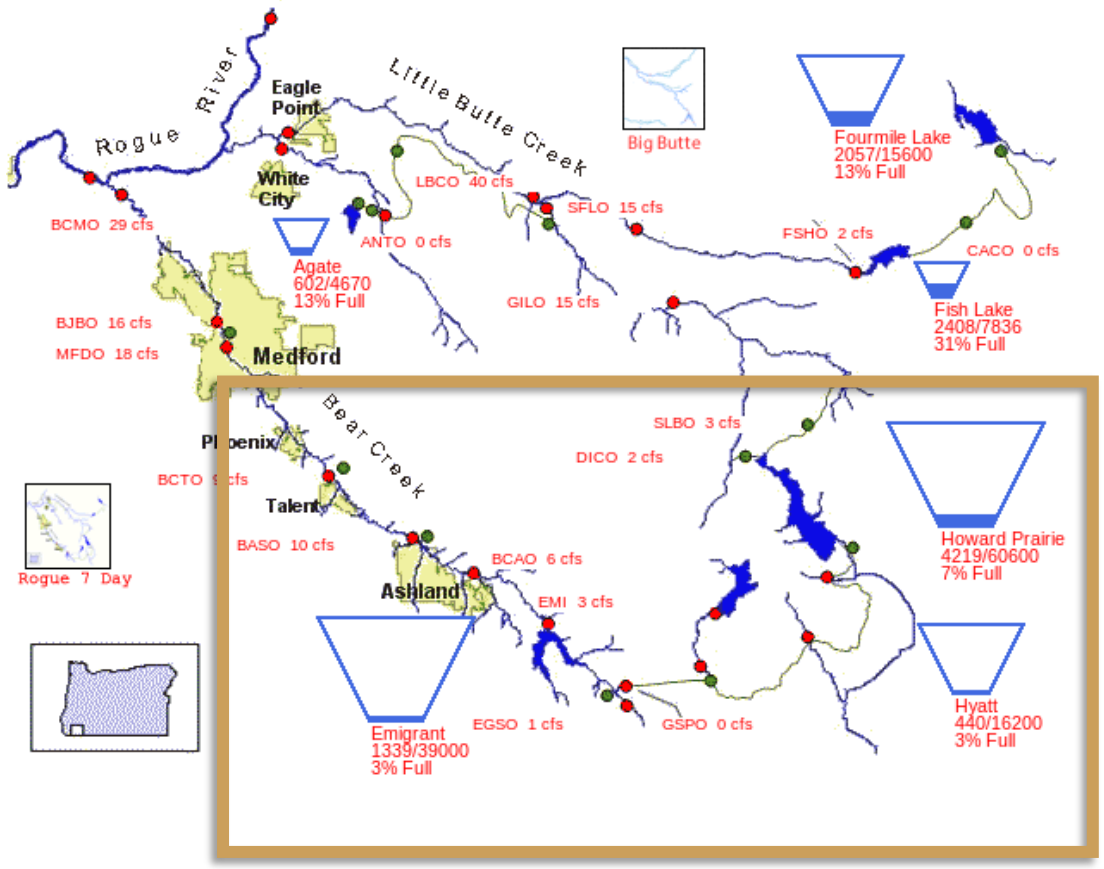
Crooked River Basin



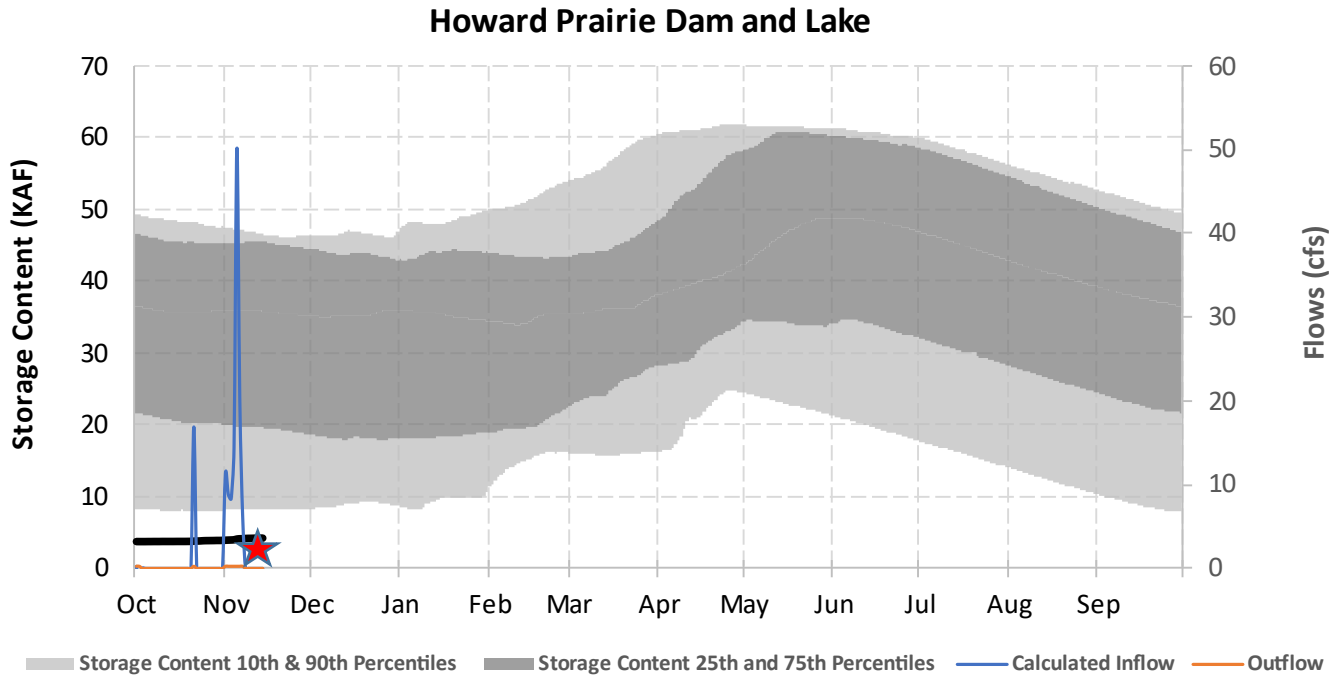


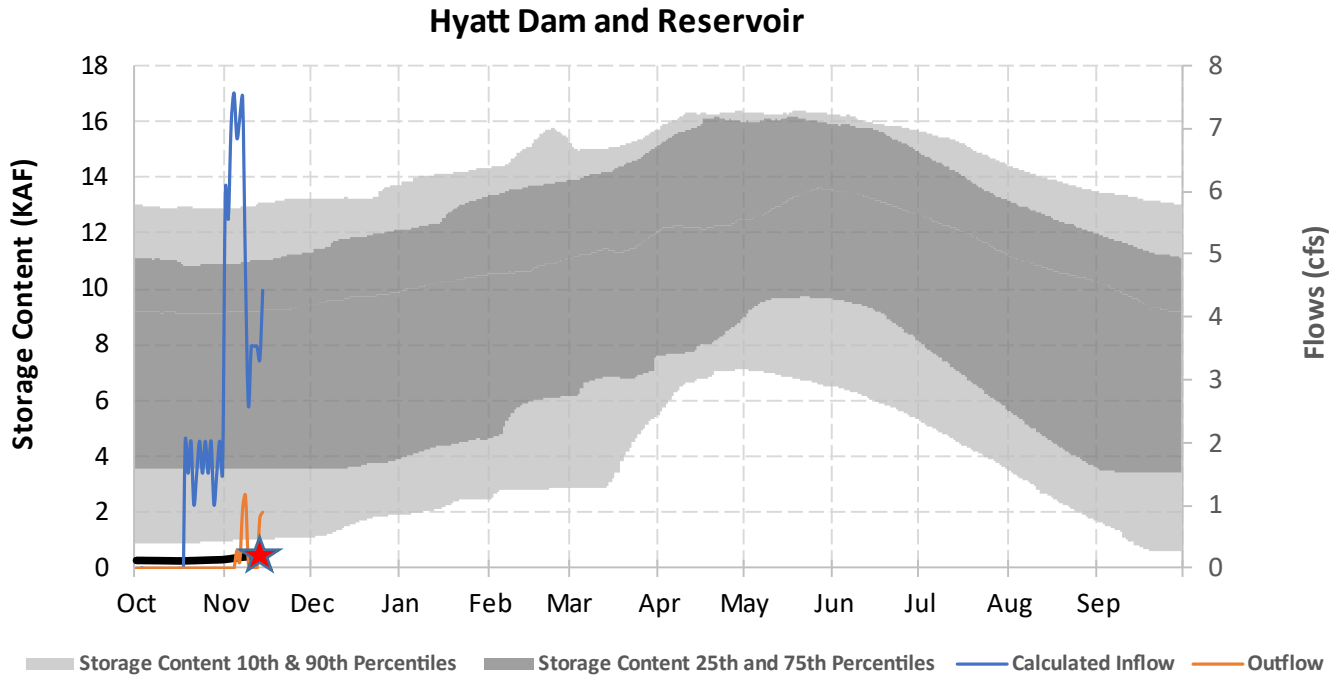
Rogue River Basin

11/14/2022



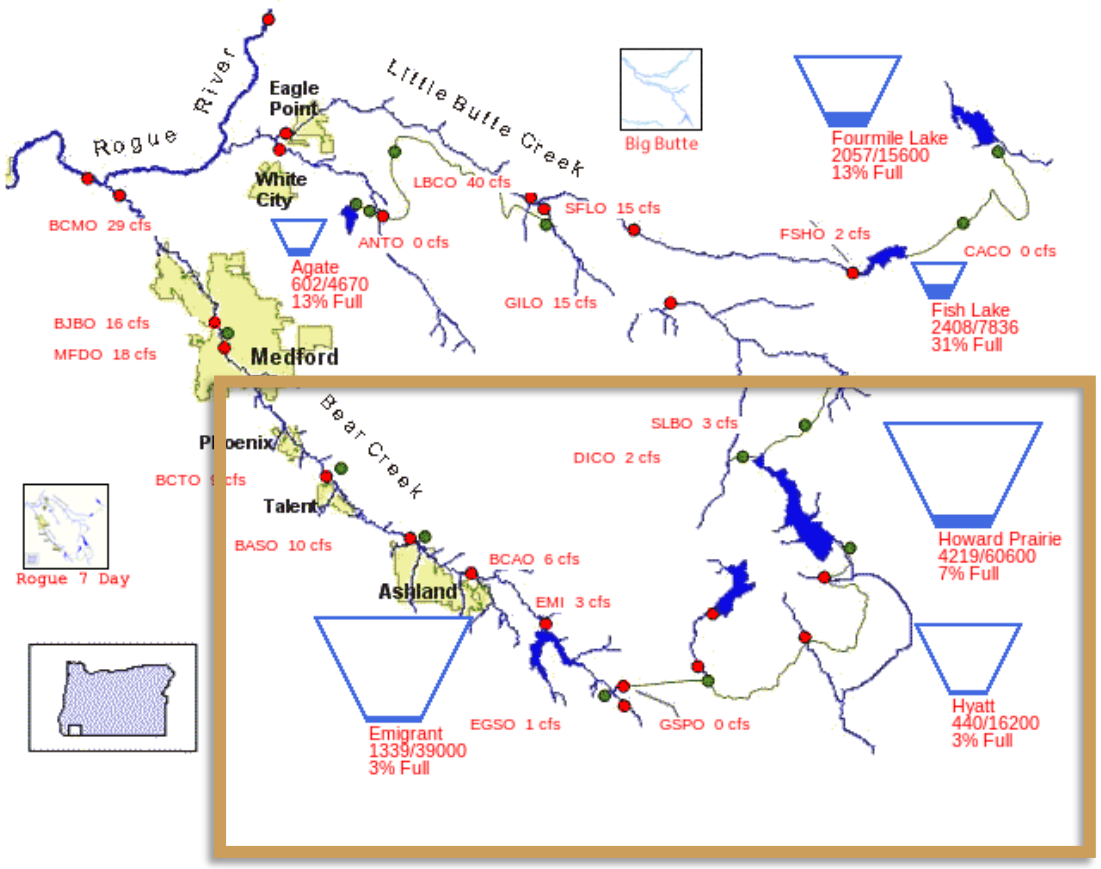
★WY2022 Storage Content

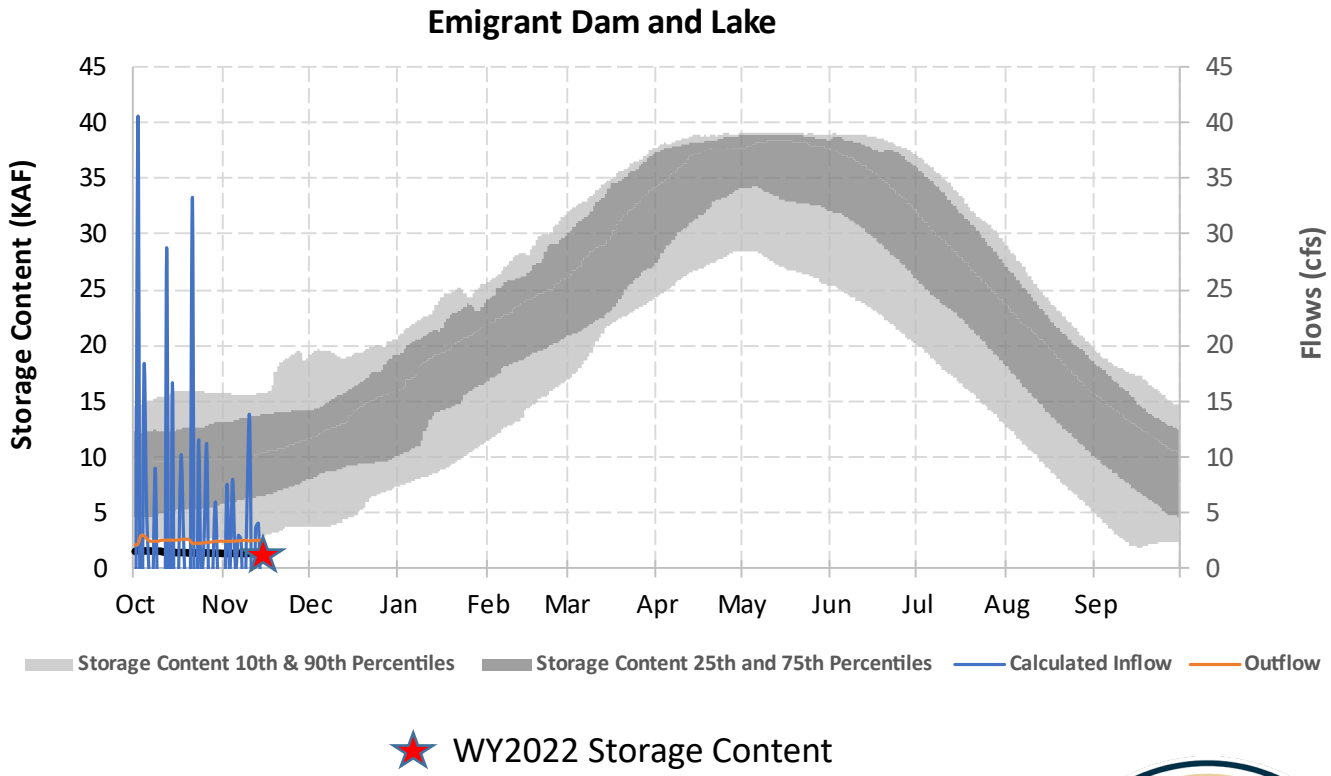




Rogue River Basin

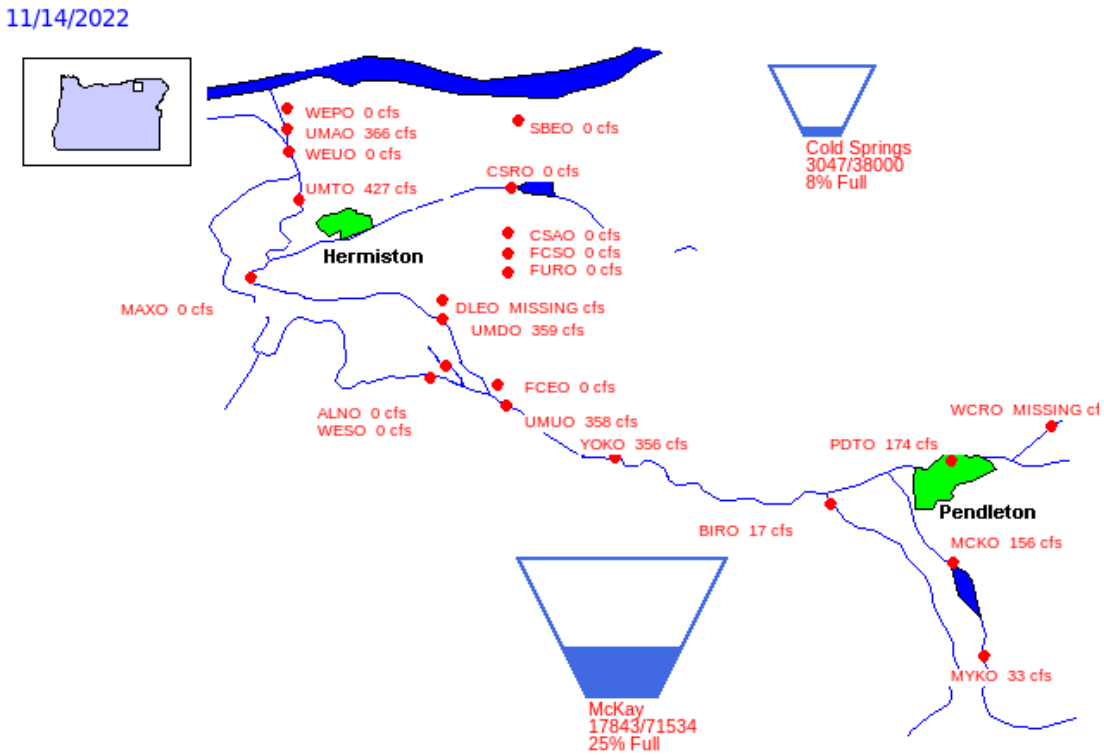
11/14/2022

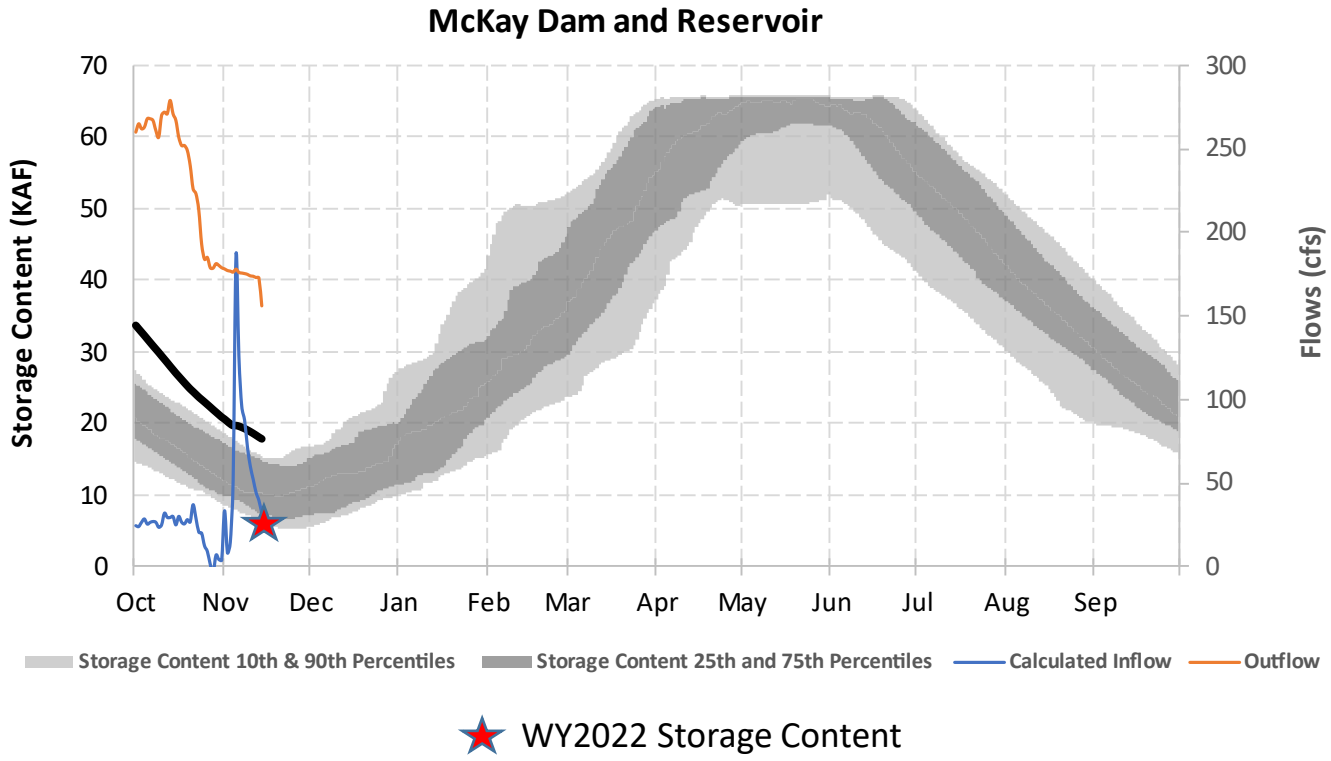




WY2022 Storage Content

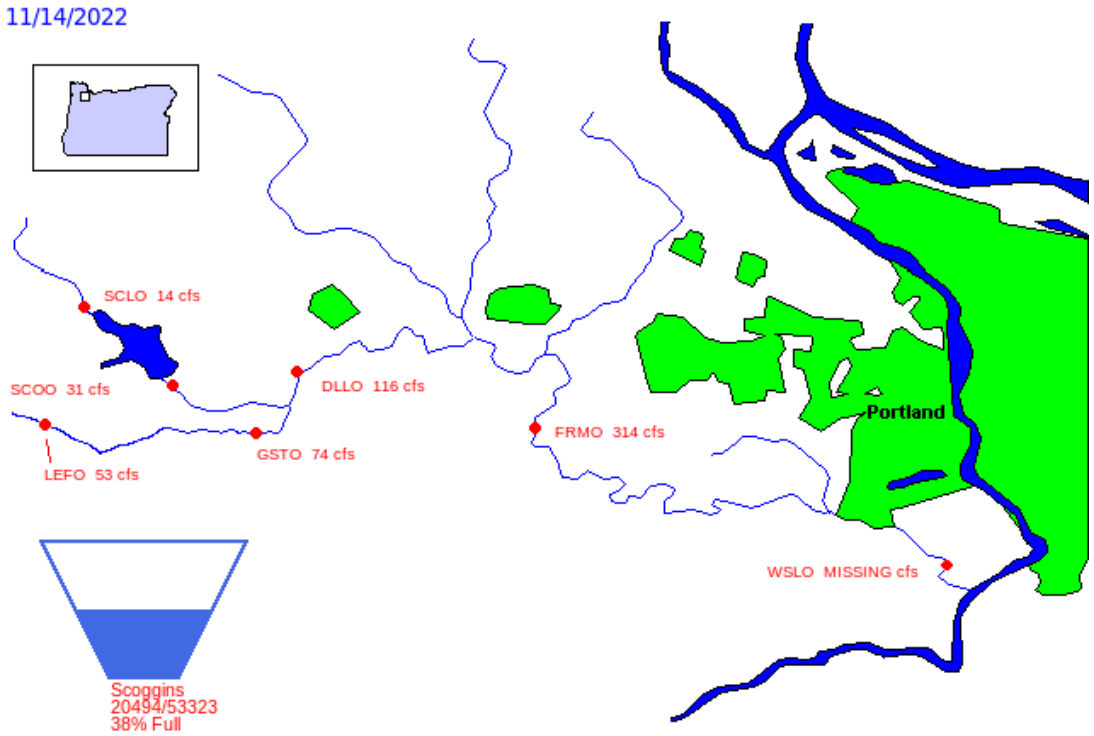
Umatilla River Basin

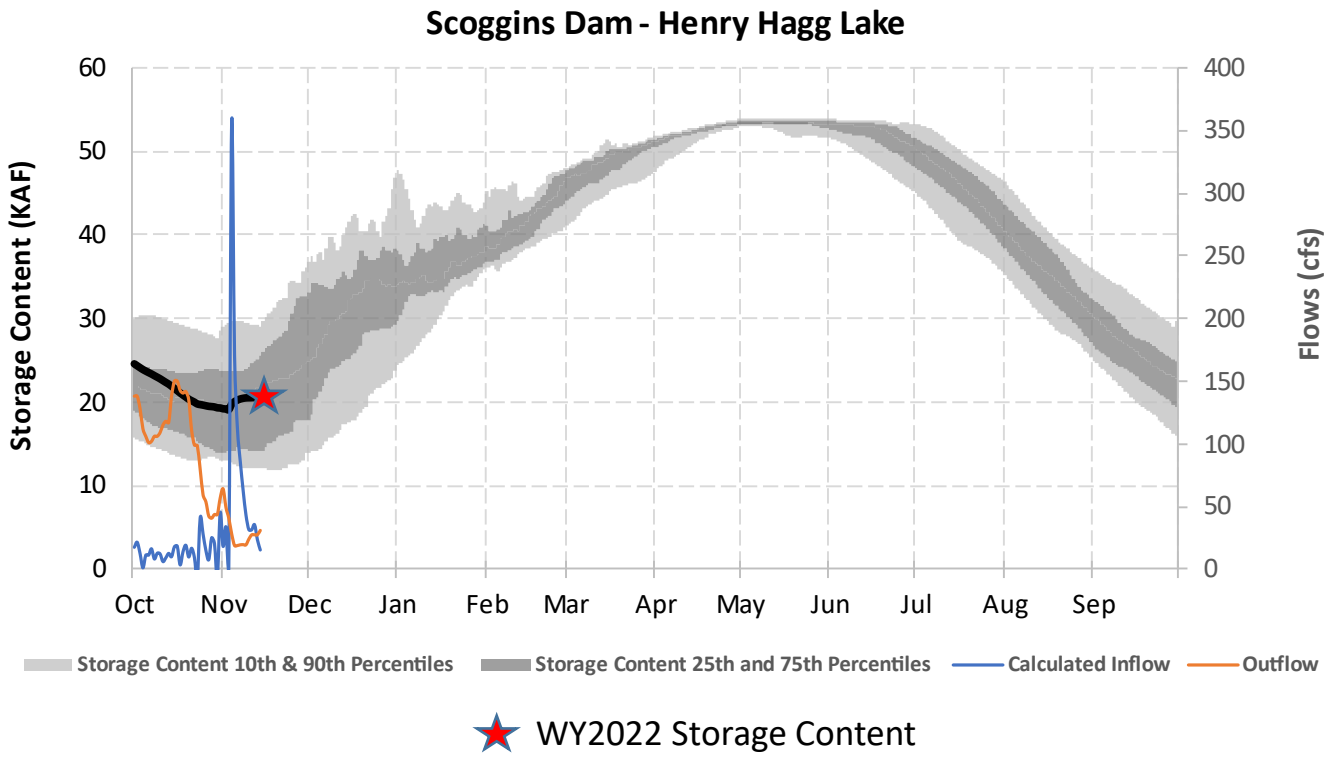




★ WY2022 Storage Content

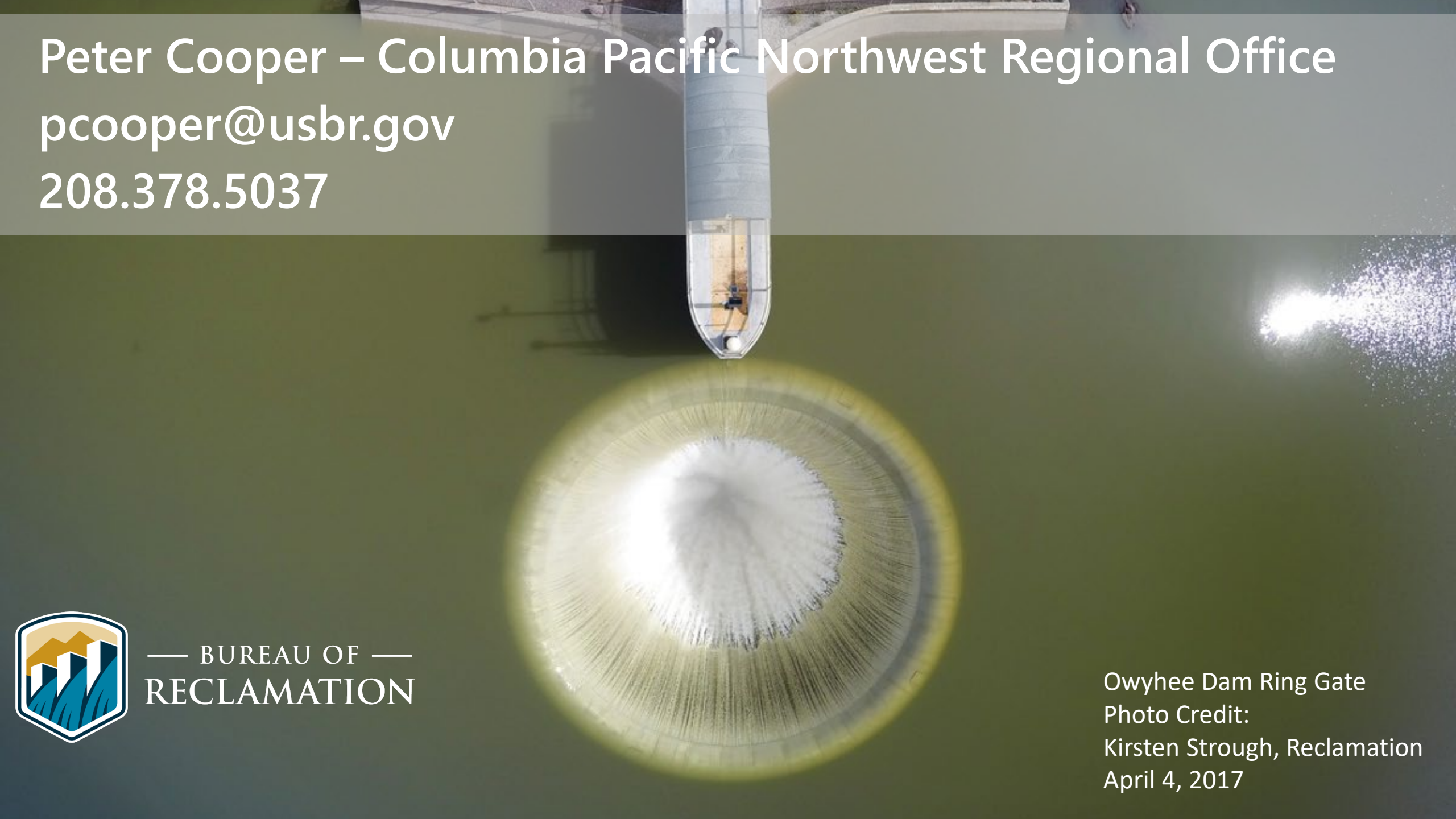
Tualatin River Basin





Peter Cooper – Columbia Pacific Northwest Regional Office
pcooper@usbr.gov
208.378.5037

BUREAU OF RECLAMATION



Owyhee Dam Ring Gate
Photo Credit:
Kirsten Strough, Reclamation
April 4, 2017