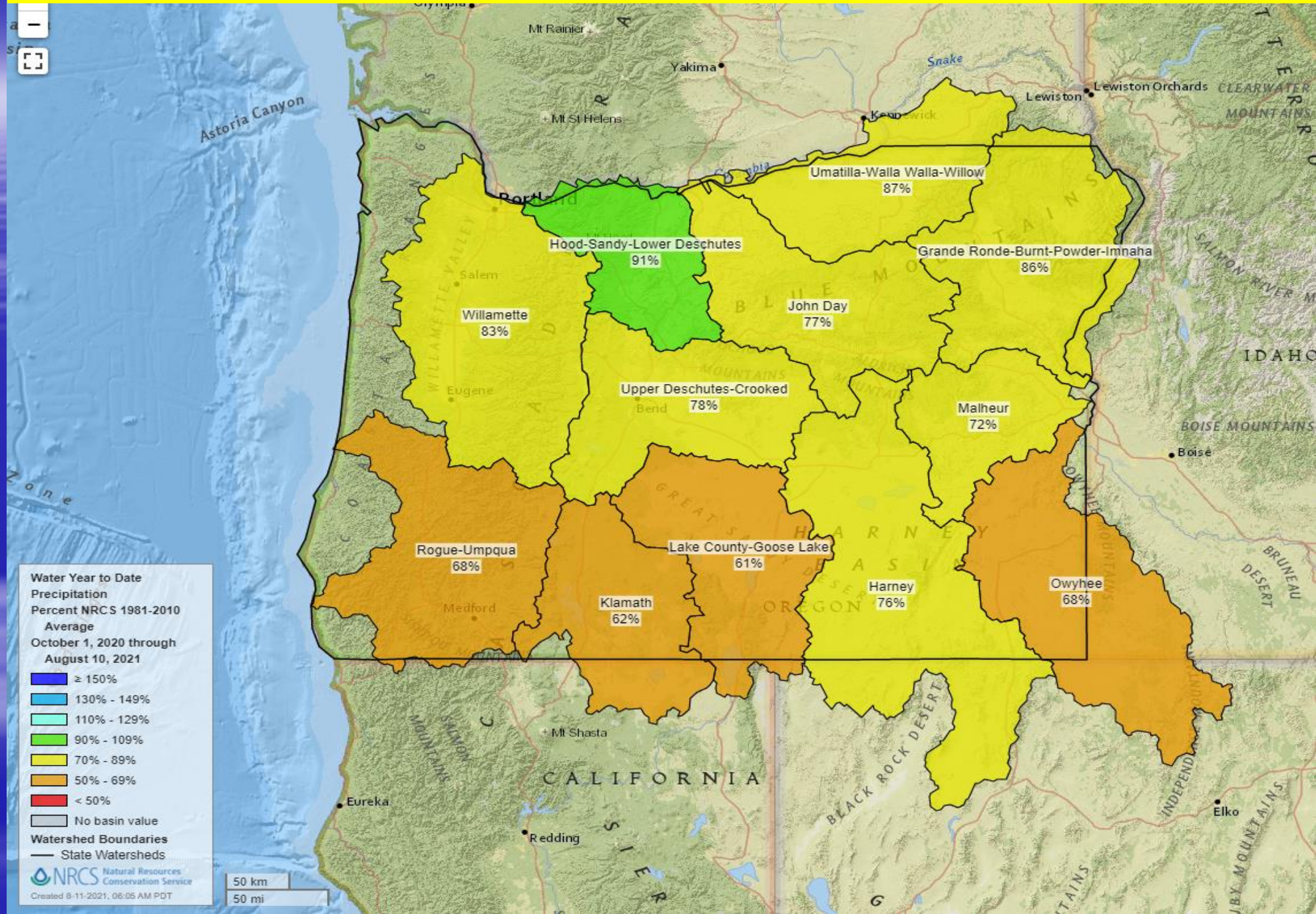
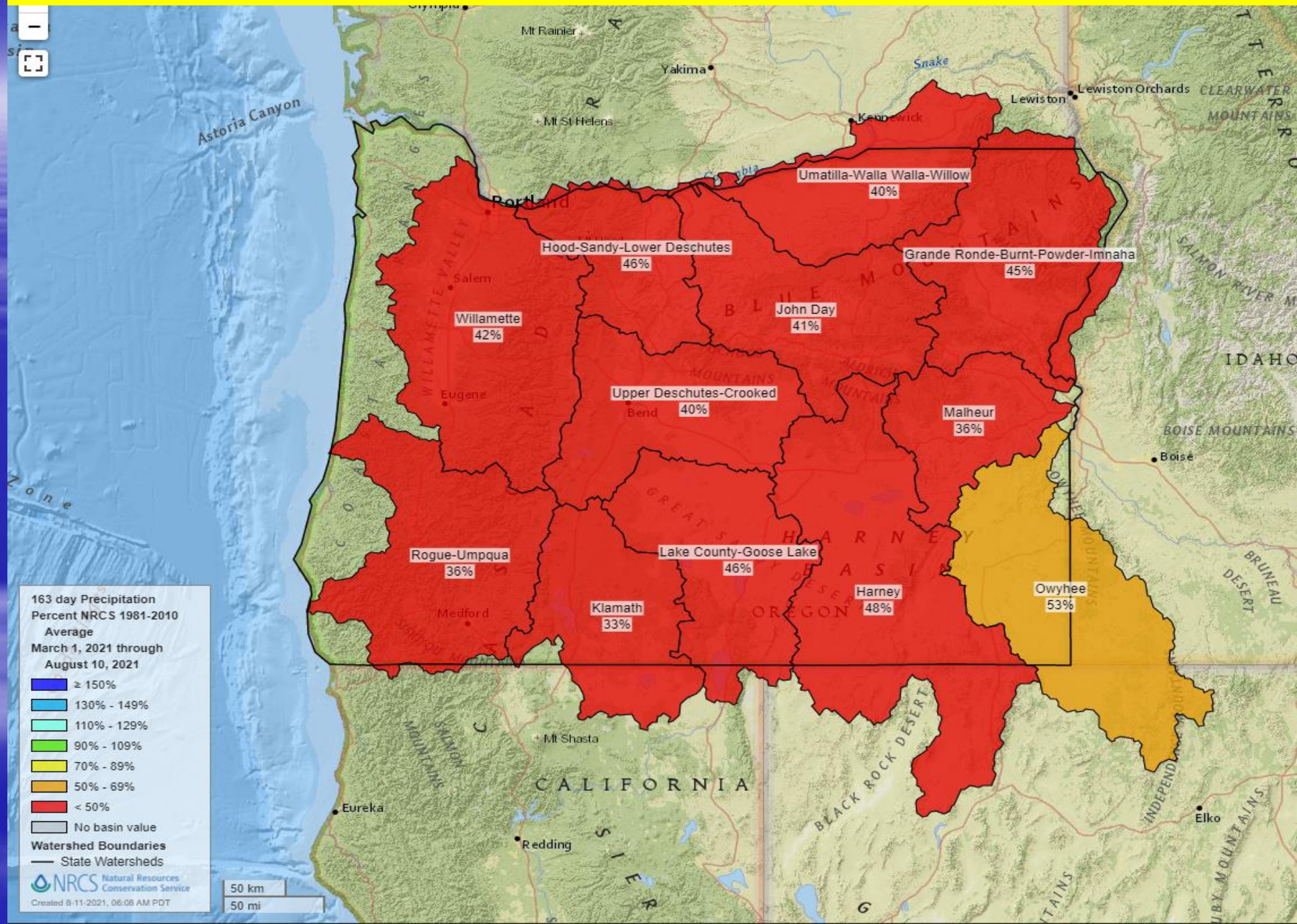


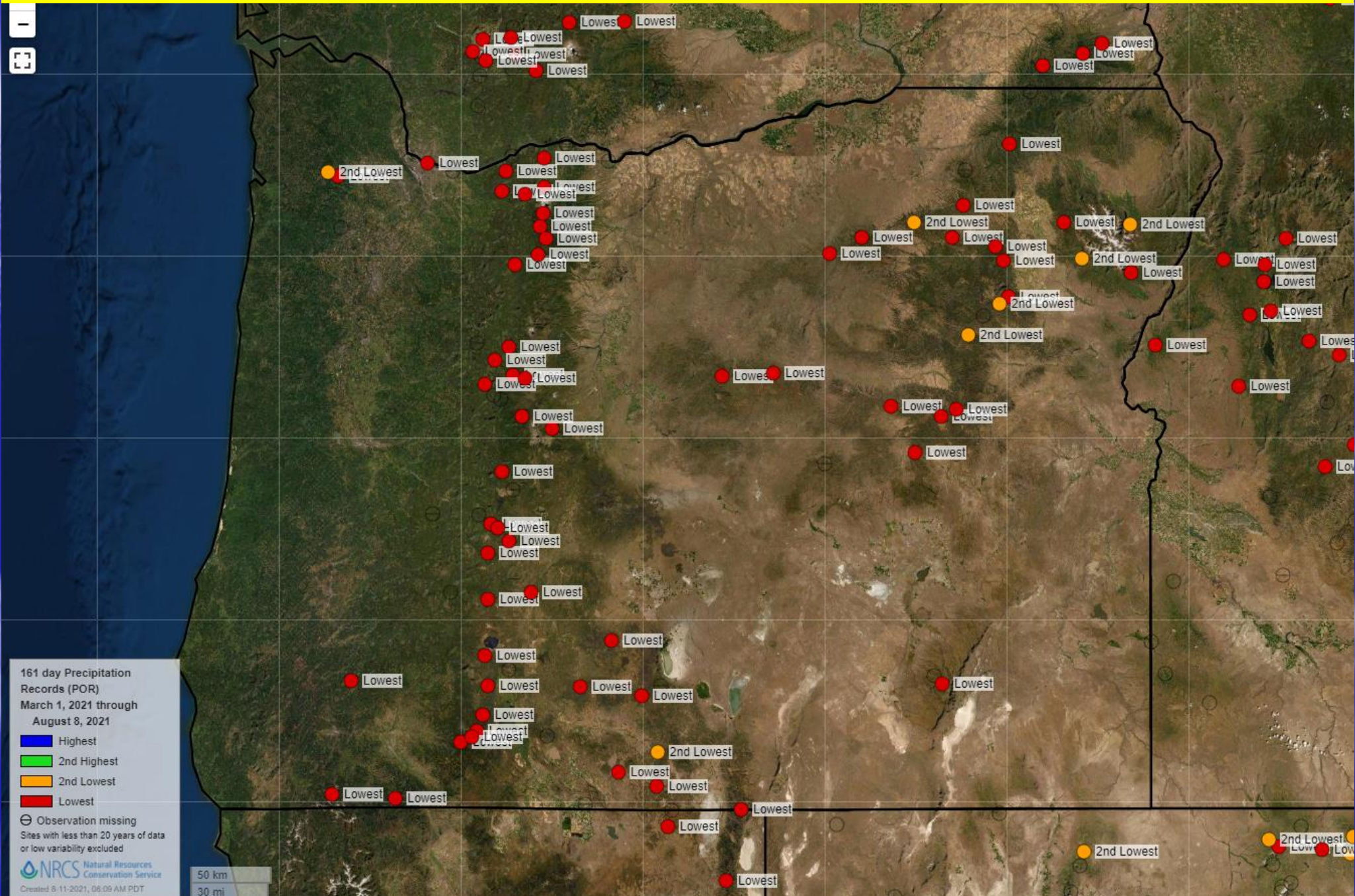
August 10th Statewide SNOTEL Water Year Precipitation is 79% of average



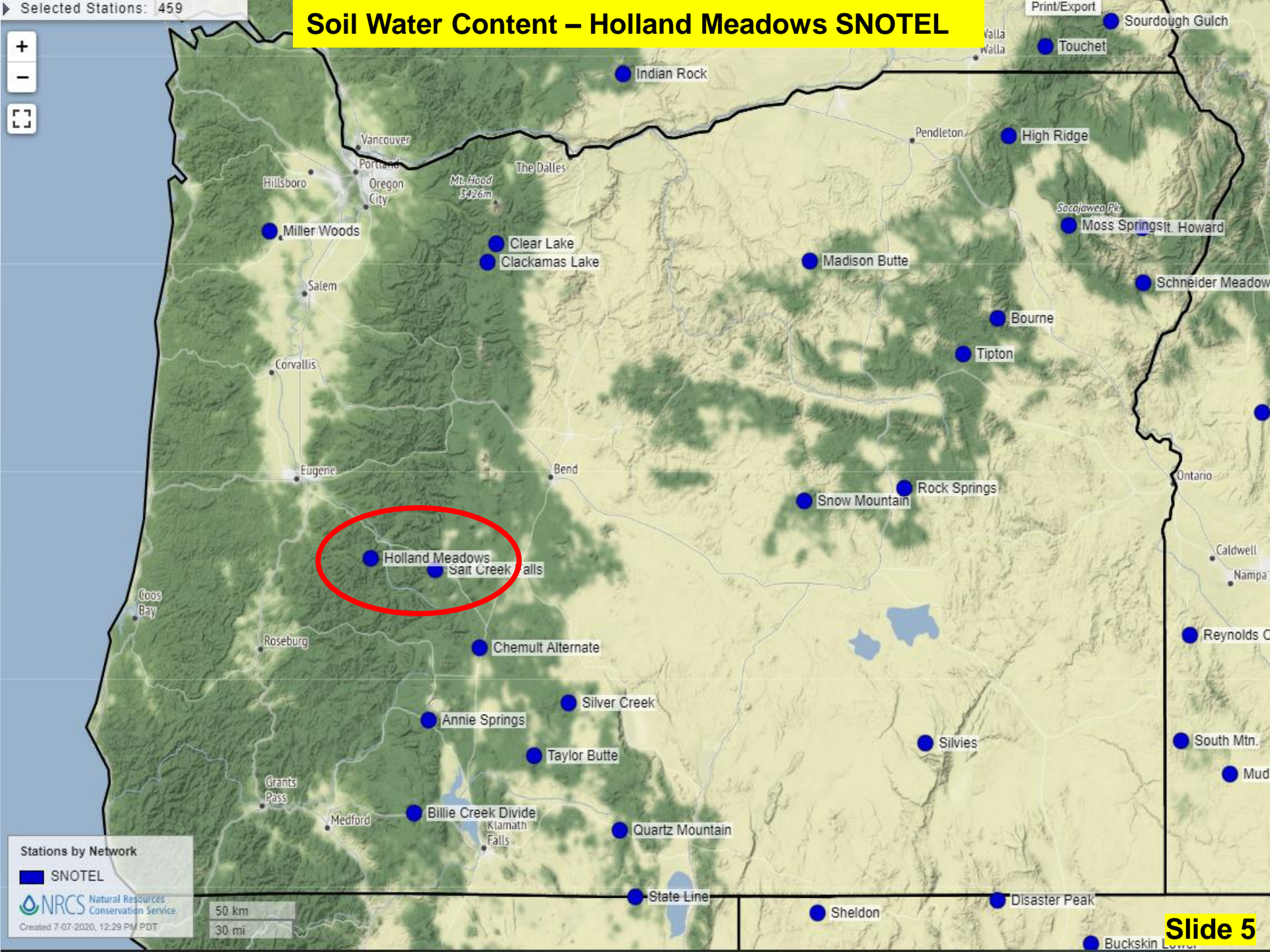
SNOTEL 163-Day Precipitation % of Average – March 1, 2021 – August 10, 2021



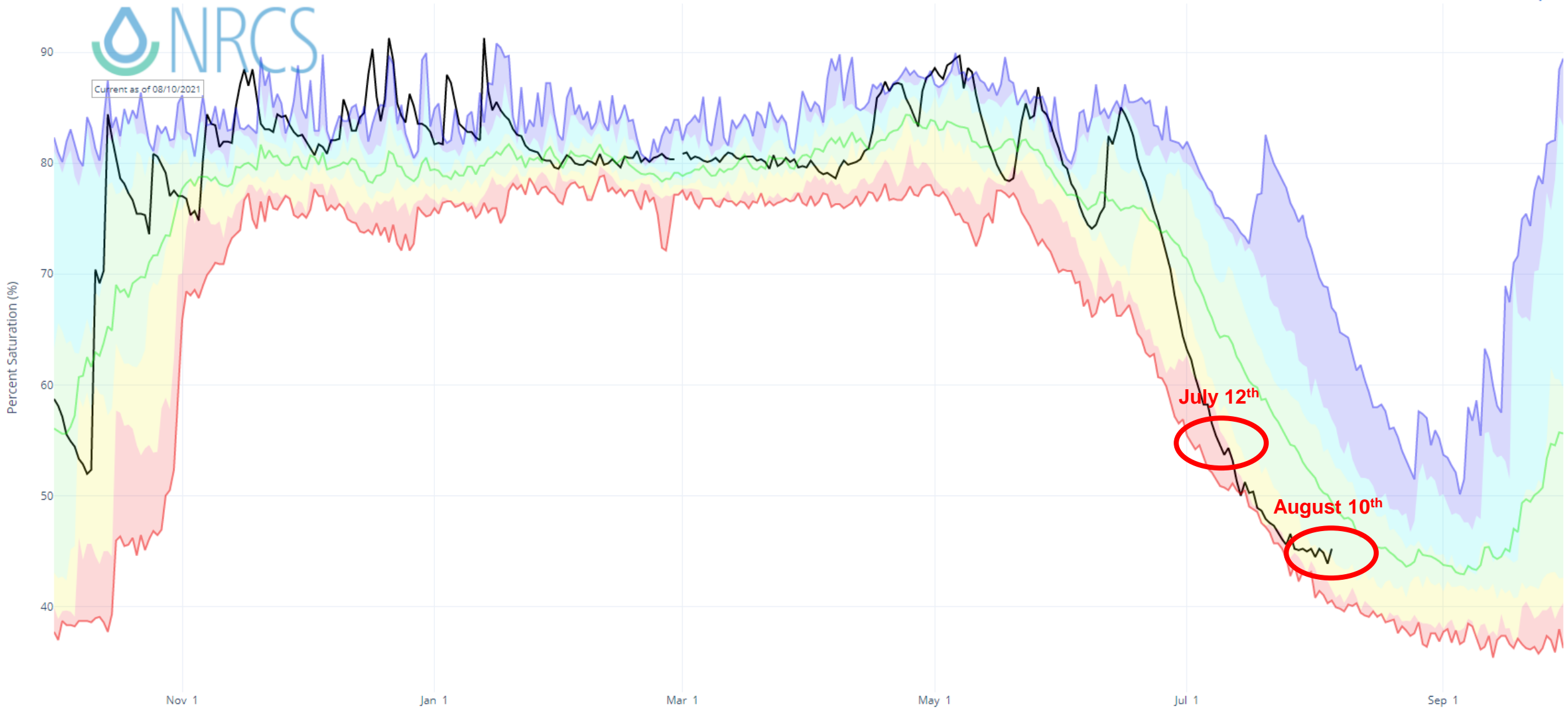
SNOTEL 163-Day Precipitation (POR) Records – March 1, 2021 – August 10, 2021



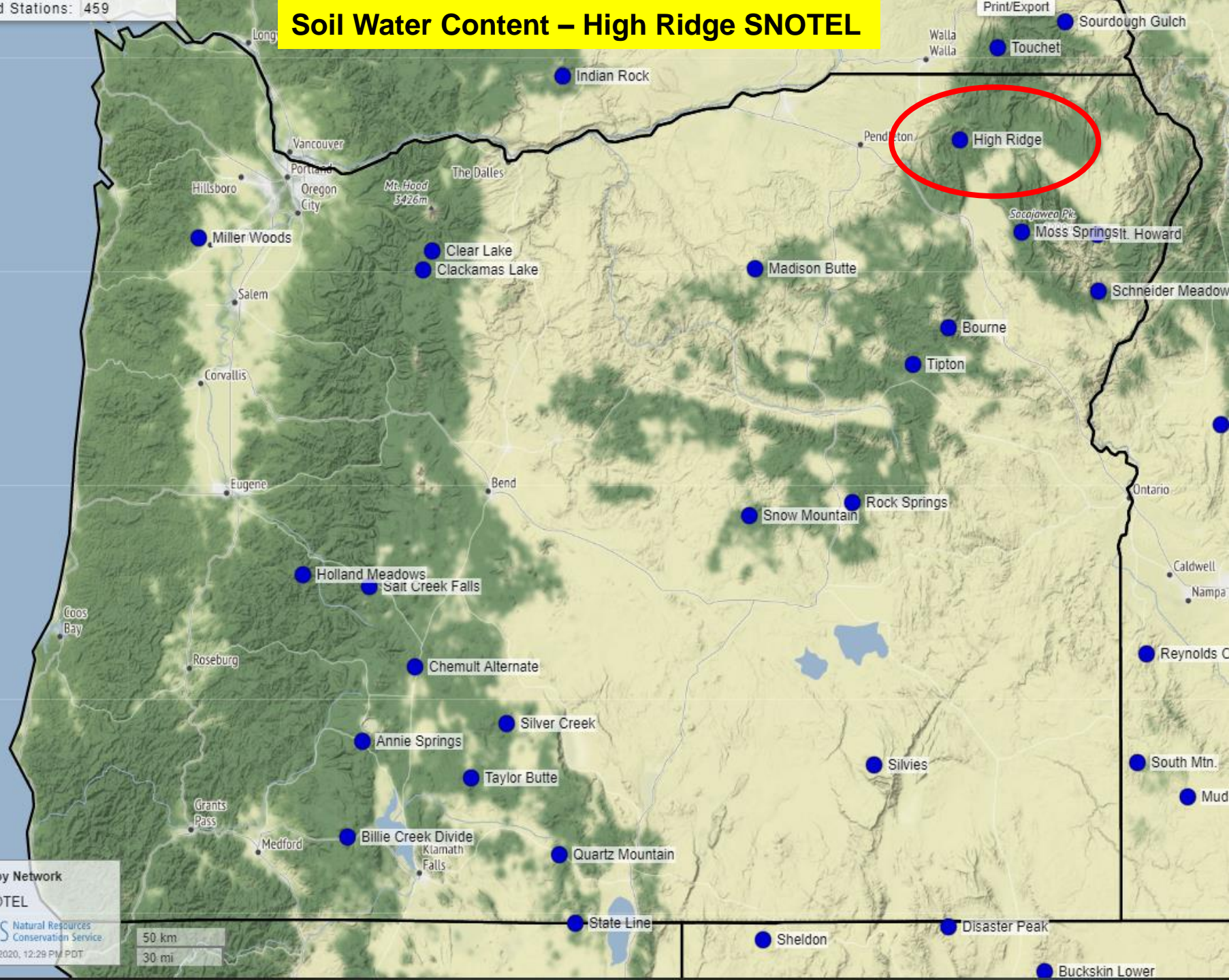
Soil Water Content – Holland Meadows SNOTEL



Soil Water Content – Holland Meadows SNOTEL (2011-2021)



Soil Water Content – High Ridge SNOTEL



Stations by Network

- SNOTEL

NRCS Natural Resources Conservation Service

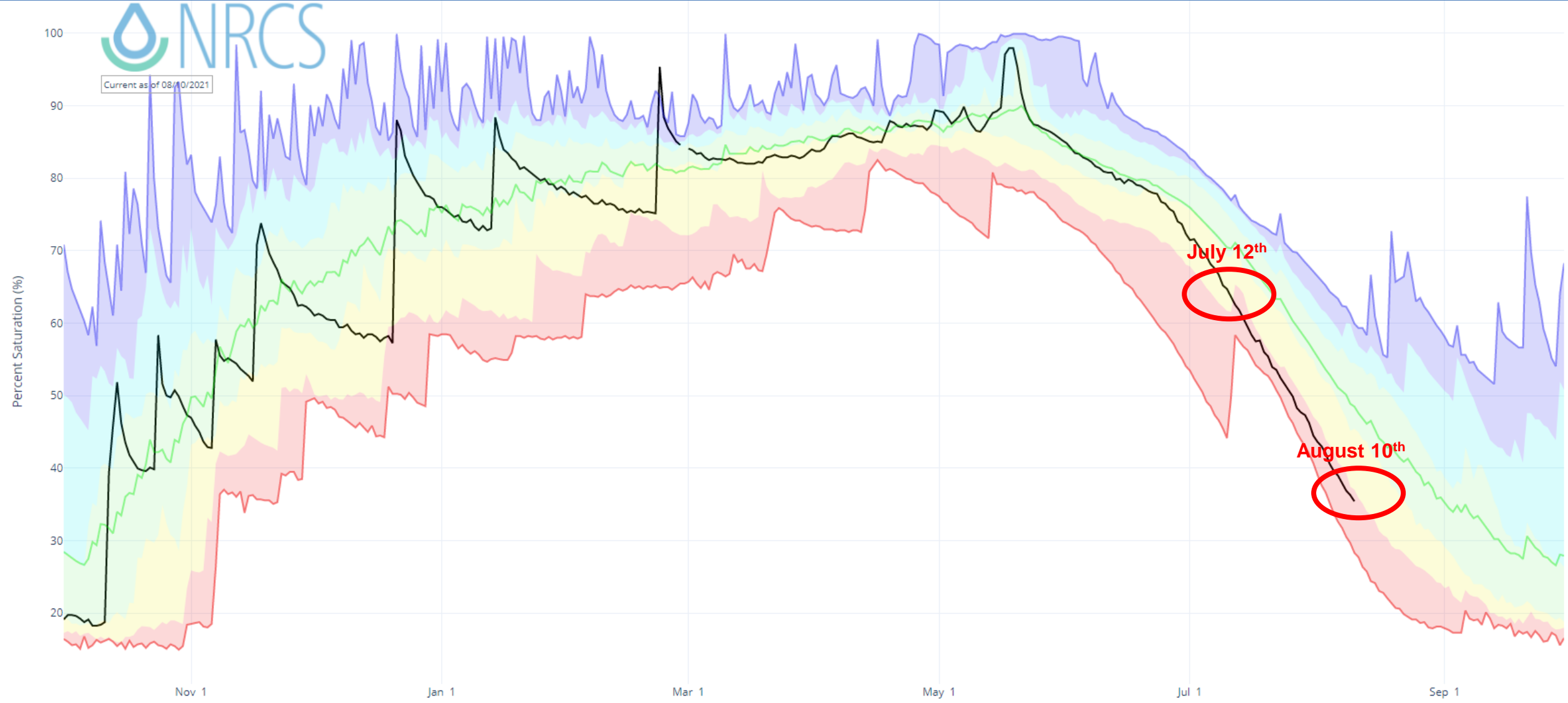
Created 7-07-2020, 12:29 PM PDT

50 km
30 mi

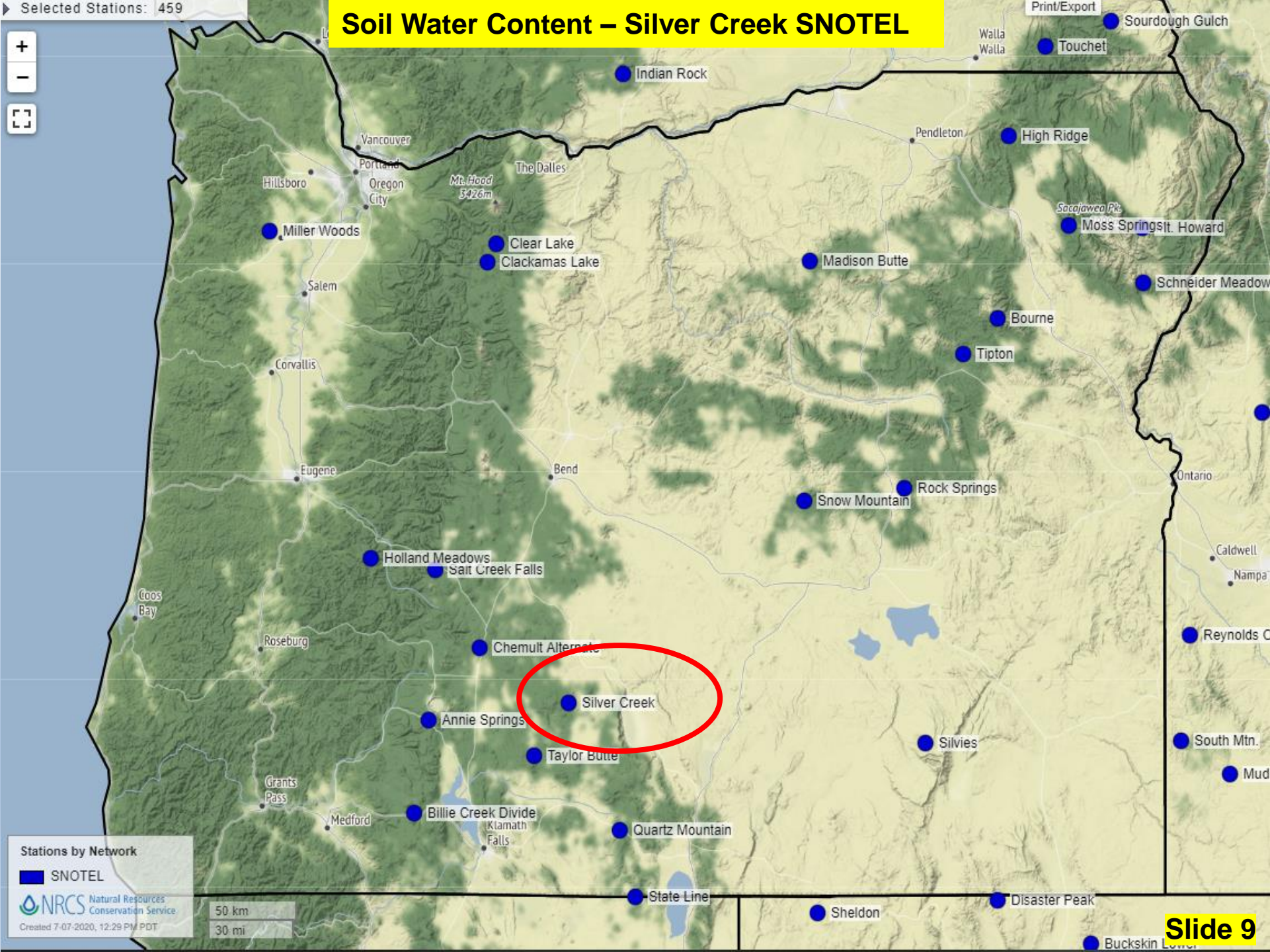
Soil Water Content – High Ridge SNOTEL (2004-2021)



Current as of 08/10/2021



Soil Water Content – Silver Creek SNOTEL



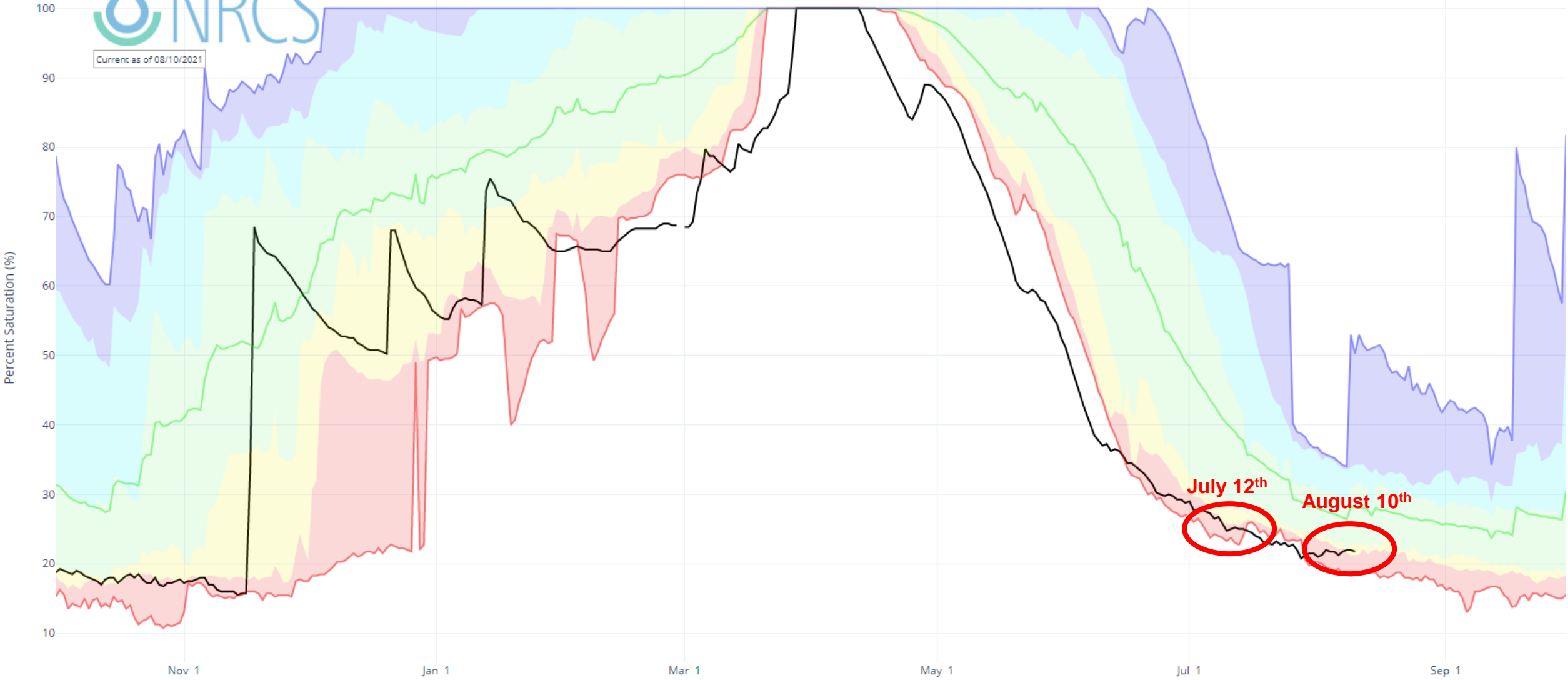
Stations by Network
■ SNOTEL
NRCS Natural Resources Conservation Service
Created 7-07-2020, 12:29 PM PDT

50 km
30 mi

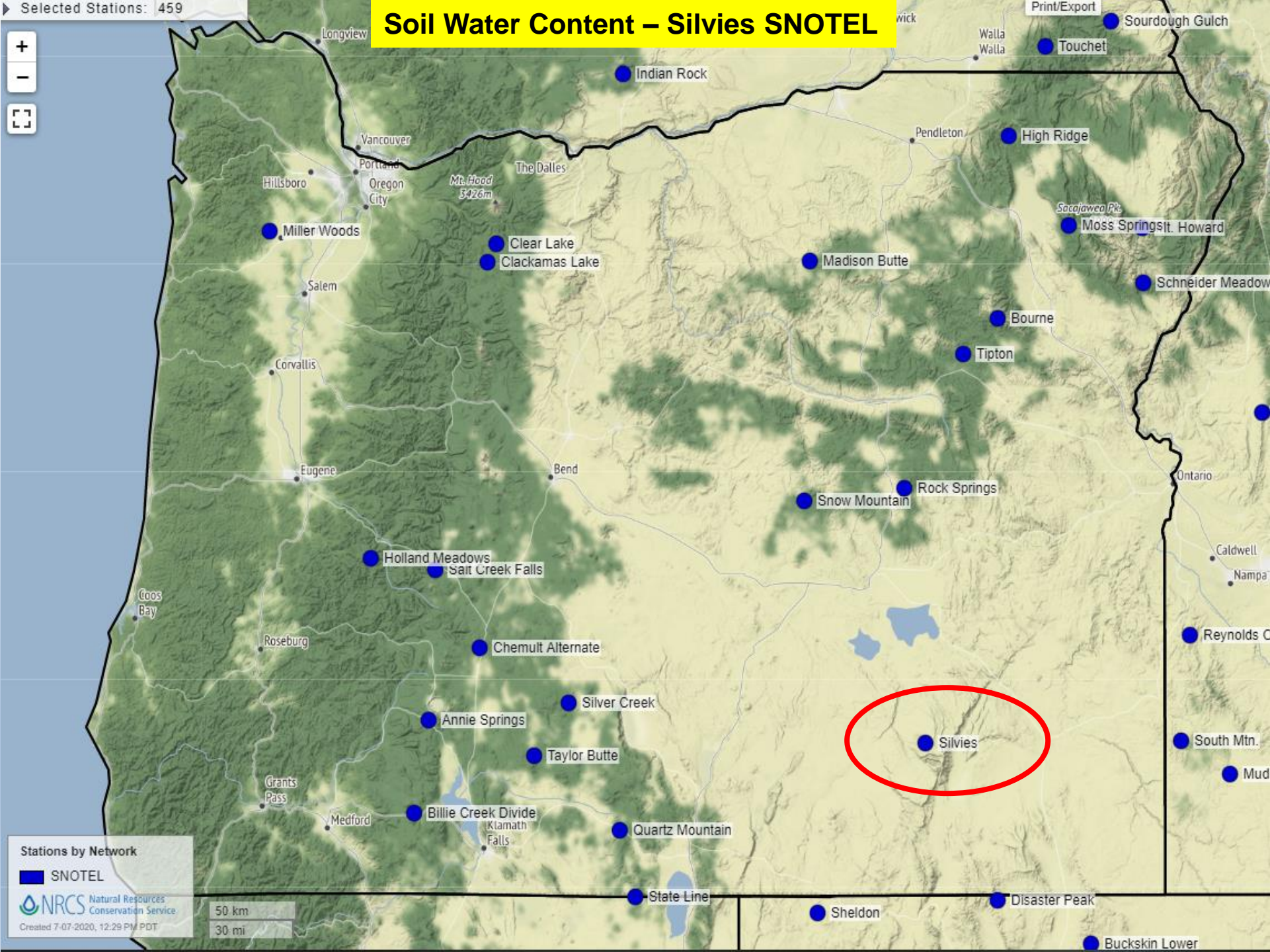
Soil Water Content – Silver Creek SNOTEL (2004-2021)



Current as of 08/10/2021



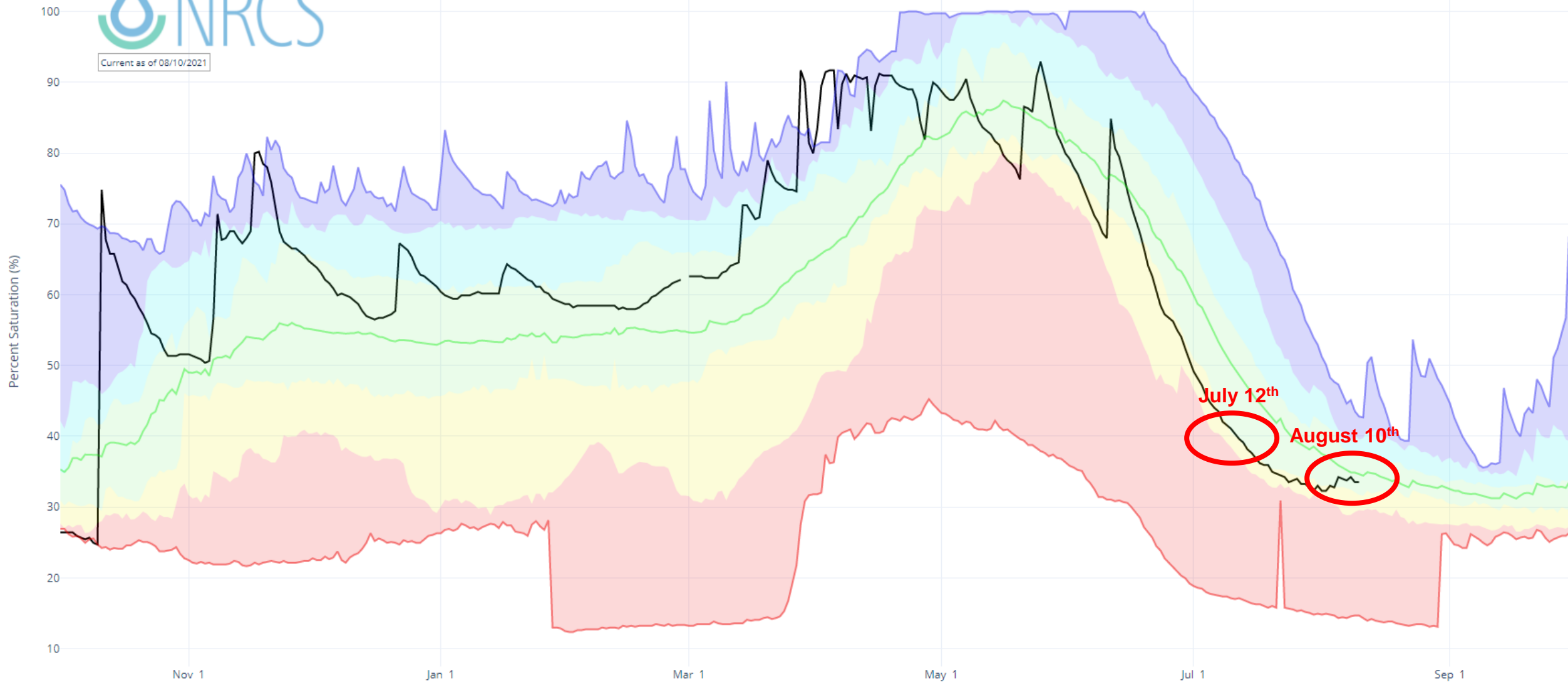
Soil Water Content – Silvies SNOTEL



Soil Water Content – Silvies SNOTEL (1997-2021)



Current as of 08/10/2021



July 12th

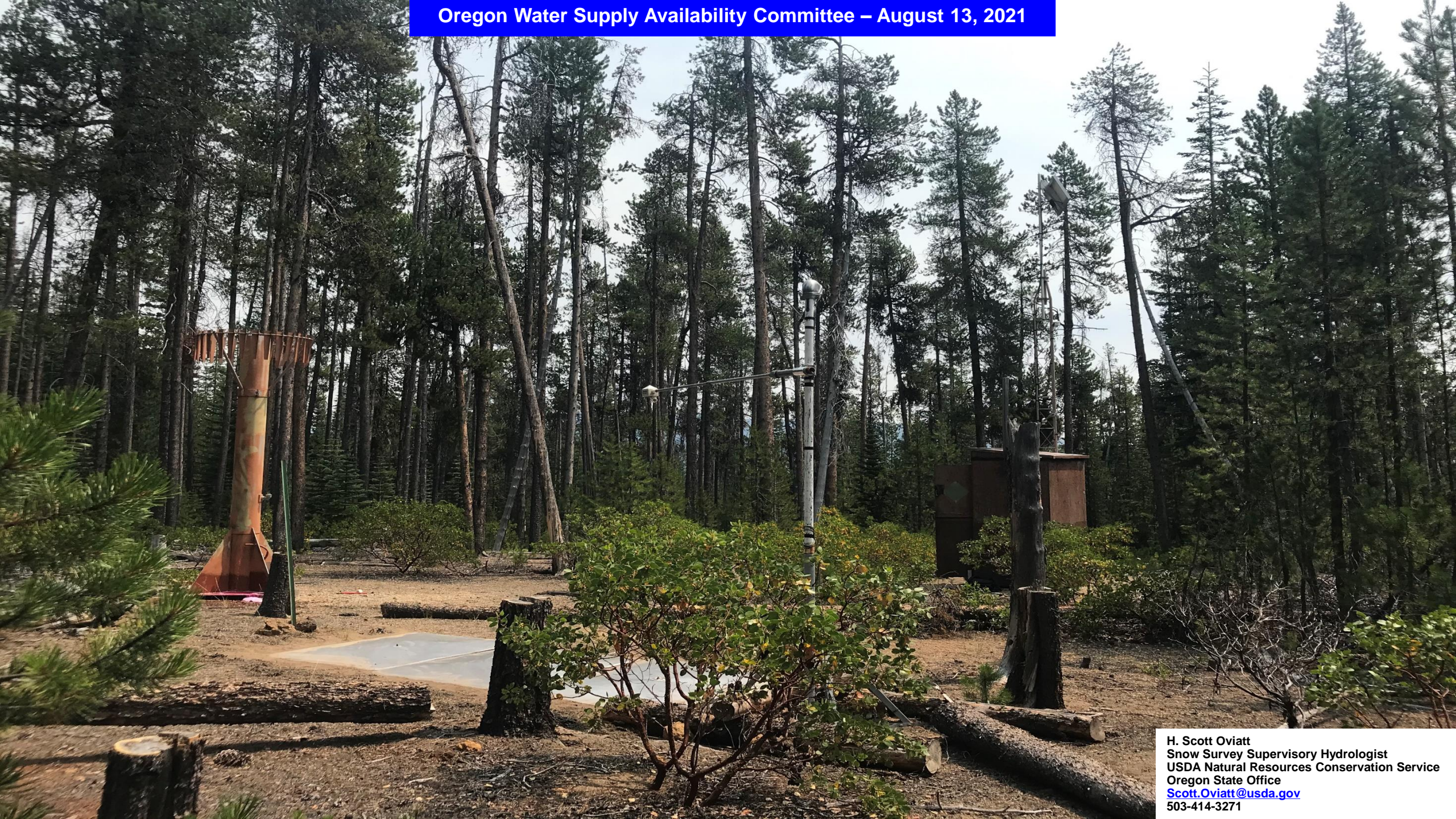
August 10th

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, audiotope, 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.

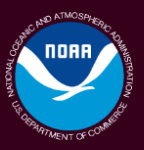




August 2021 Update for Precipitation, Temperatures, and Seasonal Conditions

Andy Bryant
Service Hydrologist
NOAA/NWS Portland
Weather Forecast Office

Henry Pai
Hydrologist
NOAA/NWS Portland
Northwest River Forecast Center



Precipitation

2021 Water Year Percent of Average

Switch Basemap

Reset View

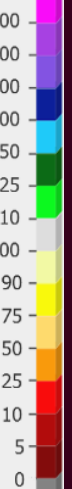
Percent



Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS **esri**

Past 90 Days % Normal

Percent



Past 90 Days Departure from Normal

Inches



Precipitation Data as of August 9, 2021

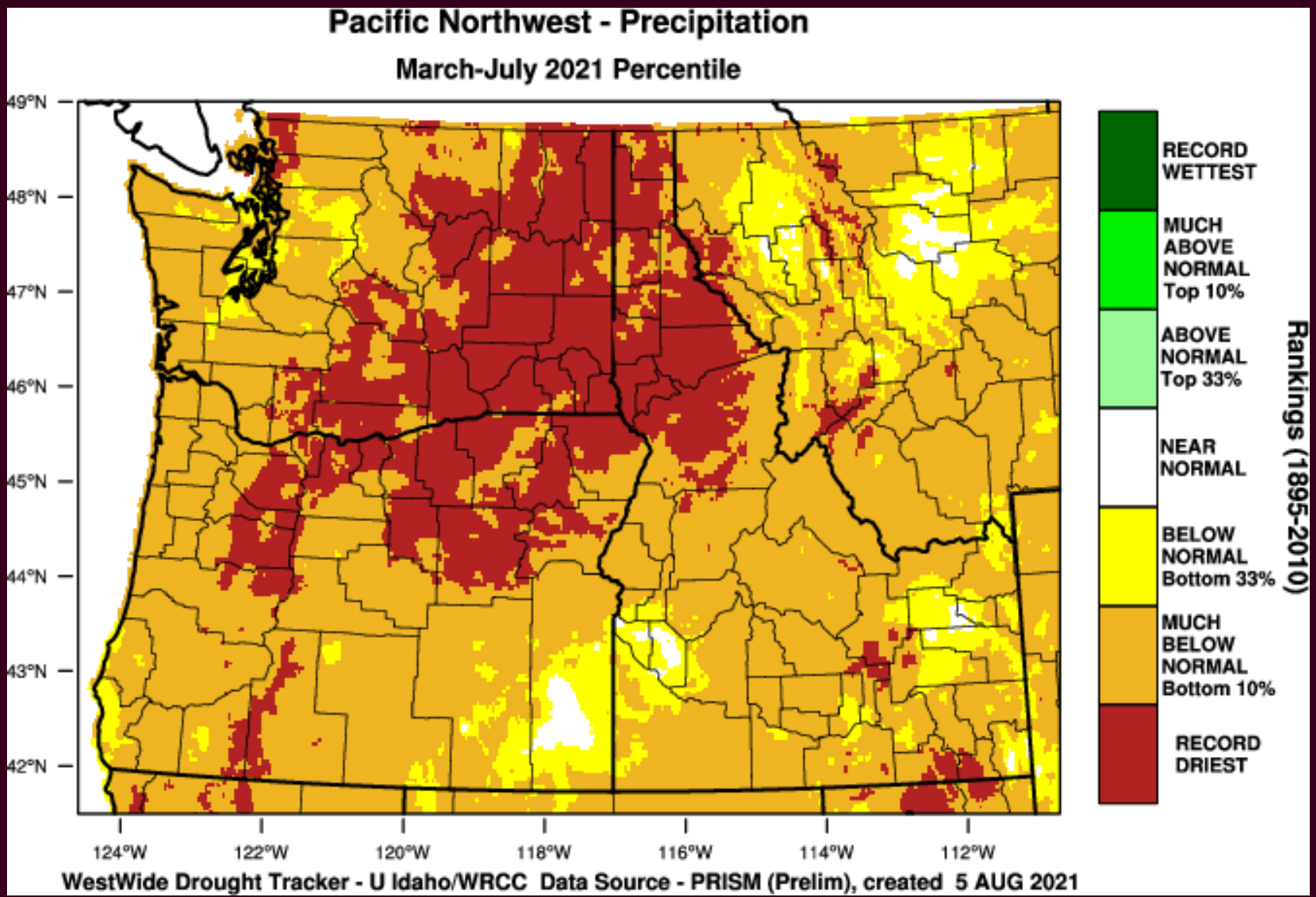
water.weather.gov/precip/index.php

11/18/2021

weather.gov/portland & www.nwrfc.noaa.gov

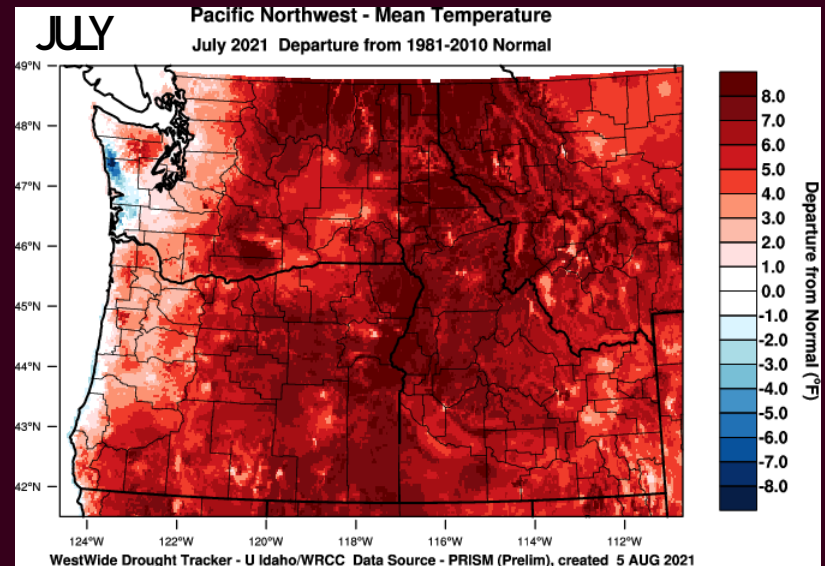
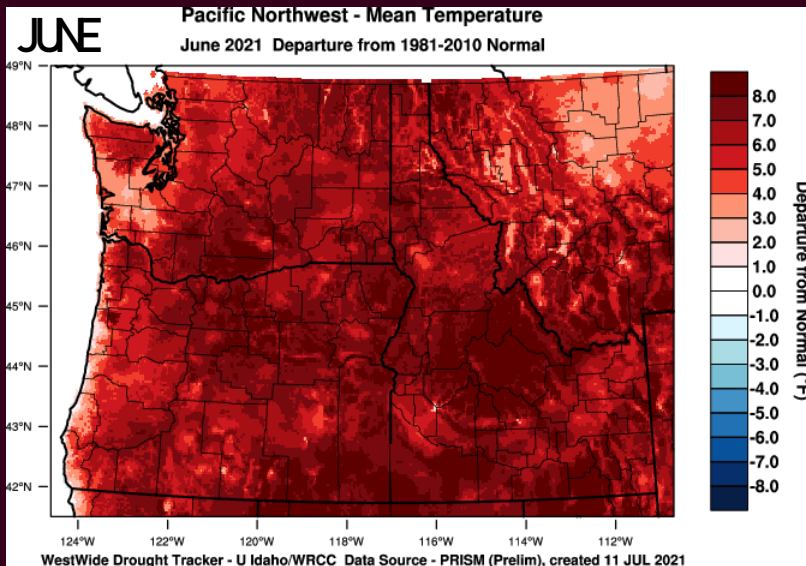
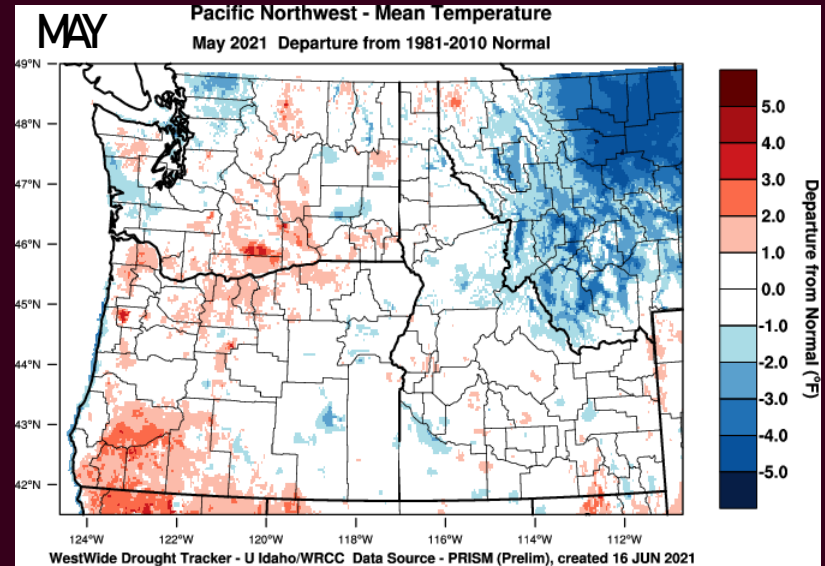
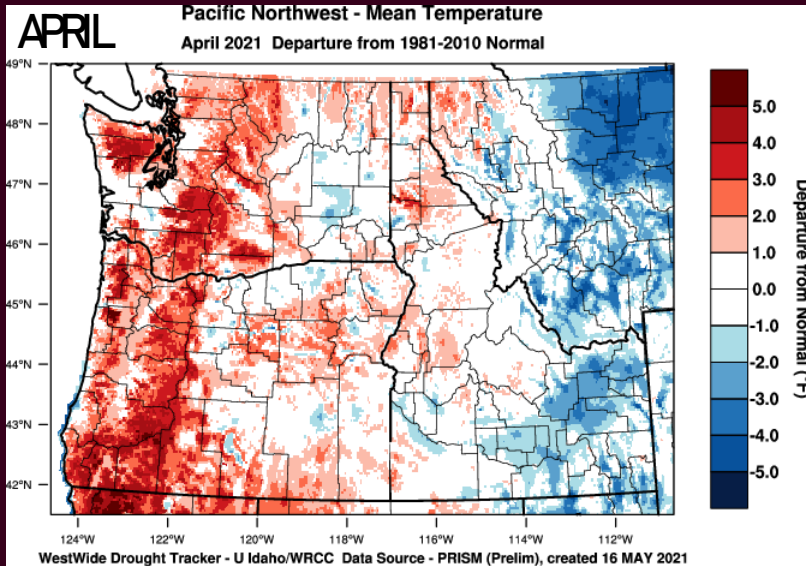


Precipitation – March through July



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

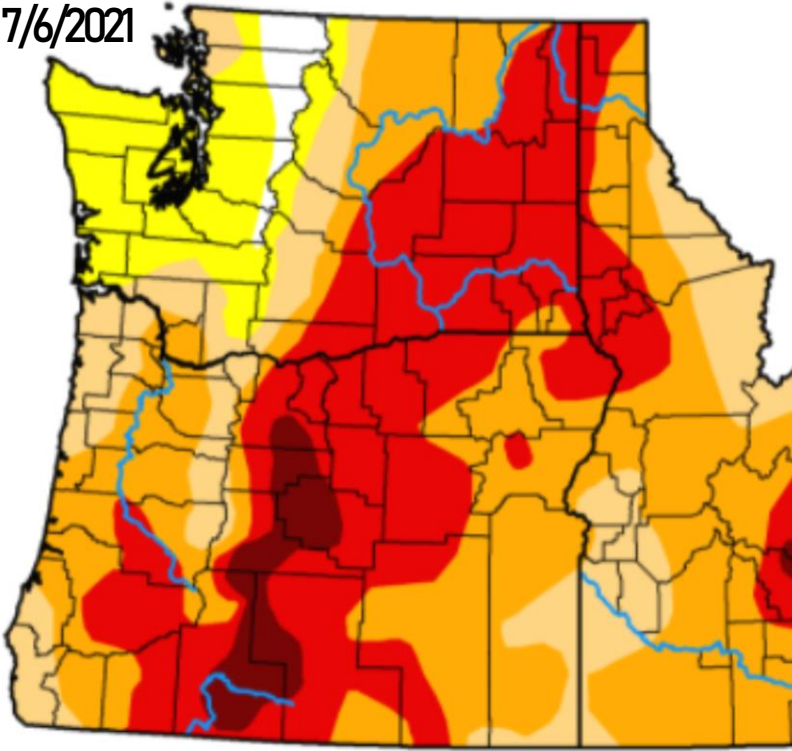
Recent Temperatures



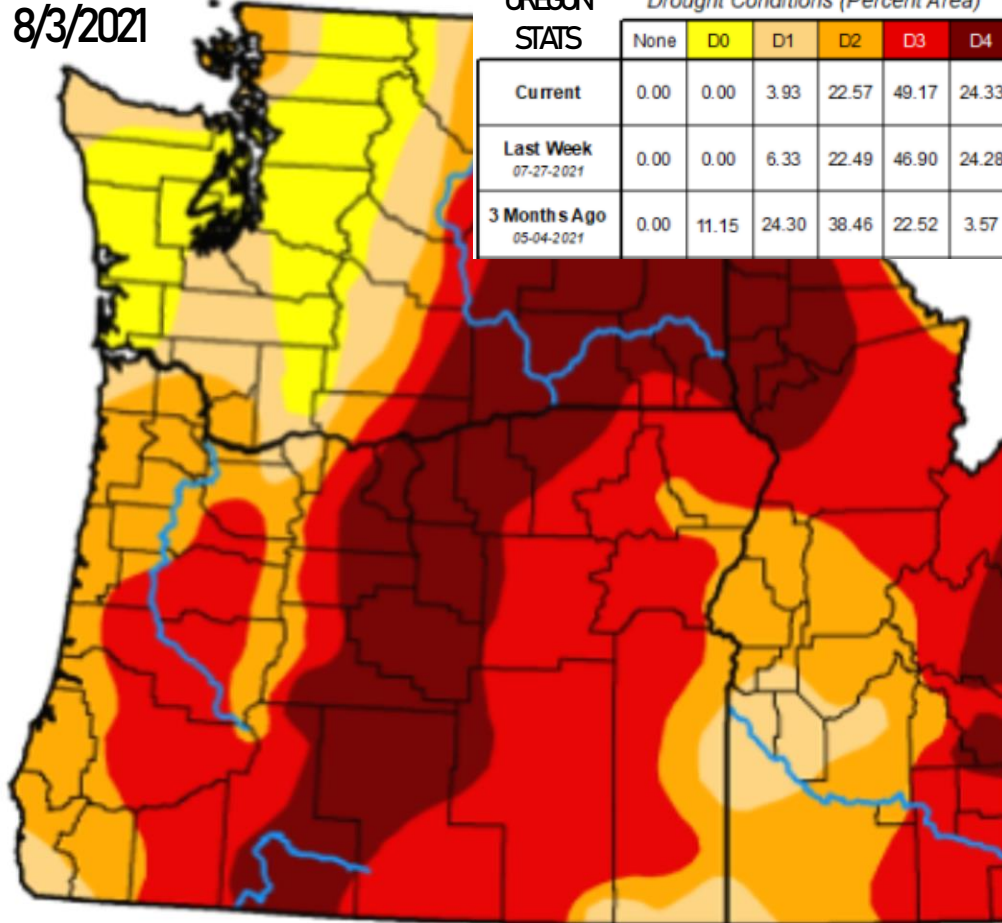
<https://wrcc.dri.edu/wwdt/index.php?region=pnw>

Drought Monitor

7/6/2021



8/3/2021



OREGON
STATS

Drought Conditions (Percent Area)

	None	D0	D1	D2	D3	D4
Current	0.00	0.00	3.93	22.57	49.17	24.33
Last Week 07-27-2021	0.00	0.00	6.33	22.49	46.90	24.28
3 Months Ago 05-04-2021	0.00	11.15	24.30	38.46	22.52	3.57

Intensity:

- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

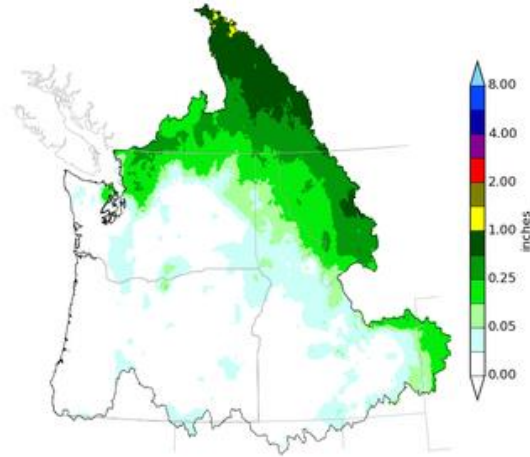


Mid August Outlook

NWRFC 10-DAY PRECIPITATION

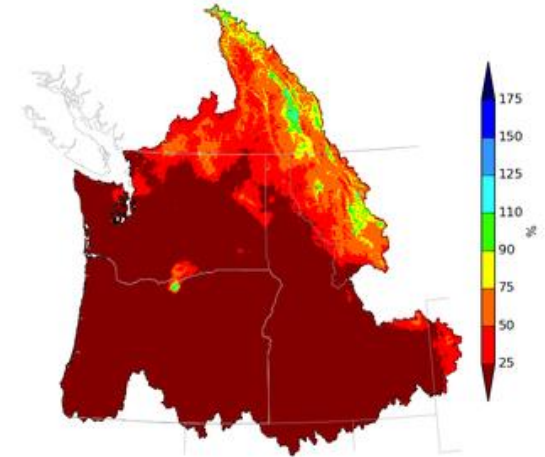
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php

Northwest River Forecast Center
10 Day QPF, Ending 12Z, 08/20/21



Creation Time: Tue Aug 10 14:44:10 UTC 2021

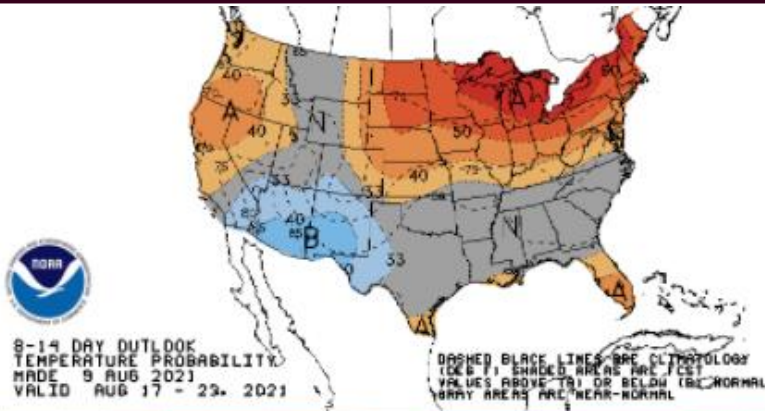
Northwest River Forecast Center
10 Day QPF (Percent of Climatology), Ending 12Z, 08/20/21



Creation Time: Tue Aug 10 14:45:12 UTC 2021

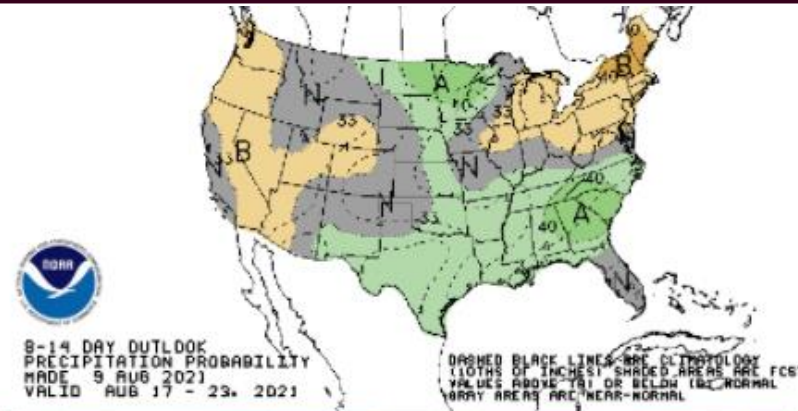
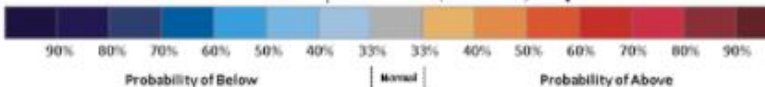
CPC 8 - 14 DAY OUTLOOK

www.cpc.ncep.noaa.gov



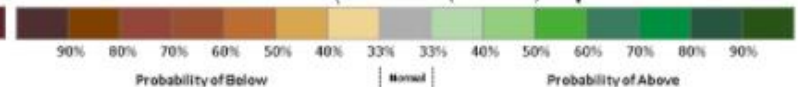
8-14 DAY OUTLOOK
TEMPERATURE PROBABILITY
MADE 9 AUG 2021
VALID AUG 17 - 23, 2021

DASHED BLACK LINES ARE CLIMATOLOGY
(100°F) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL



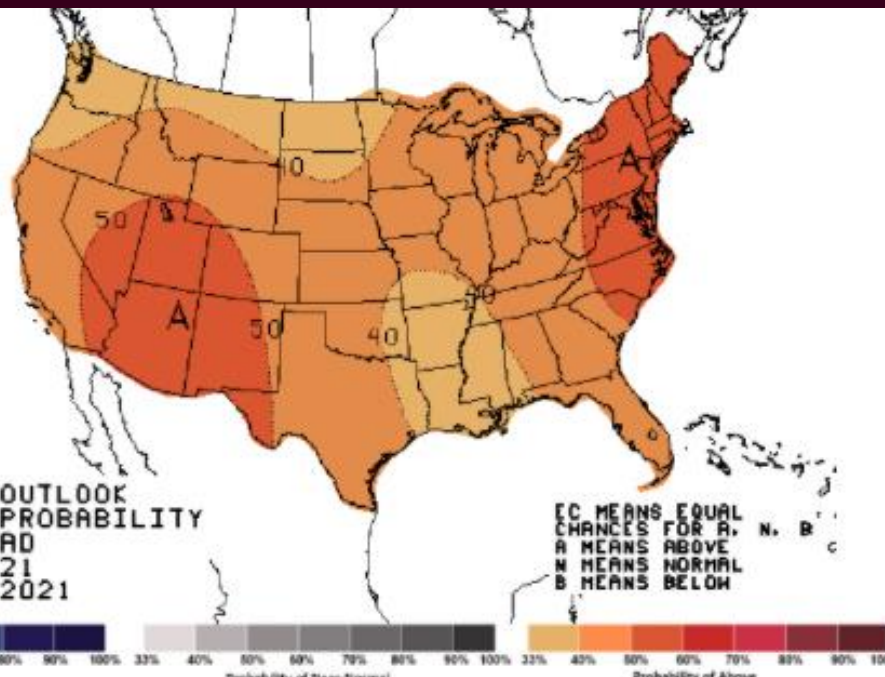
8-14 DAY OUTLOOK
PRECIPITATION PROBABILITY
MADE 9 AUG 2021
VALID AUG 17 - 23, 2021

DASHED BLACK LINES ARE CLIMATOLOGY
(100 INCHES) SHADED AREAS ARE FCST
VALUES ABOVE (A) OR BELOW (B) NORMAL
GRAY AREAS ARE NEAR-NORMAL

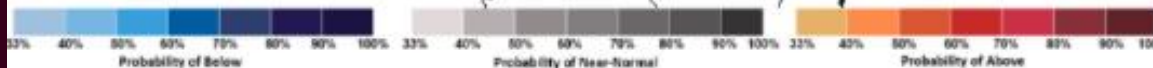




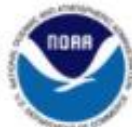
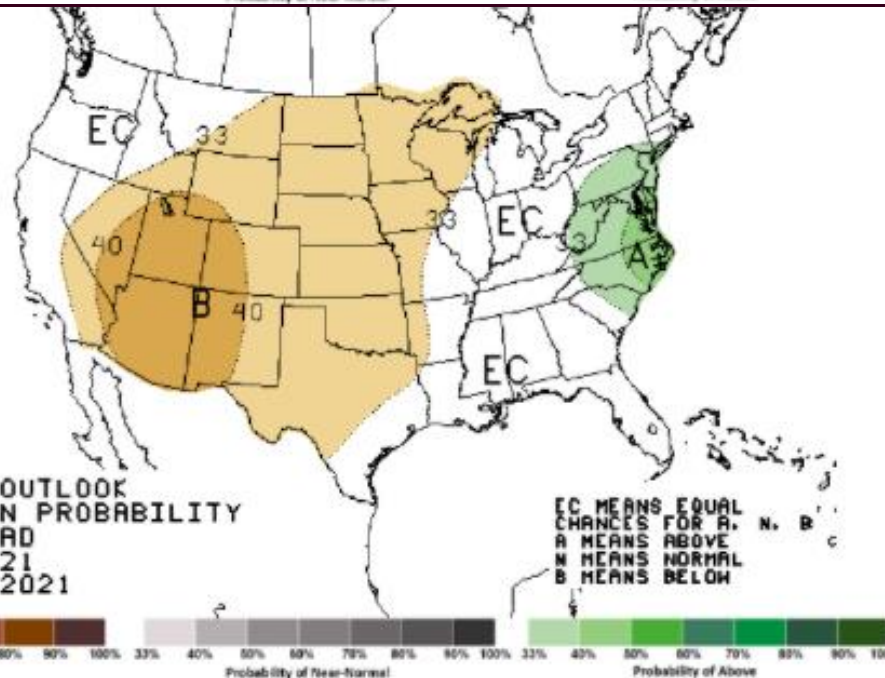
Temperatures



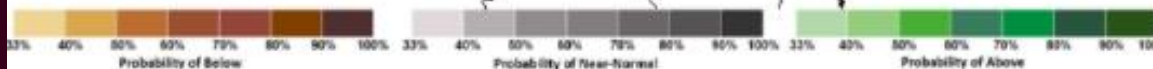
THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
1.5 MONTH LEAD
VALID SON 2021
MADE 15 JUL 2021



Precipitation



THREE-MONTH OUTLOOK
PRECIPITATION PROBABILITY
1.5 MONTH LEAD
VALID SON 2021
MADE 15 JUL 2021



Climate Prediction Center Outlook

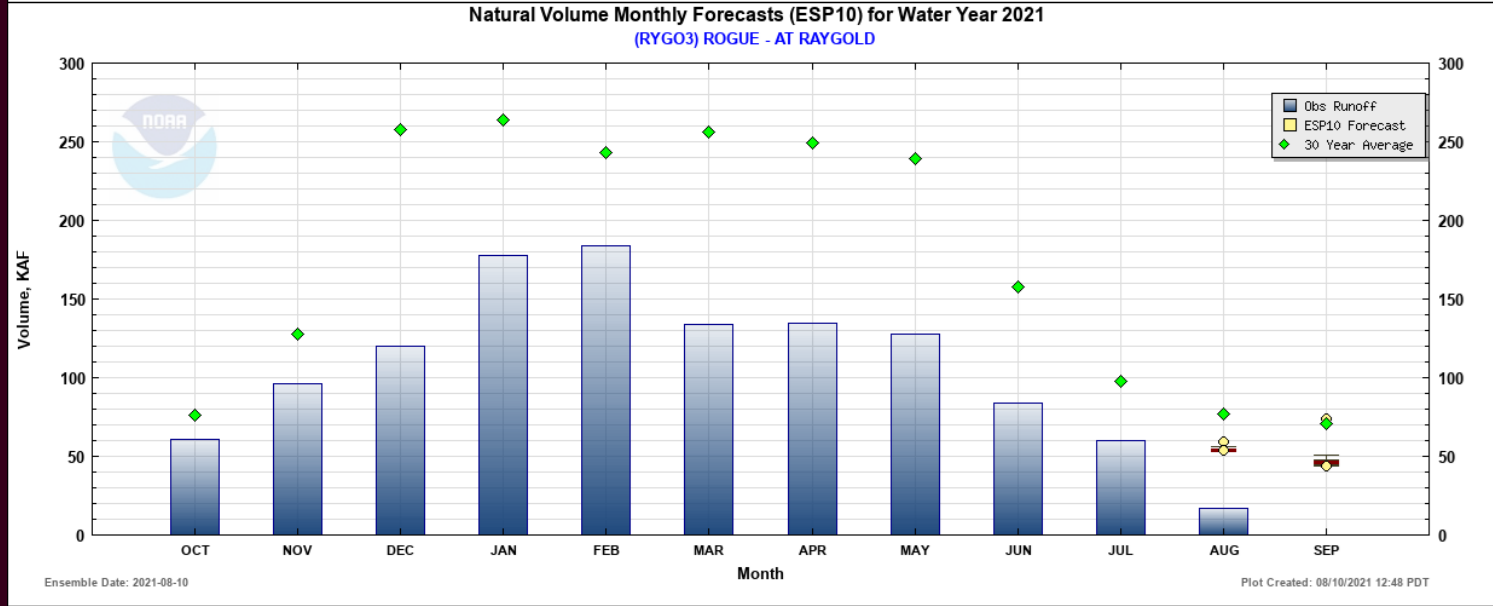
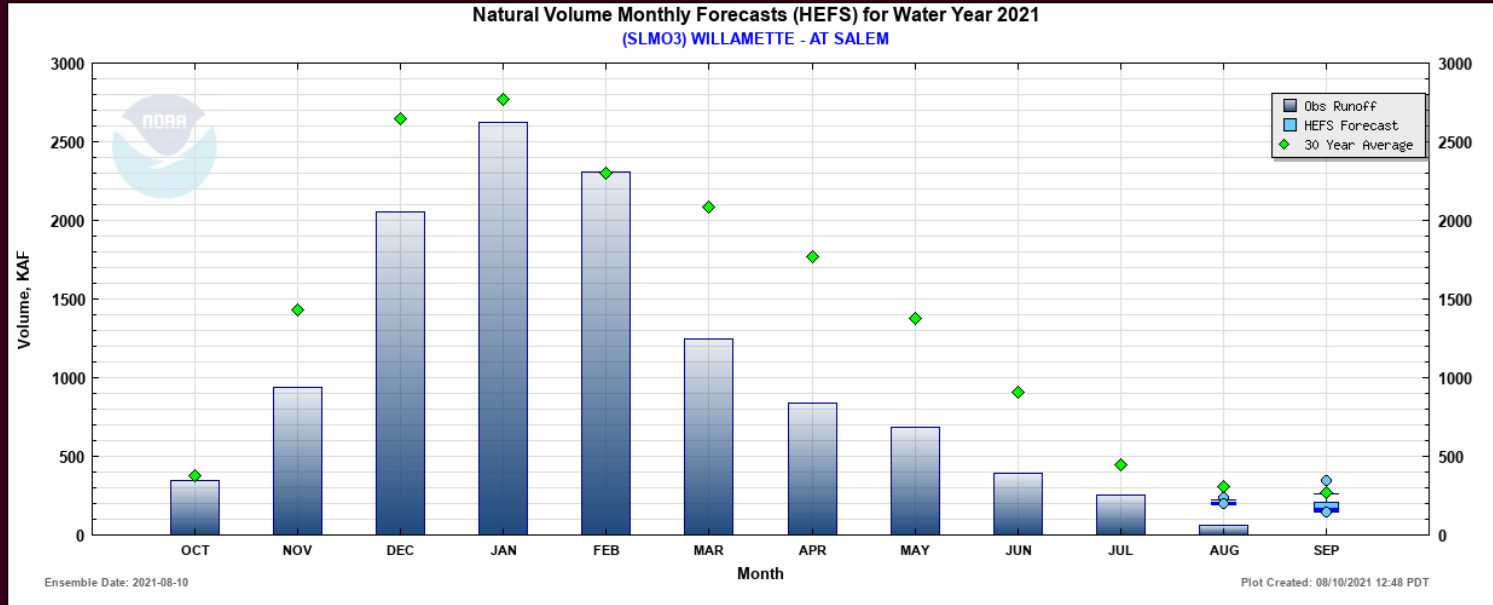
Sep-Oct-Nov 2021

www.cpc.ncep.noaa.gov



Streamflow Volume Forecast

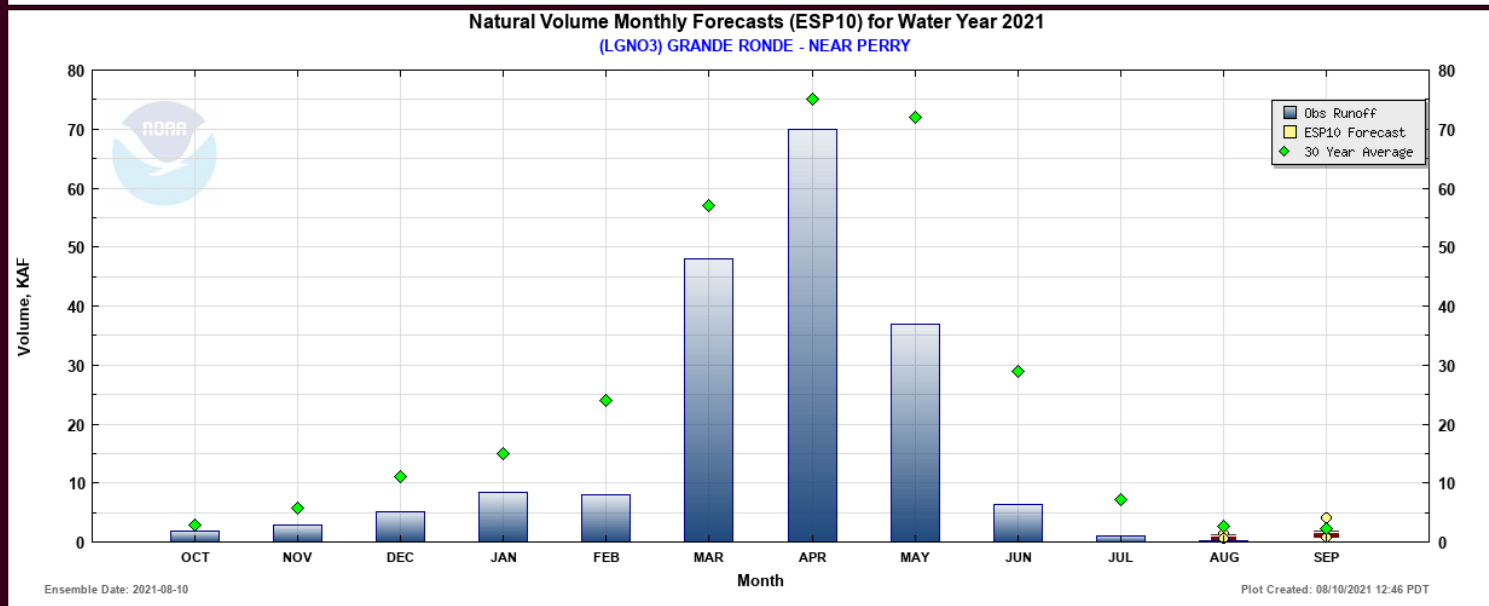
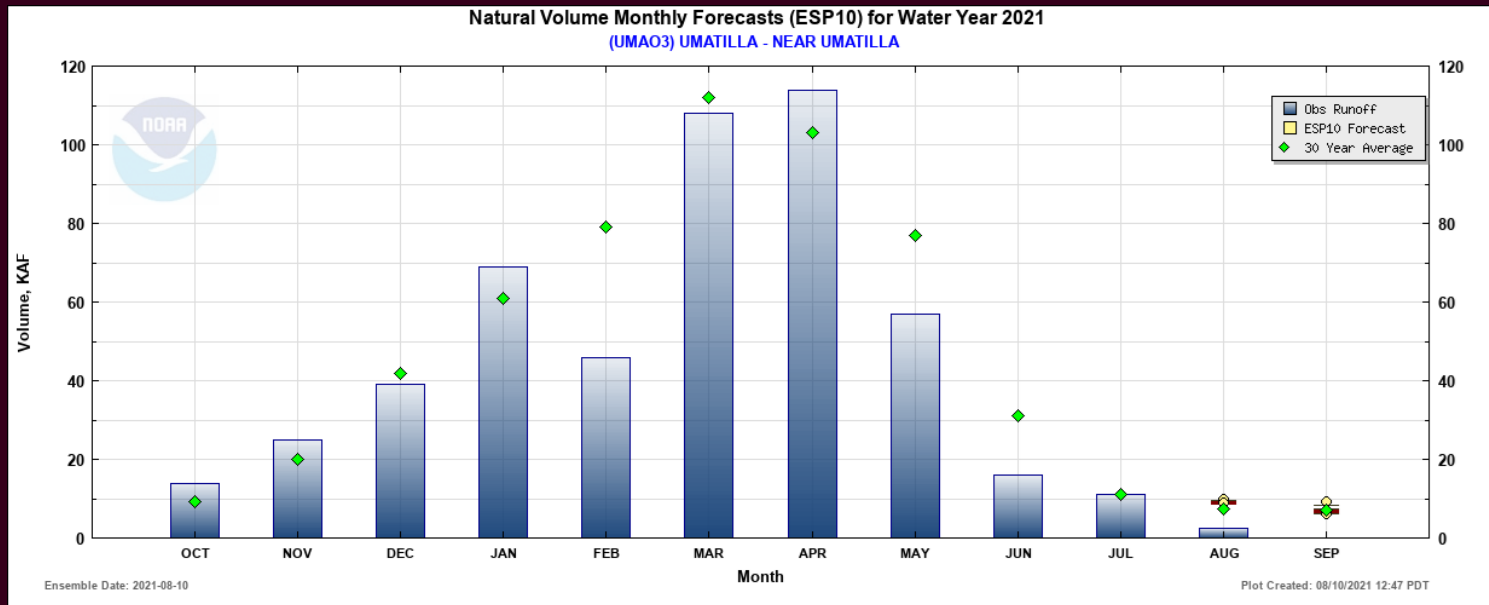
Monthly ESP10 Natural





Streamflow Volume Forecast

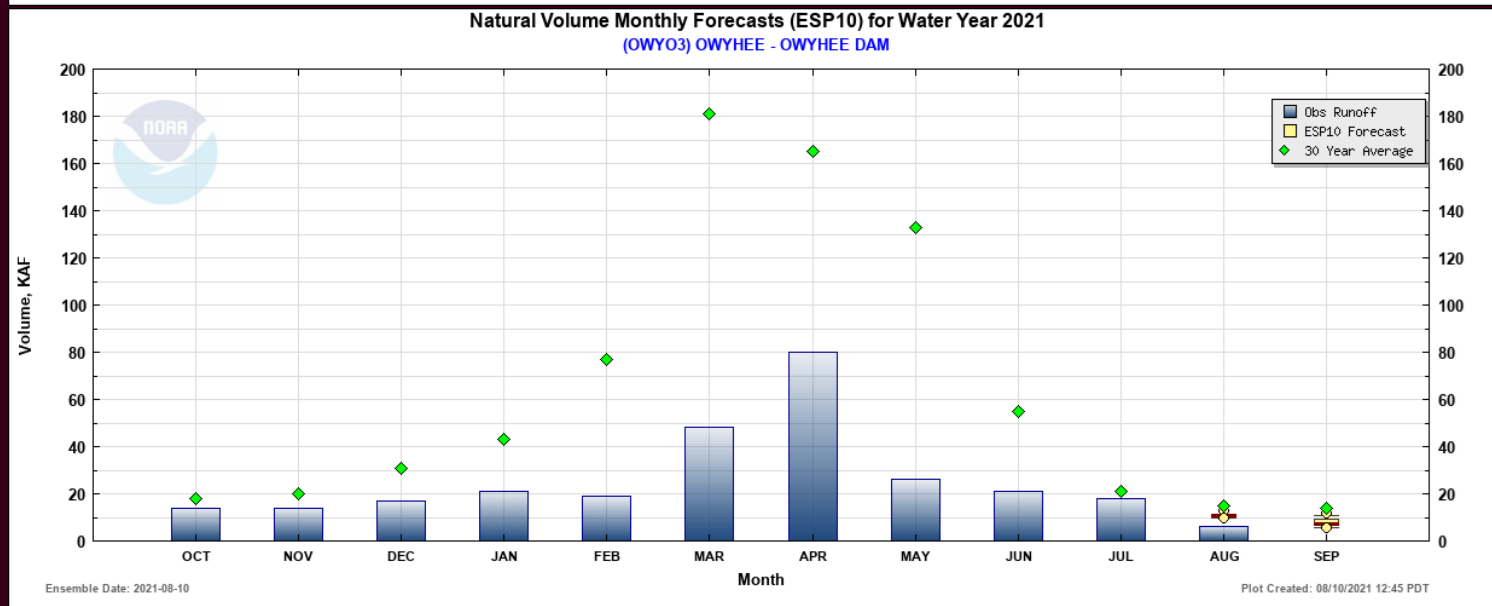
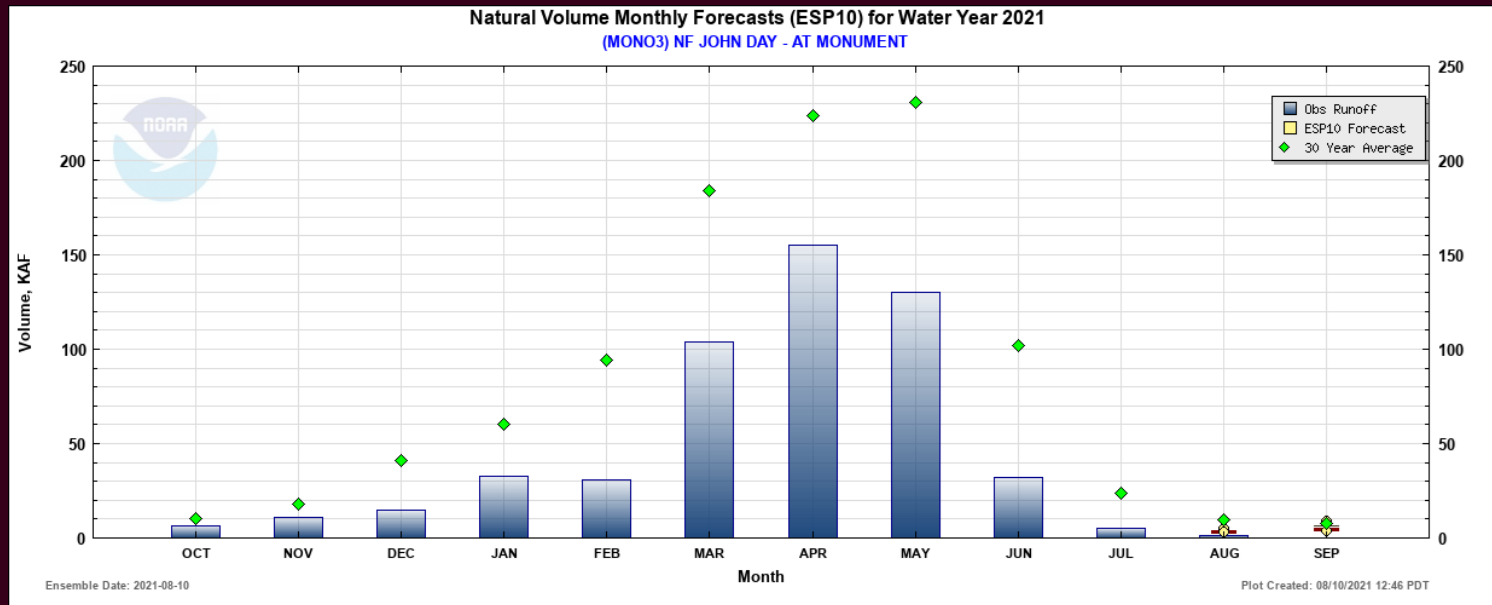
Monthly ESP10 Natural





Streamflow Volume Forecast

Monthly ESP10 Natural





Oregon Water Supply Availability Meeting

August 2021



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

USGS Update on Surface Water Conditions
Carrie Boudreau & Marc Stewart
Oregon Water Science Center
Photo: 14202980, by Ann McGowan

Streamflow Conditions

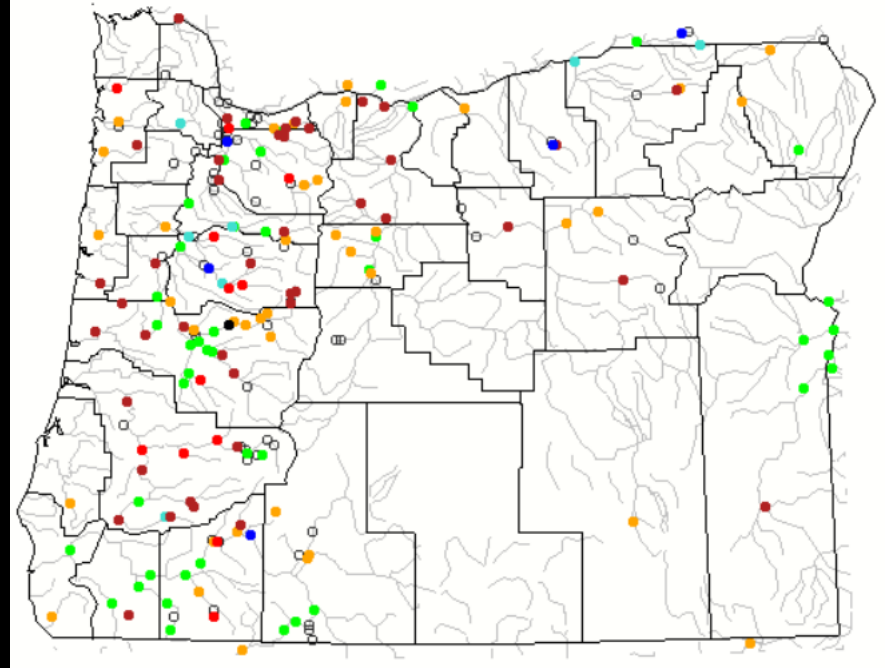
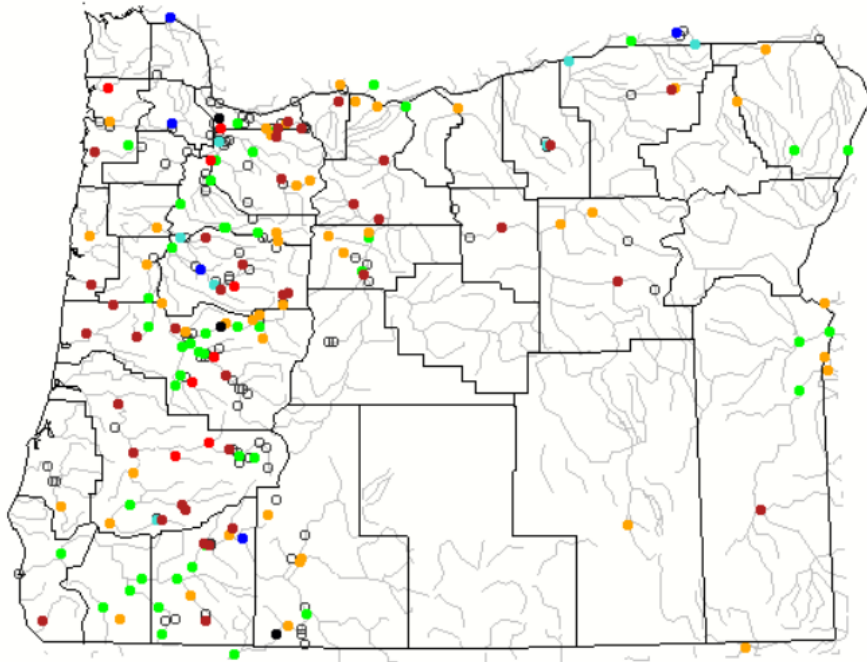
Oregon Streamflow Maps (as compared to Historical Record)

Daily

7-day Average

Tuesday, August 10, 2021 17:30ET

Monday, August 09, 2021



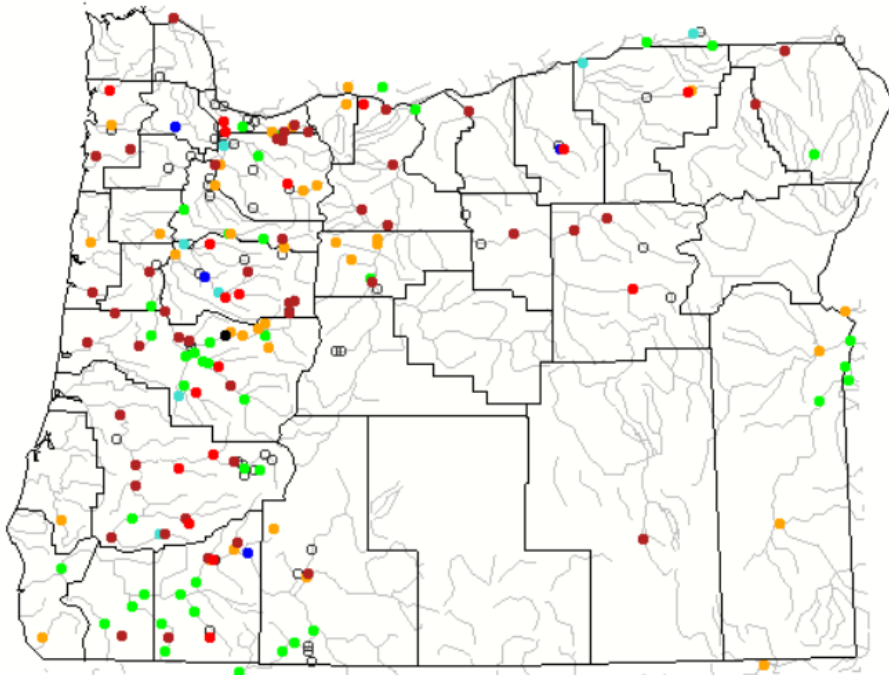
Explanation - Percentile classes

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

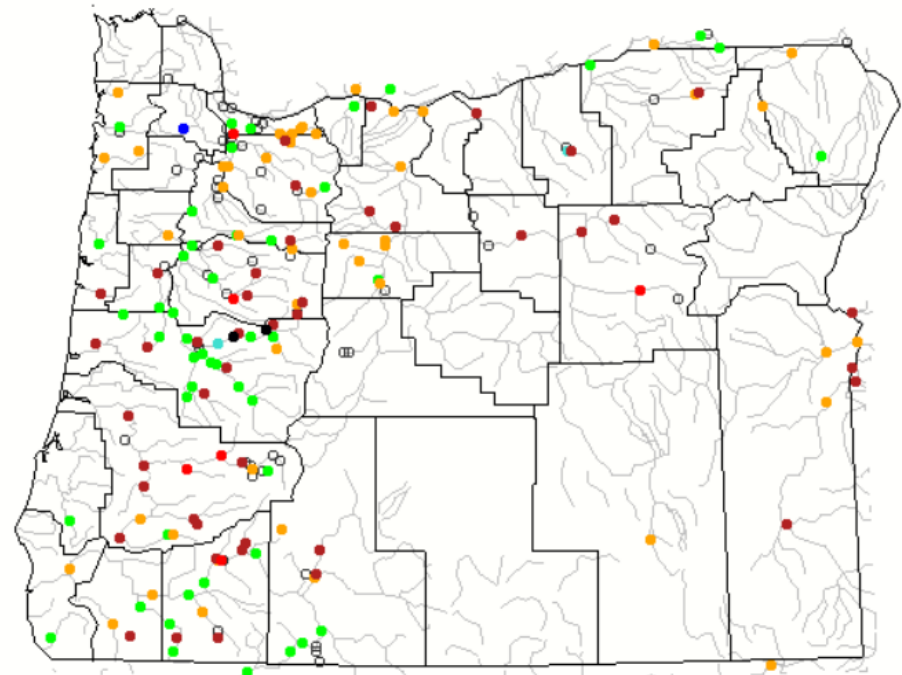
Streamflow Conditions

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

Monday, August 09, 2021



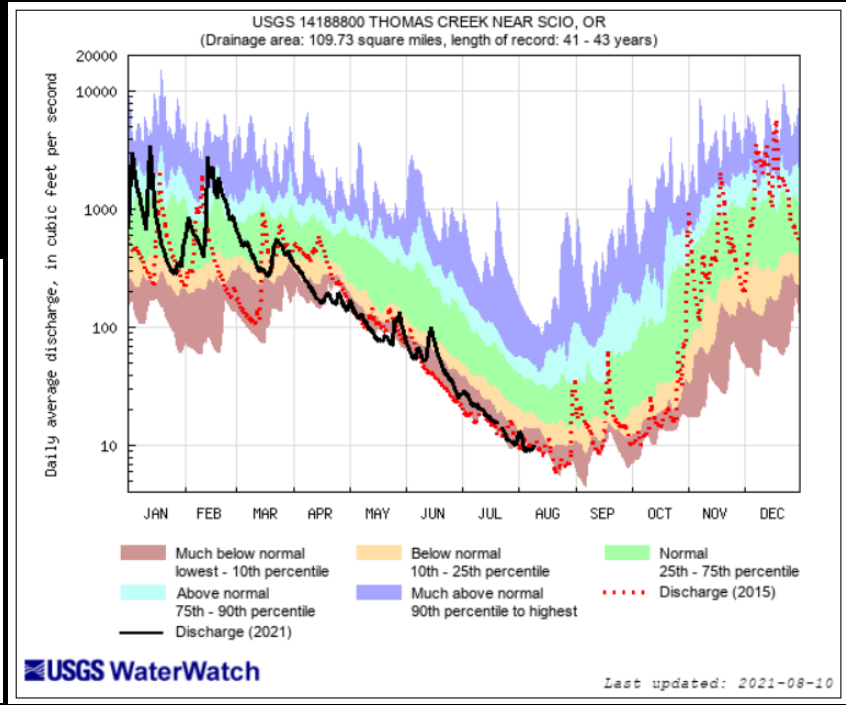
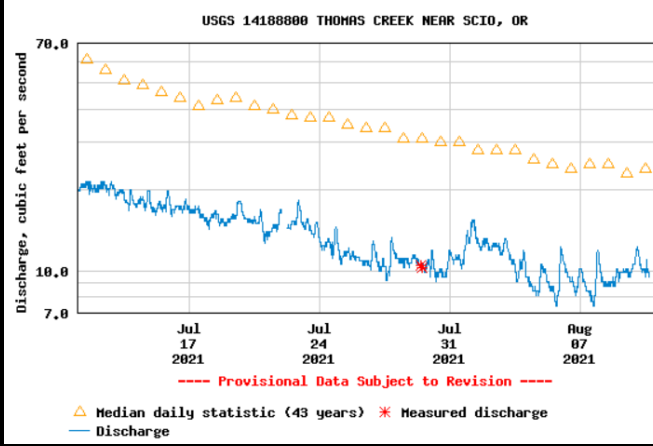
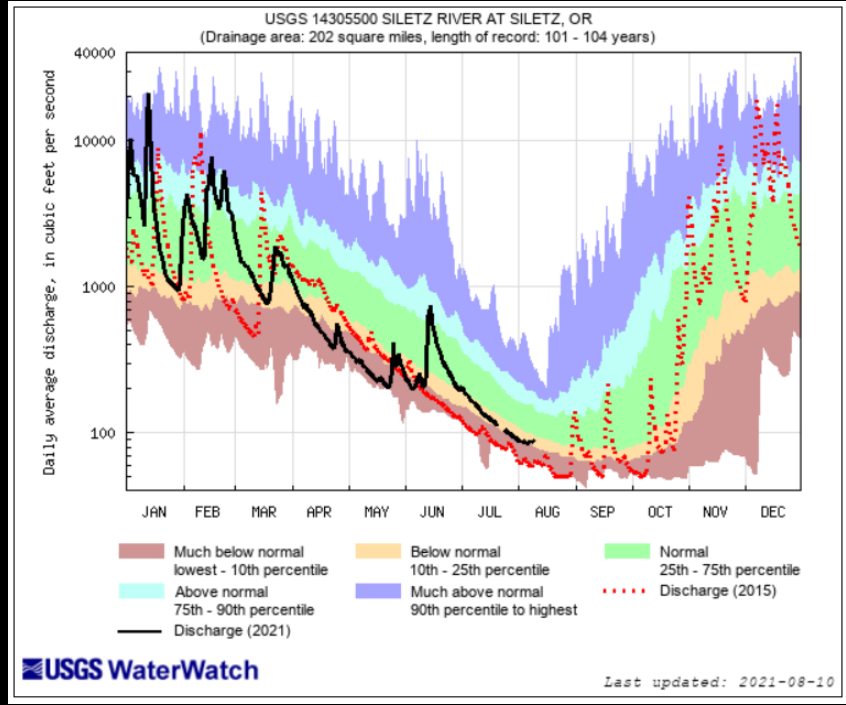
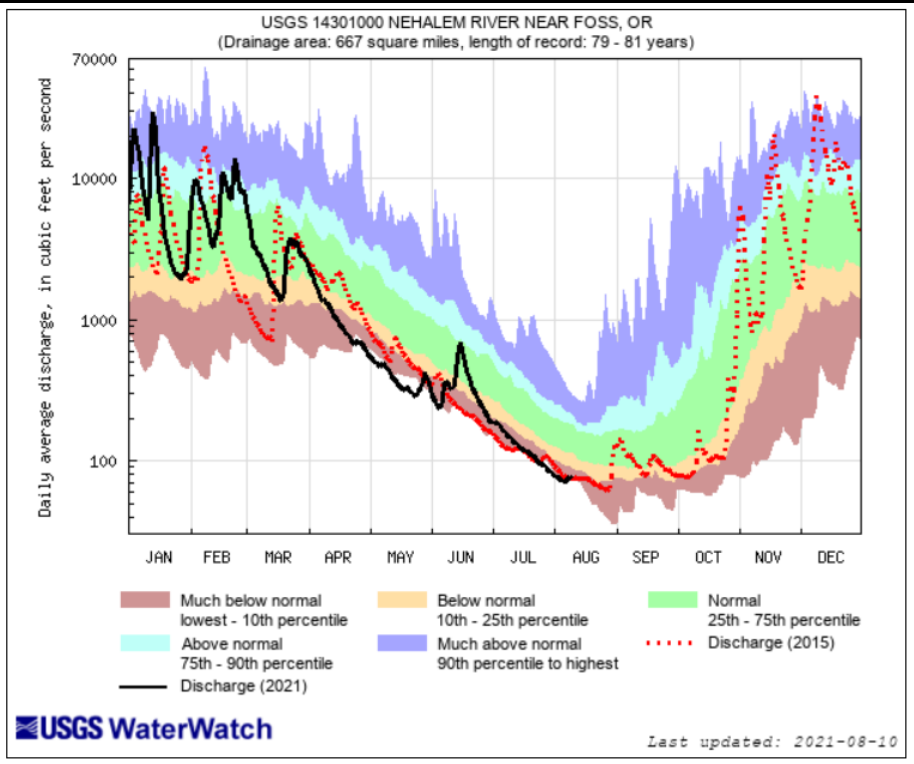
Sunday, July 11, 2021



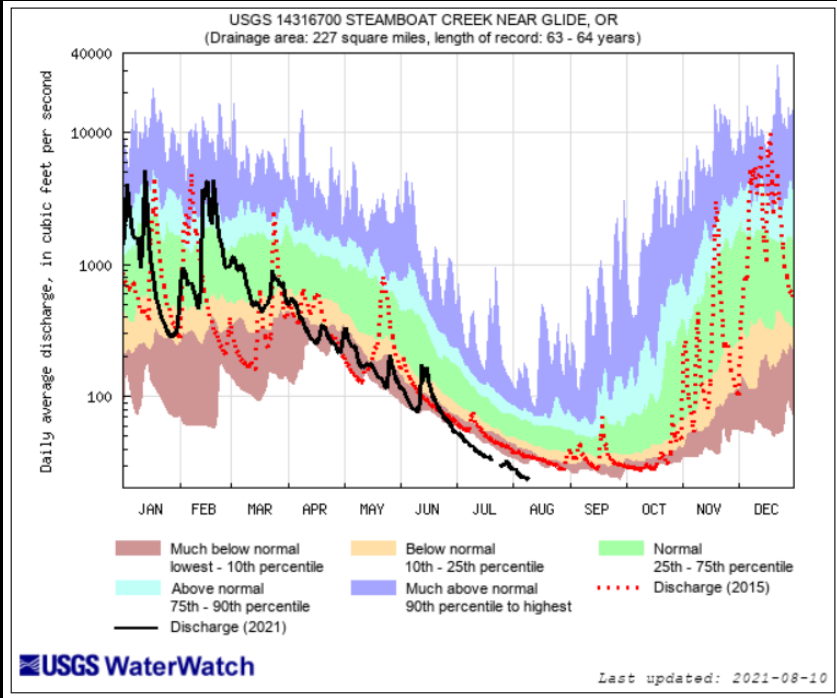
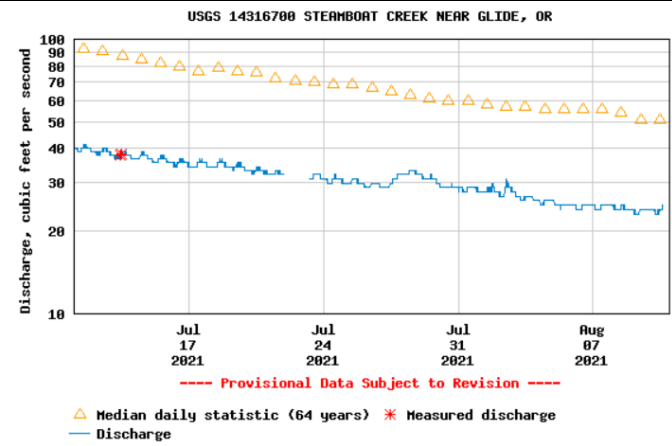
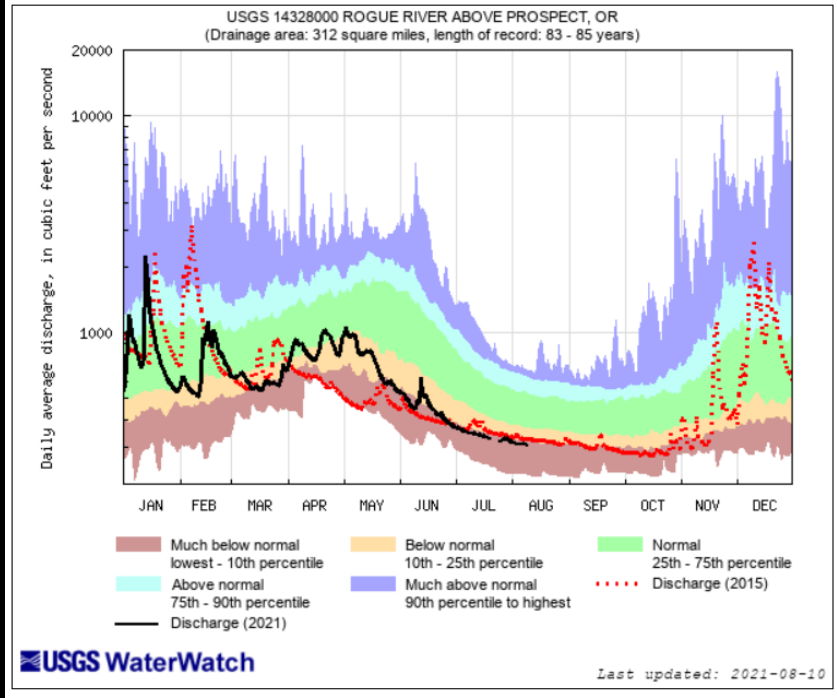
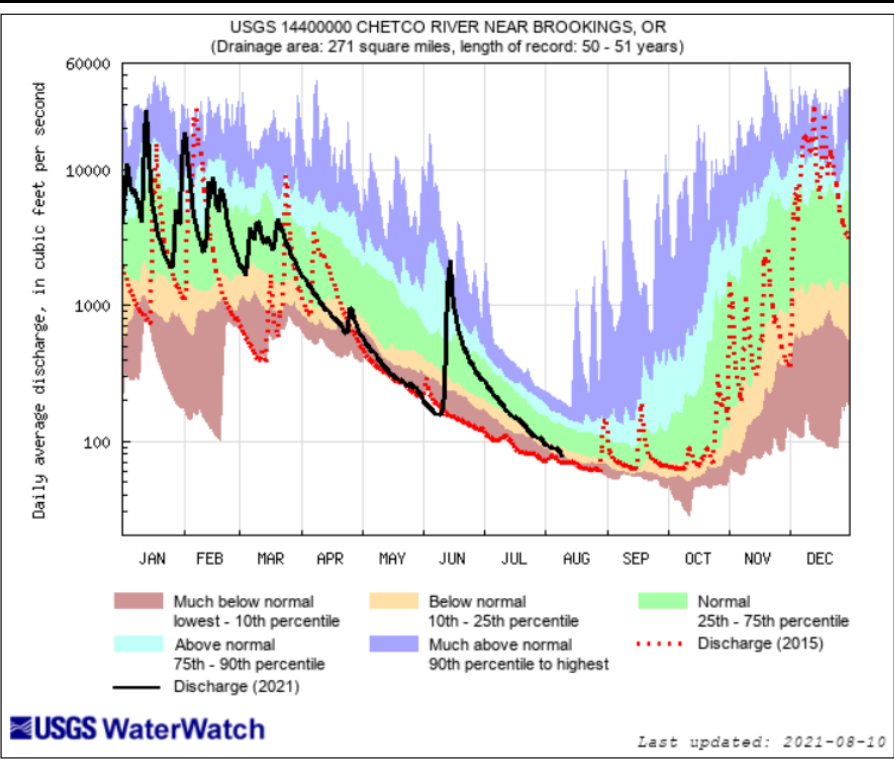
Explanation - Percentile classes

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

Northwestern OR

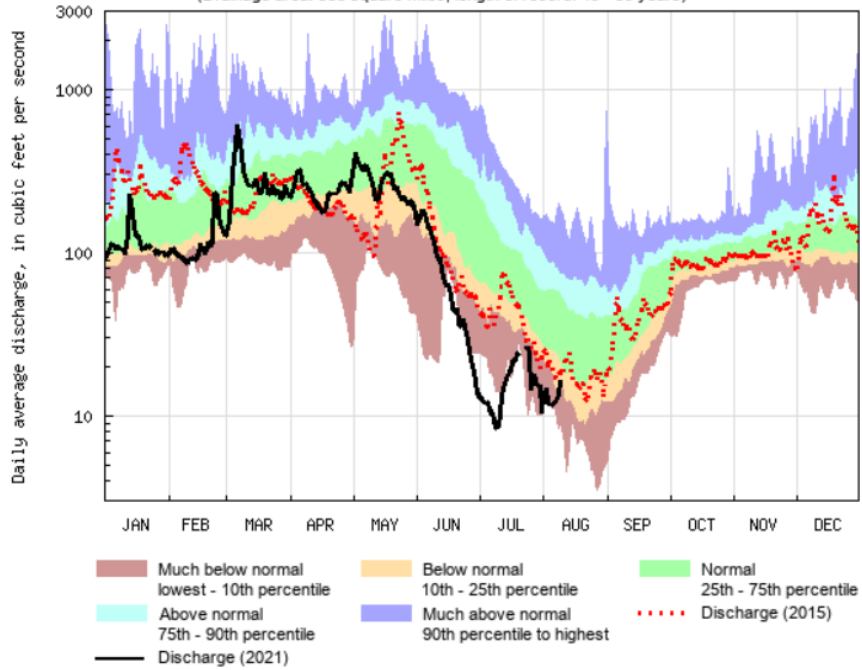


Southwestern OR



Northeastern OR

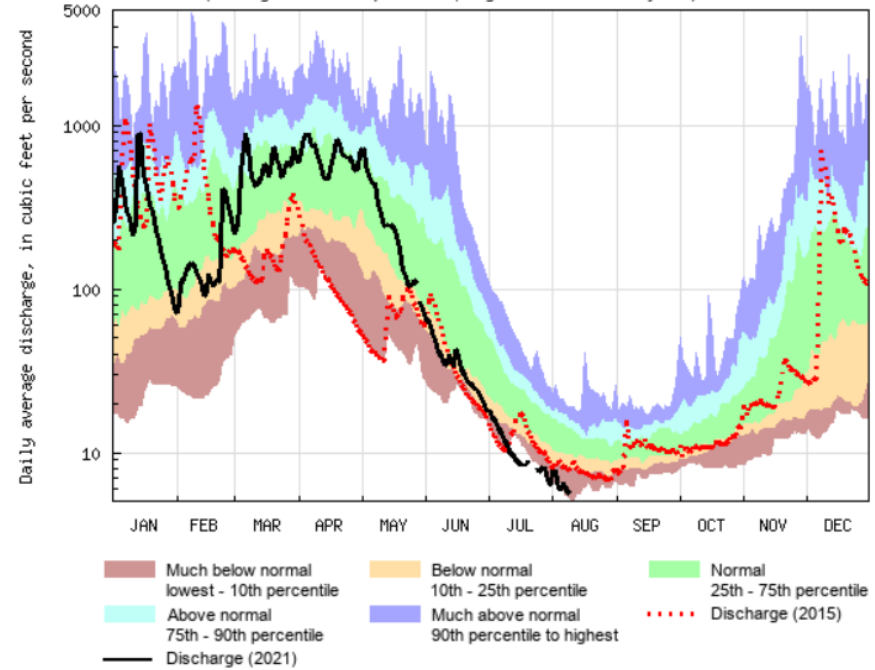
USGS 14038530 JOHN DAY RIVER NEAR JOHN DAY, OR
(Drainage area: 386 square miles, length of record: 49 - 50 years)



USGS WaterWatch

Last updated: 2021-08-10

USGS 14020300 MEACHAM CREEK AT GIBBON, OR
(Drainage area: 176 square miles, length of record: 43 - 45 years)

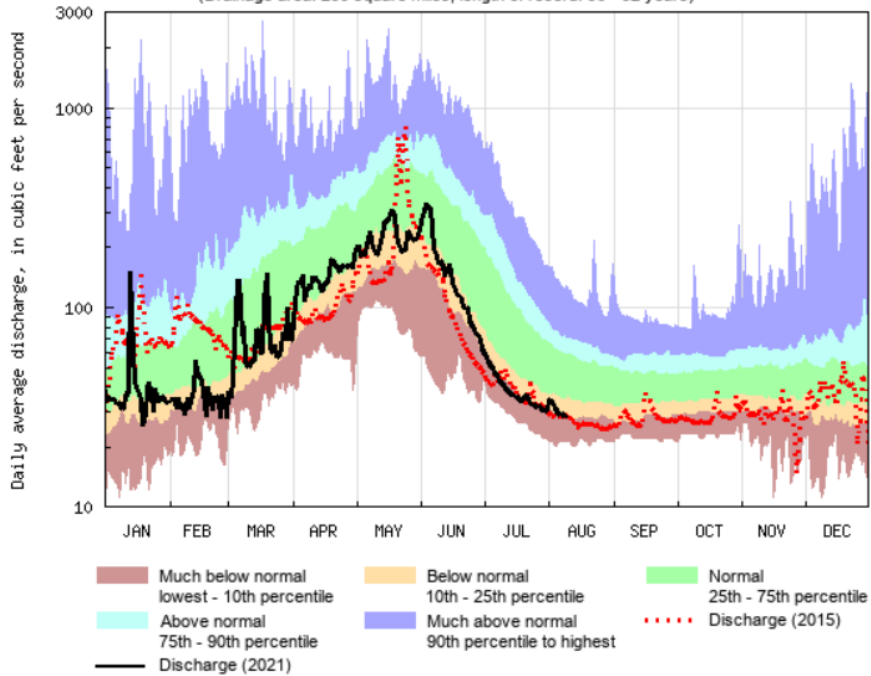


USGS WaterWatch

Last updated: 2021-08-10

Southeastern OR

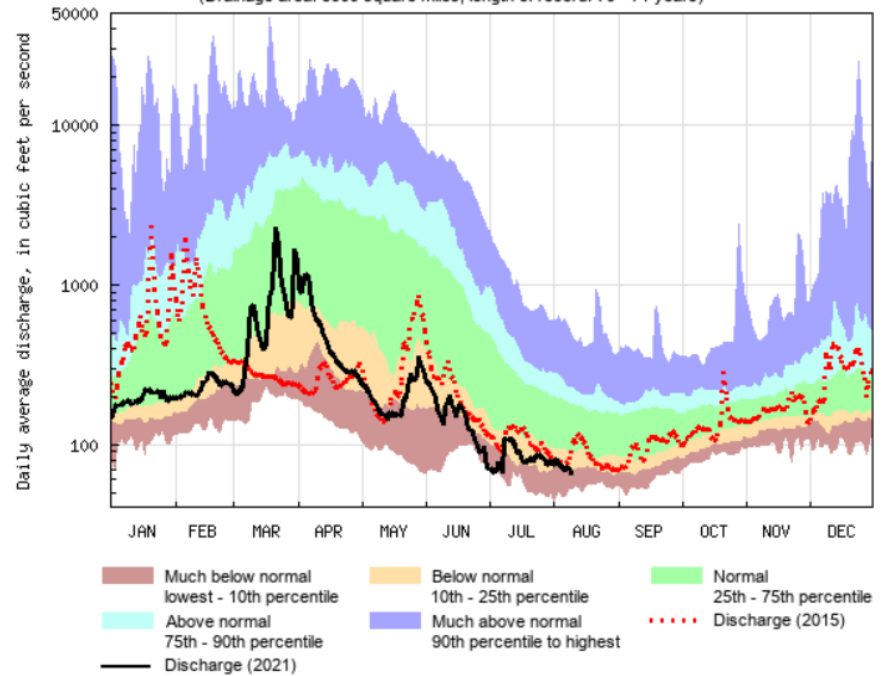
USGS 10396000 DONNER UND BLITZEN RIVER NR FRENCHGLEN OR
(Drainage area: 200 square miles, length of record: 90 - 92 years)



USGS WaterWatch

Last updated: 2021-08-10

USGS 13181000 OWYHEE RIVER NR ROME OR
(Drainage area: 8000 square miles, length of record: 70 - 71 years)

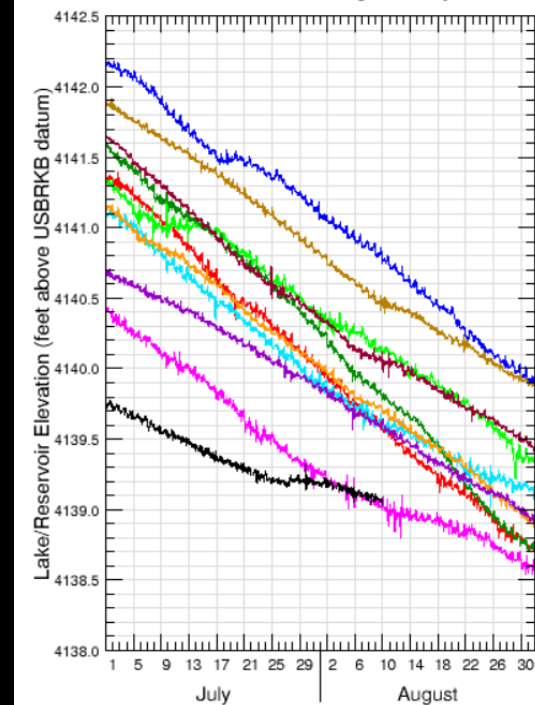
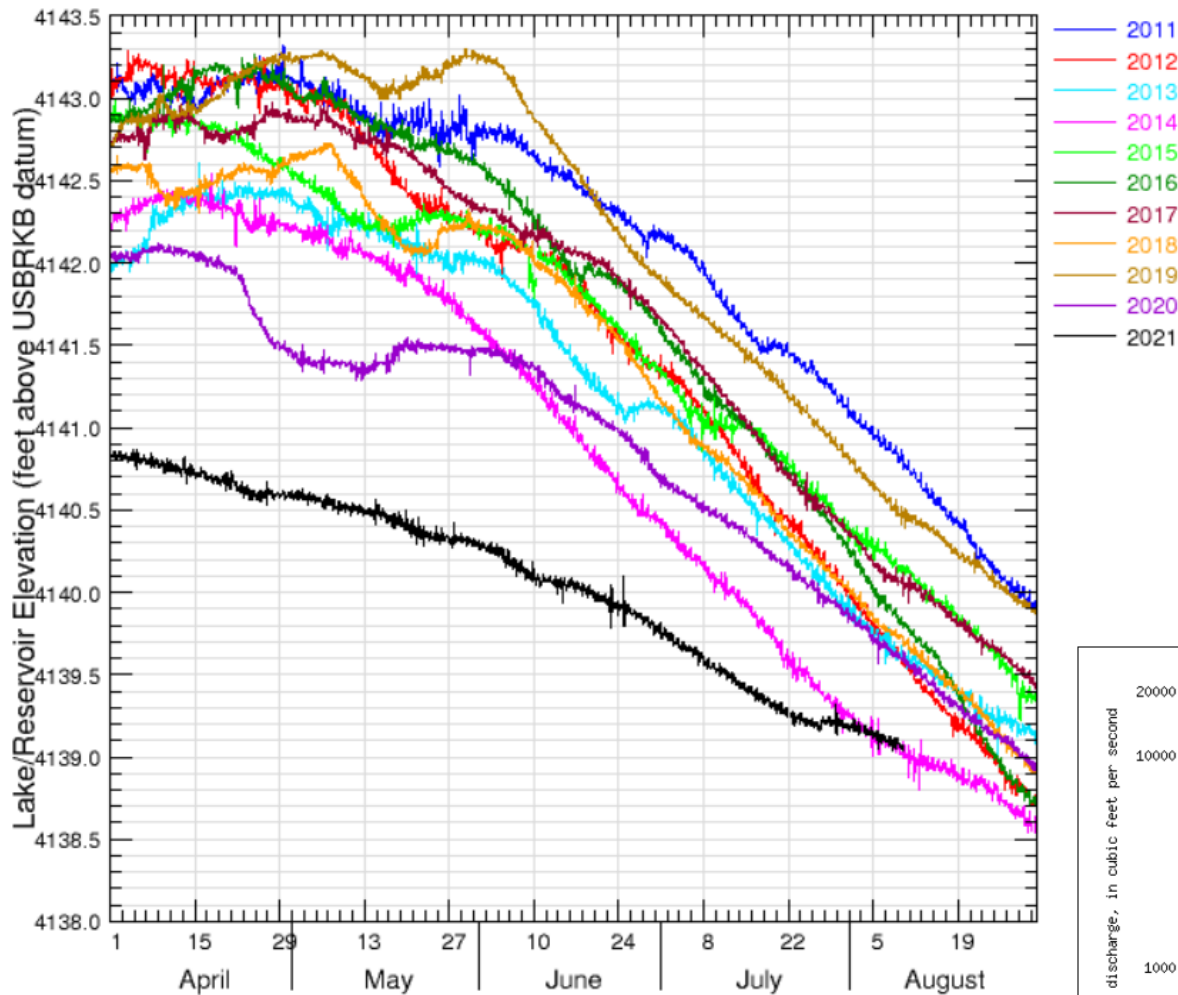


USGS WaterWatch

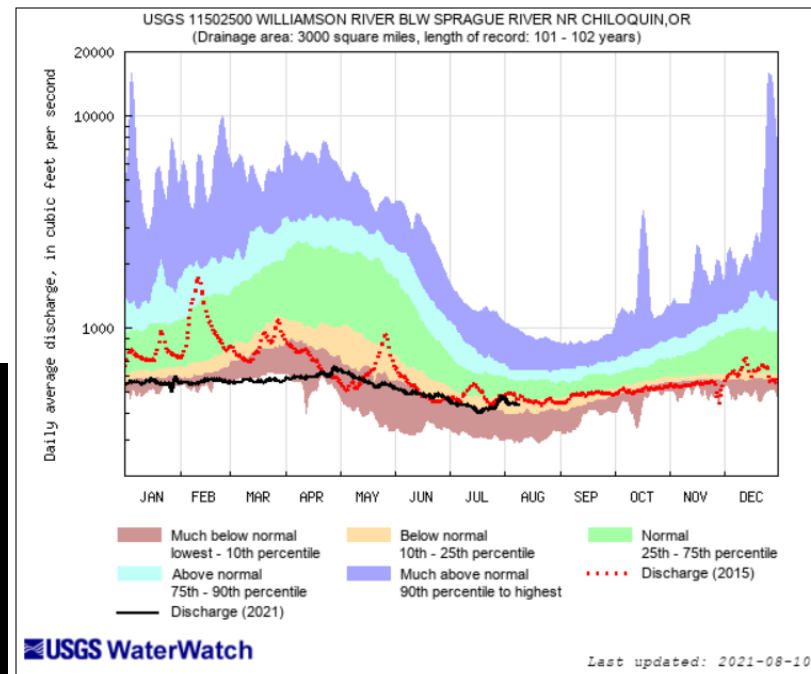
Last updated: 2021-08-10

Upper Klamath Lake nr Klamath Falls, OR [weighted/mean] (11507001)

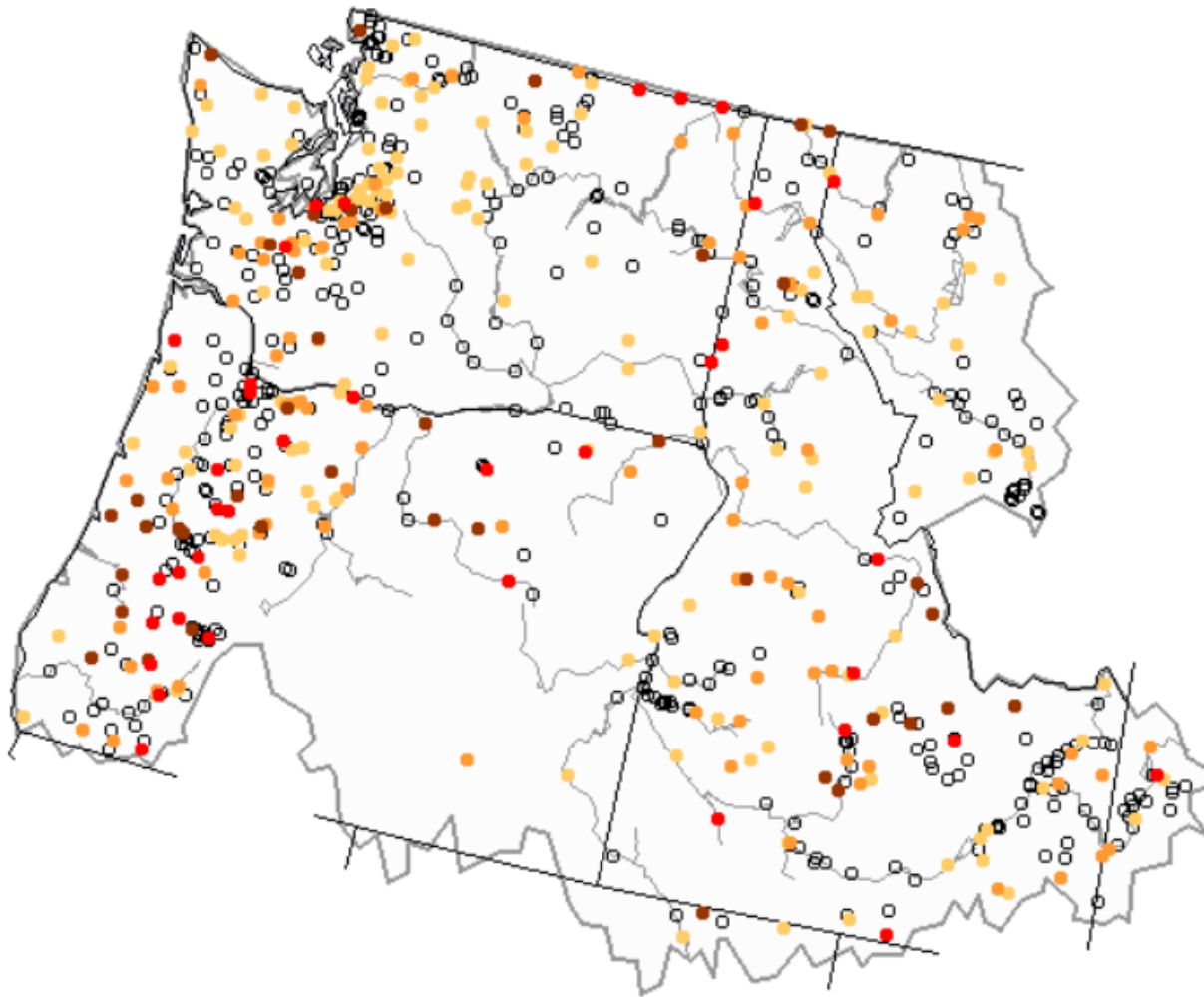
Data from U.S. Geological Survey








Klamath Lake



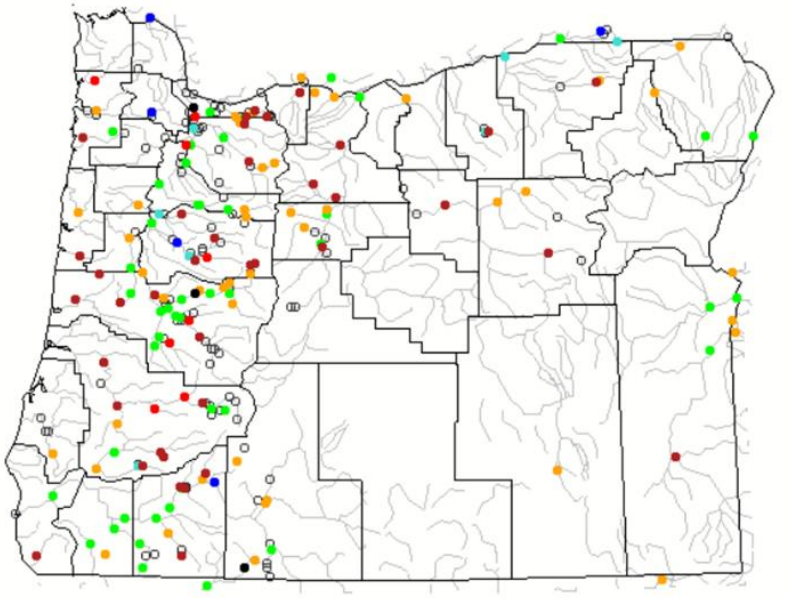
Monday, August 09, 2021



Map of below normal 28-day average streamflow compared to historical streamflow for the day of year (Pacific Northwest)

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

Tuesday, August 10, 2021 17:30ET

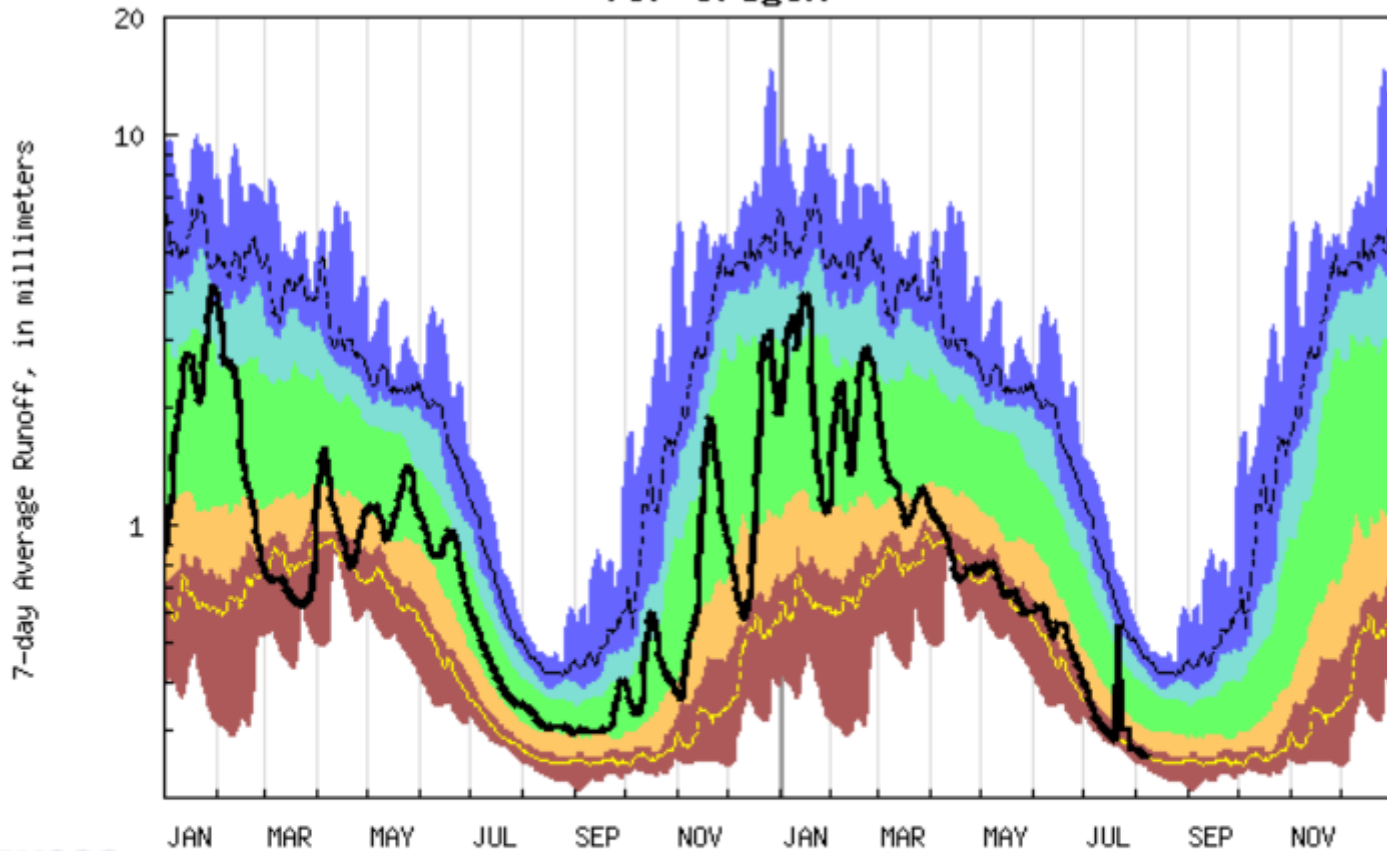


Station	NRCS SWSI Basin	Monthly mean discharge		Change in discharge from previous month (percent)	Accumulated Runoff For the Period Oct. to July
		Cubic feet per second	Percent of average		Percent of average
Donner Und Blitzen nr Frenchglen	Harney	39	38	-75	54
(*)Deep Creek above Adel	Lake County	5	15	-76	23
(*)Chewaucan River near Paisley	Lake County	16	24	-54	32
Williamson River near Chiloquin	Klamath	434	80	-12	48
Owyhee River near Rome	Owyhee	83	34	-46	24
(*)NF Malheur River near Beulah	Malheur	41	61	-44	57
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	712	38	-81	81
Umatilla River nr Gibbon	Umatilla Lower John Day	45	76	-49	99
John Day River at Service Crk	Upper John Day	77	13	-90	52
(*)Little Deschutes River nr LaPine	Upper Deschutes	73	43	-10	44
Hood River nr Hood River	Lower Deschutes Mt.Hood	344	70	-46	85
Willamette River at Salem	Willamette	6,240	82	-32	83
Wilson River near Tillamook	North Coast	106	64	-50	103
Umpqua River near Elkton	Rogue/Umpqua	849	52	-35	66
Rogue River near Agness	Rogue/Umpqua	1,710	70	-39	60
SF Coquille River at Powers	South Coast	34	56	-60	84
Chetco River near Brookings	South Coast	163	77	-63	80



All data should be considered provisional and subject to revision.
 Percent of average computed using 30-year base period, water years 1981-2010.
 (*) provided by Oregon Water Resources Department

Duration hydrograph of 7-day average runoff for Oregon



USGS WaterWatch

2020

2021

Last updated: 2021-08-10

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



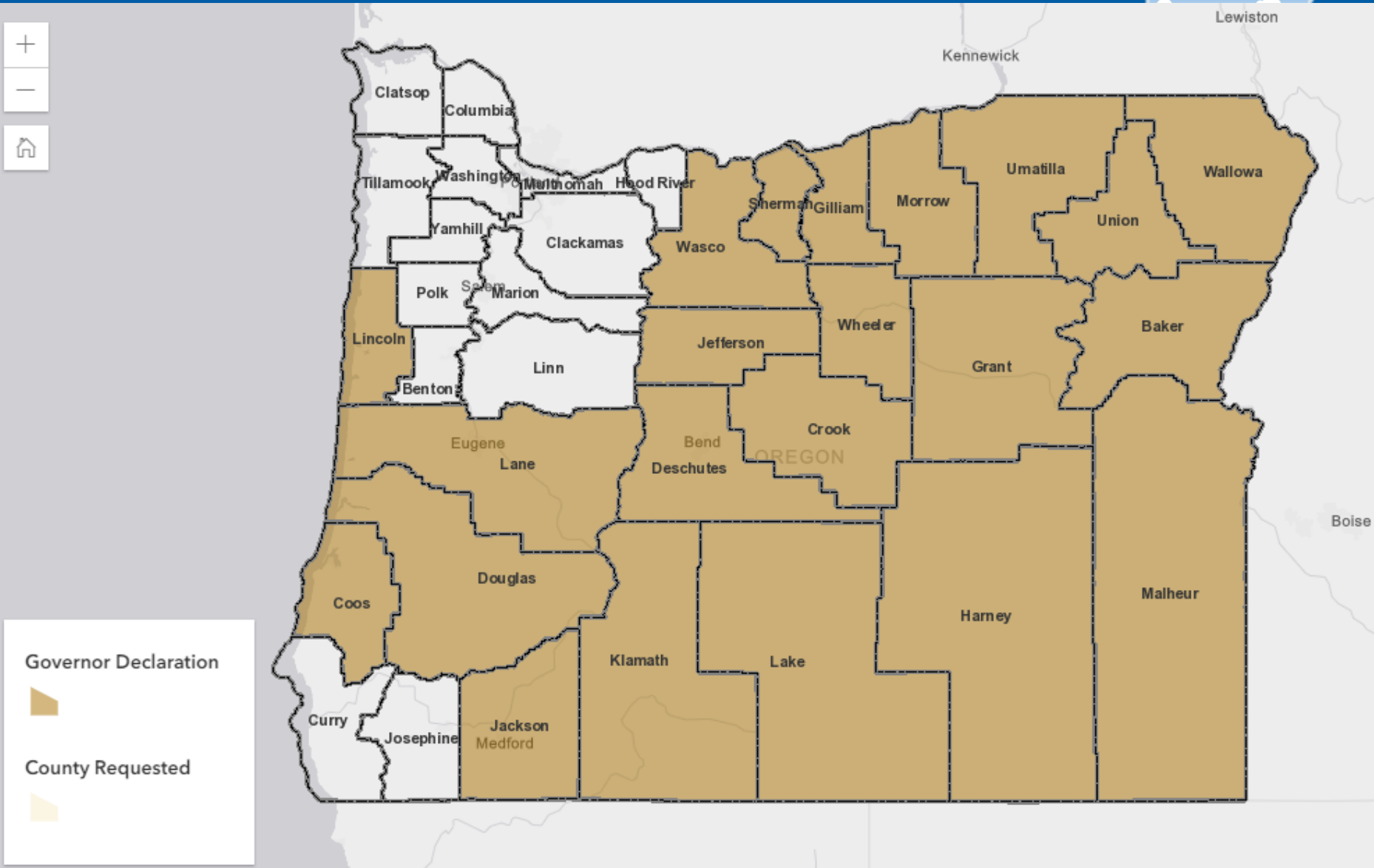
Water Supply Availability Committee



Ryan Andrews
Oregon Water Resources
Department
August 11th, 2021



Drought Declaration Status Map



WY to Date % of Average - thru August 8, 2021

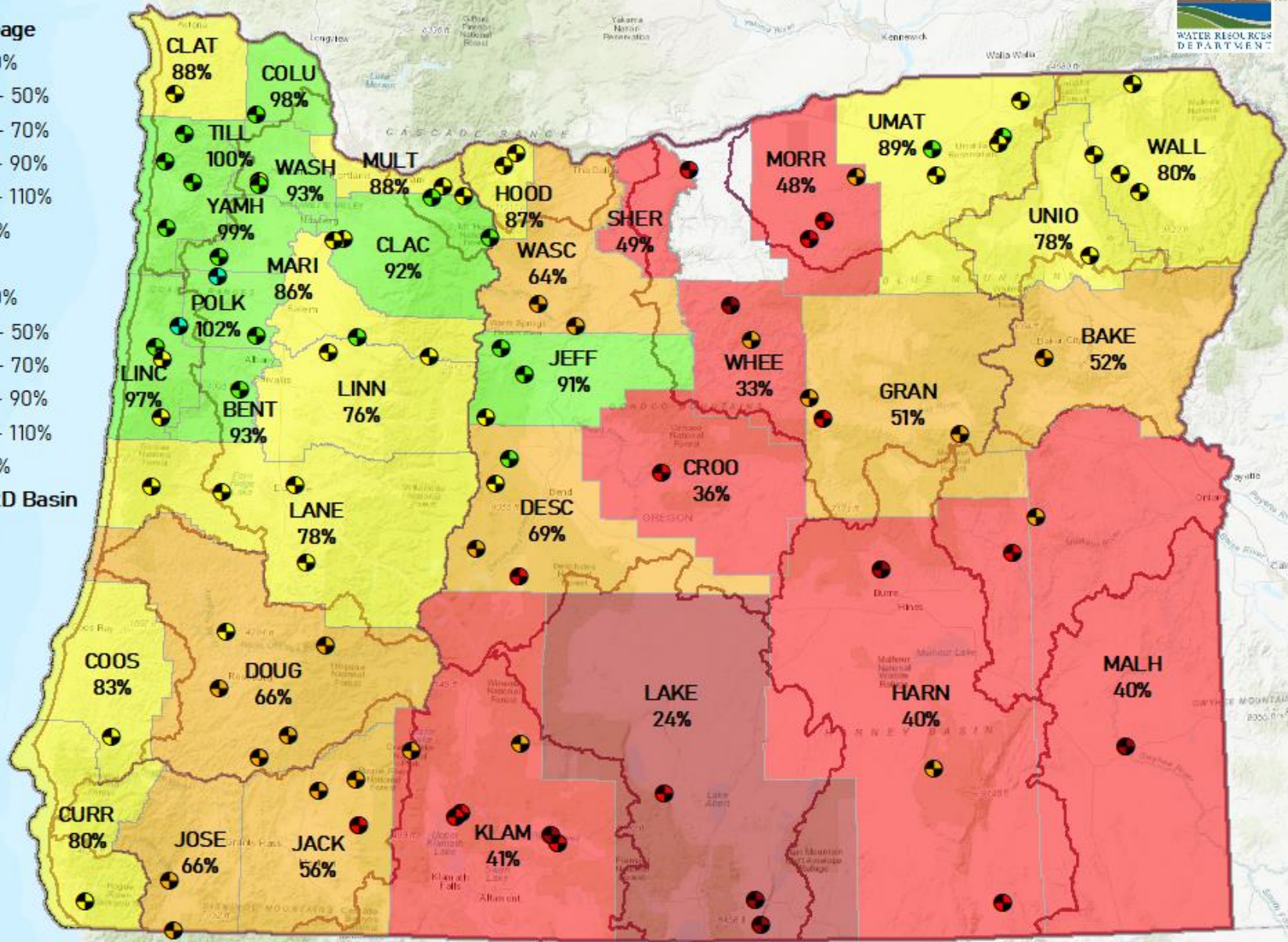


Stream Gage

- ≤ 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- > 110%

Counties

- ≤ 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- > 110%
- OWRD Basin



Date: 8/9/2021

July % of Average Streamflow - WY 2021

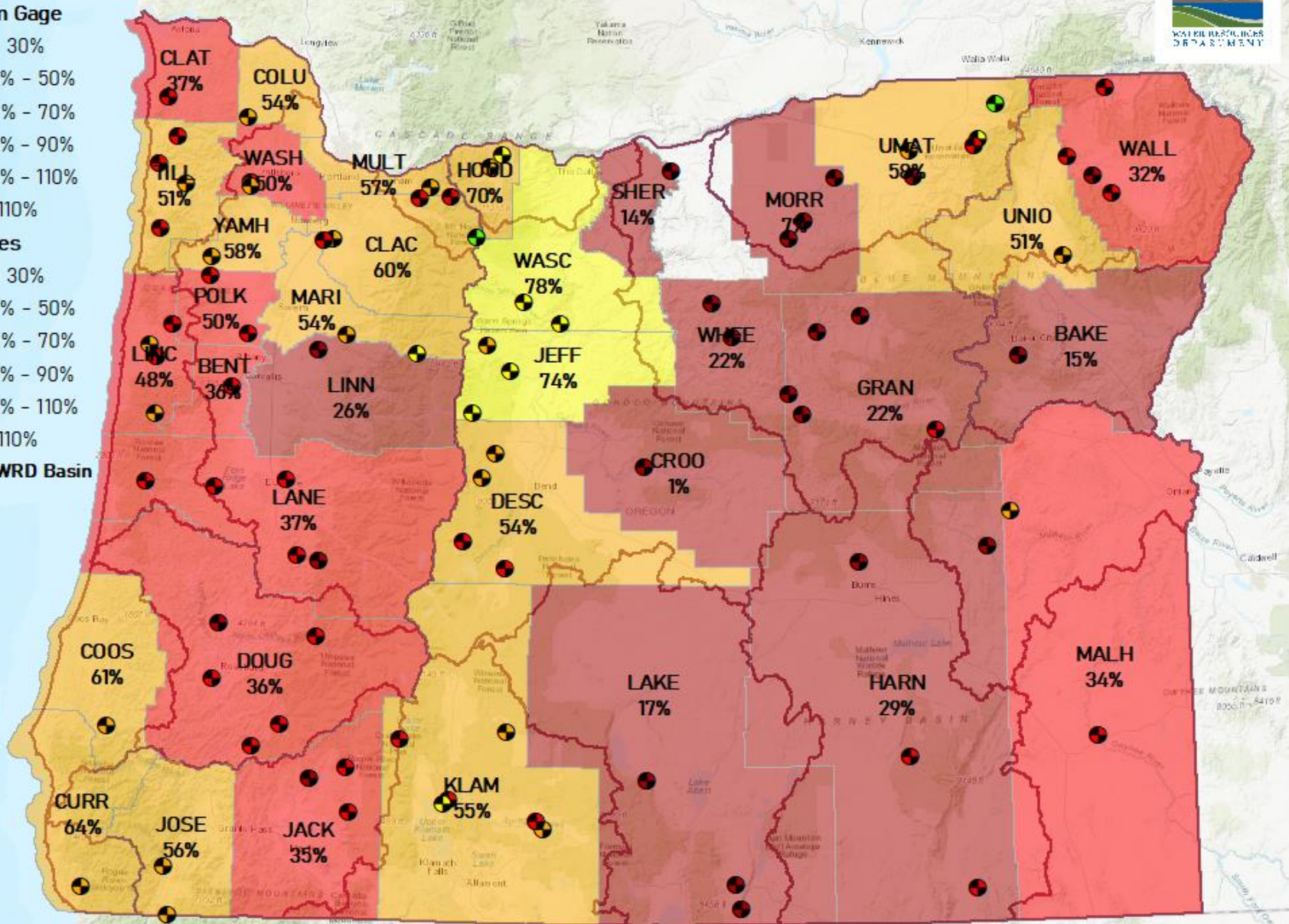


Stream Gage

- <= 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- > 110%

Counties

- <= 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- > 110%
- OWRD Basin



Date: 8/9/2021

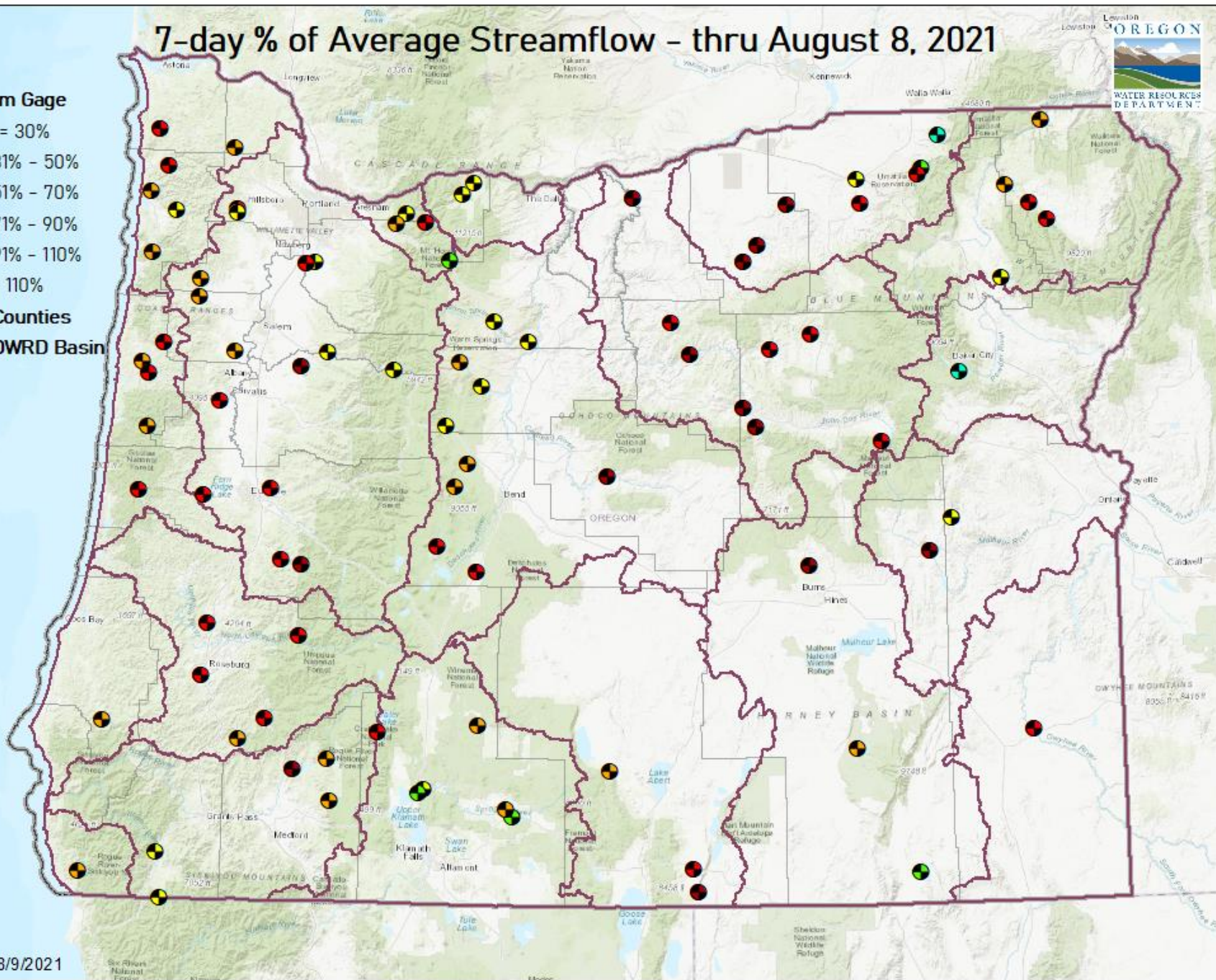
7-day % of Average Streamflow - thru August 8, 2021



Stream Gauge

- ≤ 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- > 110%

- ⬡ Counties
- ⬢ OWRD Basin

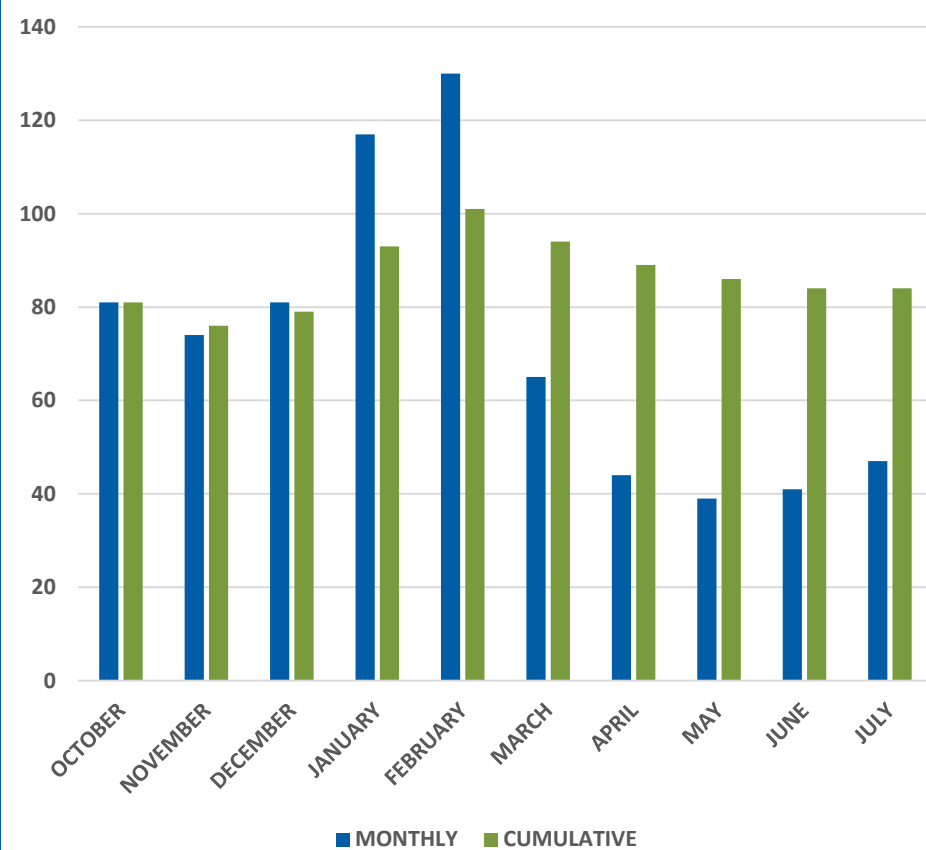


Date: 8/9/2021

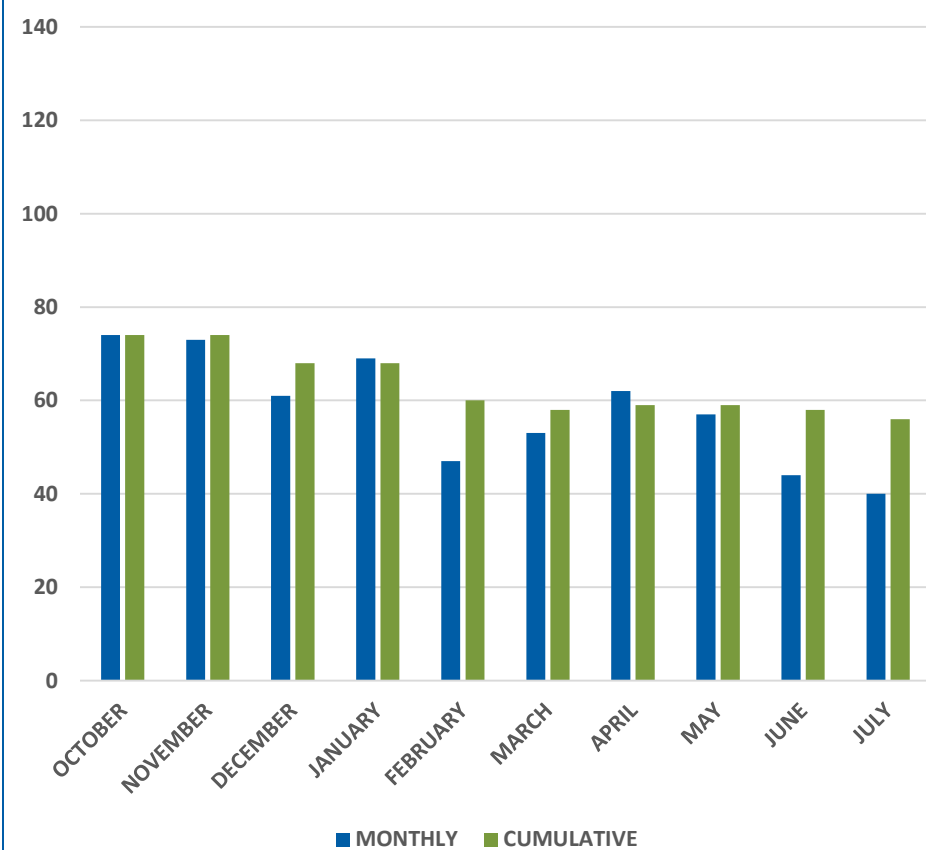
% of Average Streamflow thru June Base period: 1981 – 2010



Western Oregon

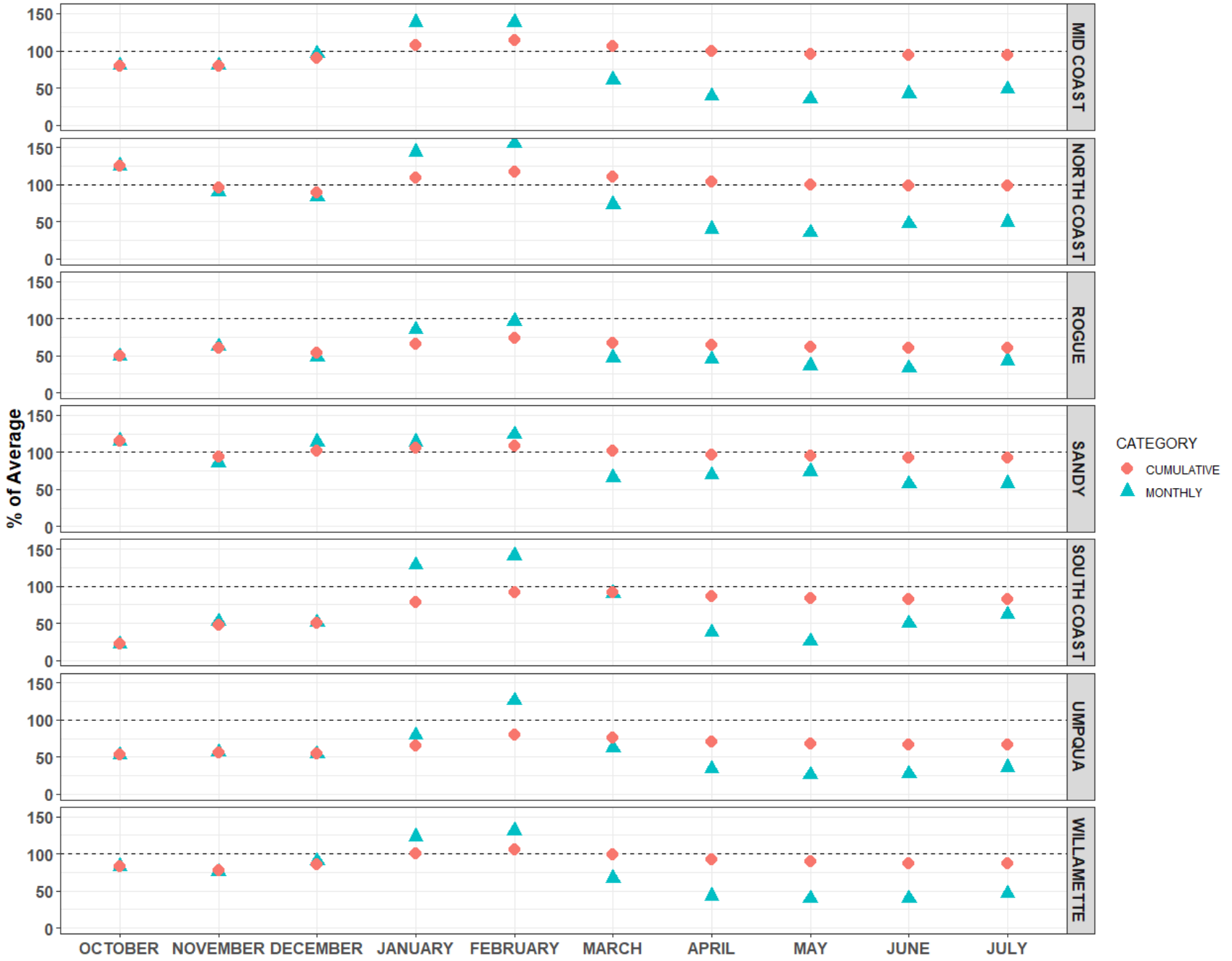


Eastern Oregon



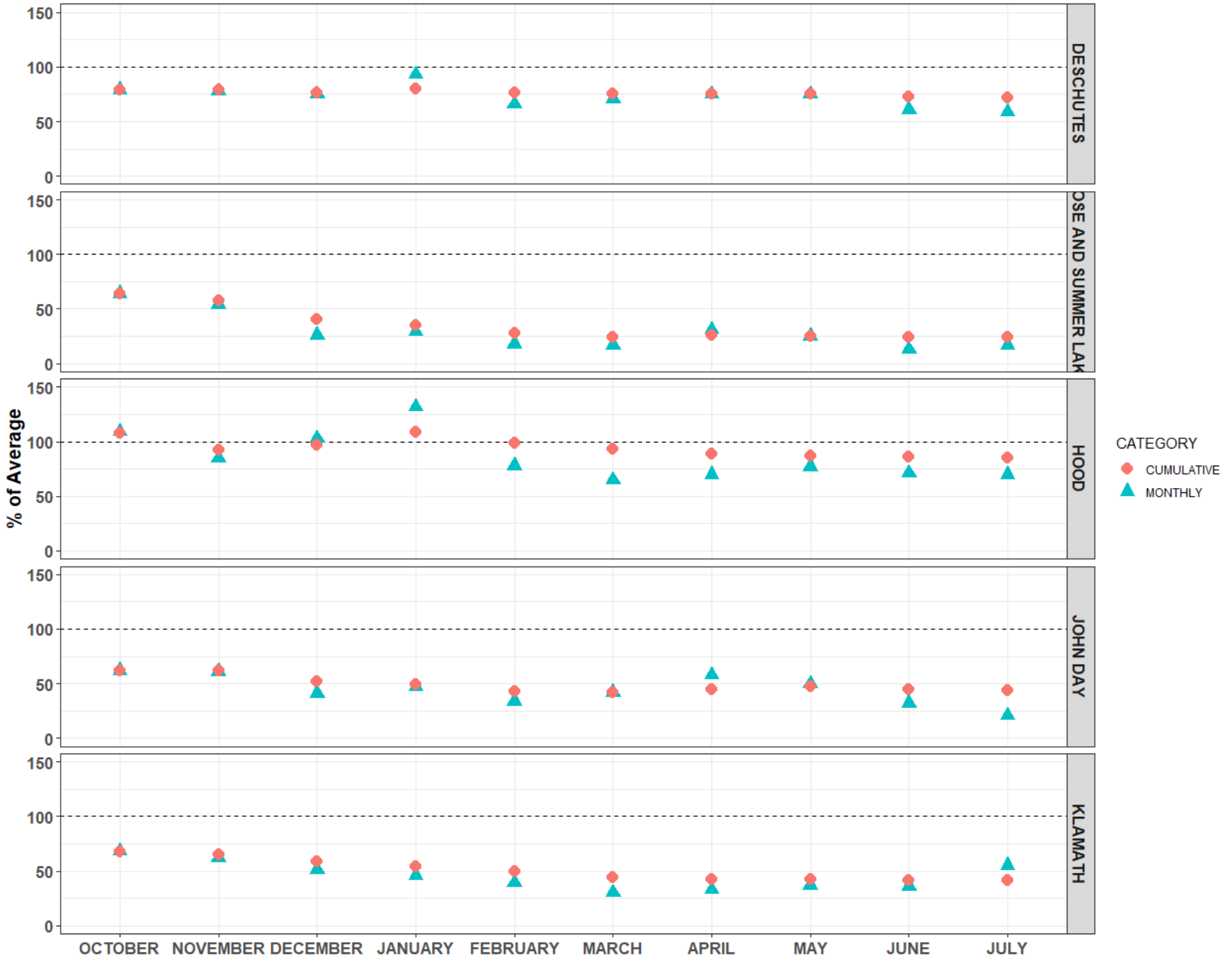
WESTERN BASINS

% of Average Yield



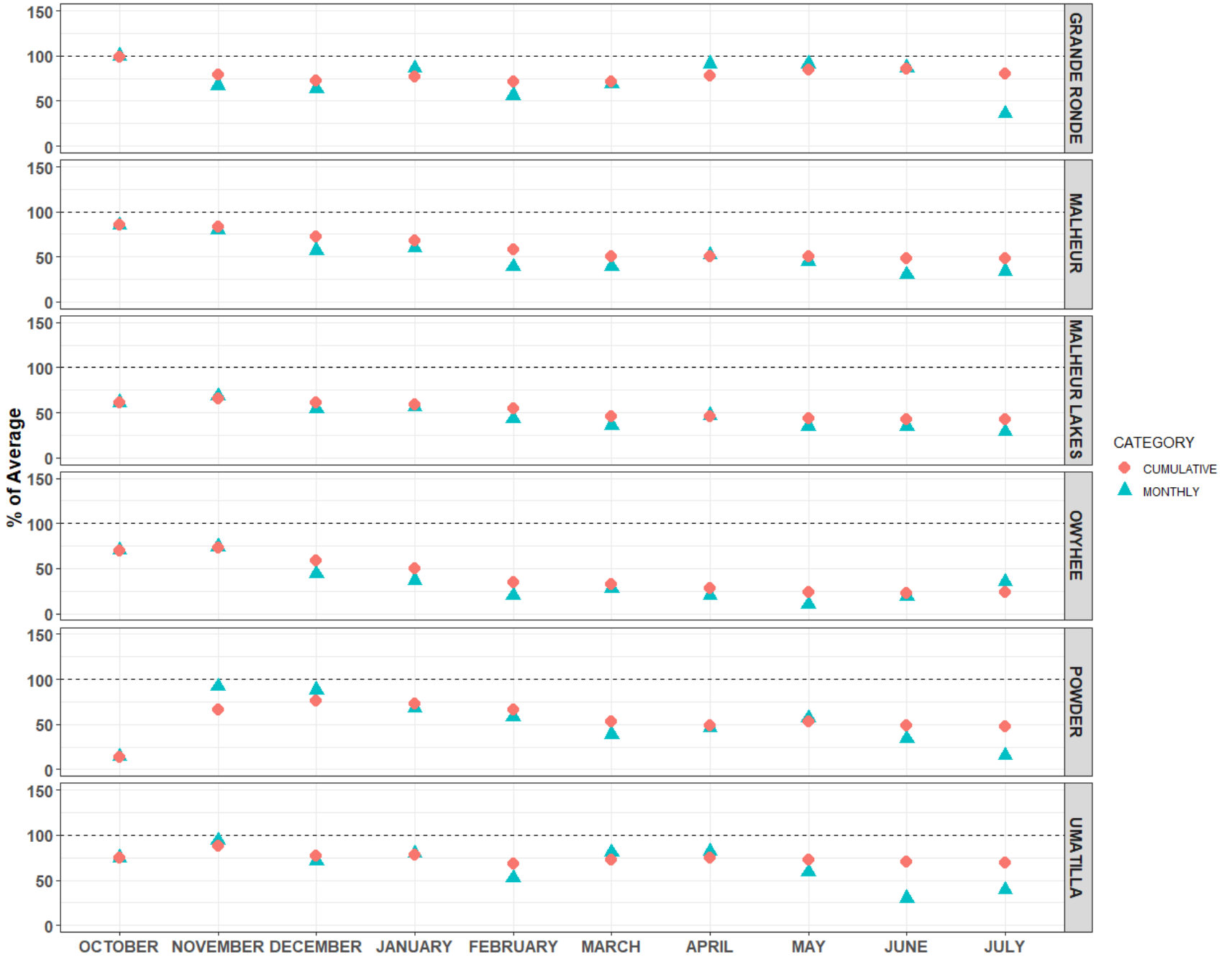
CENTRAL BASINS

% of Average Yield

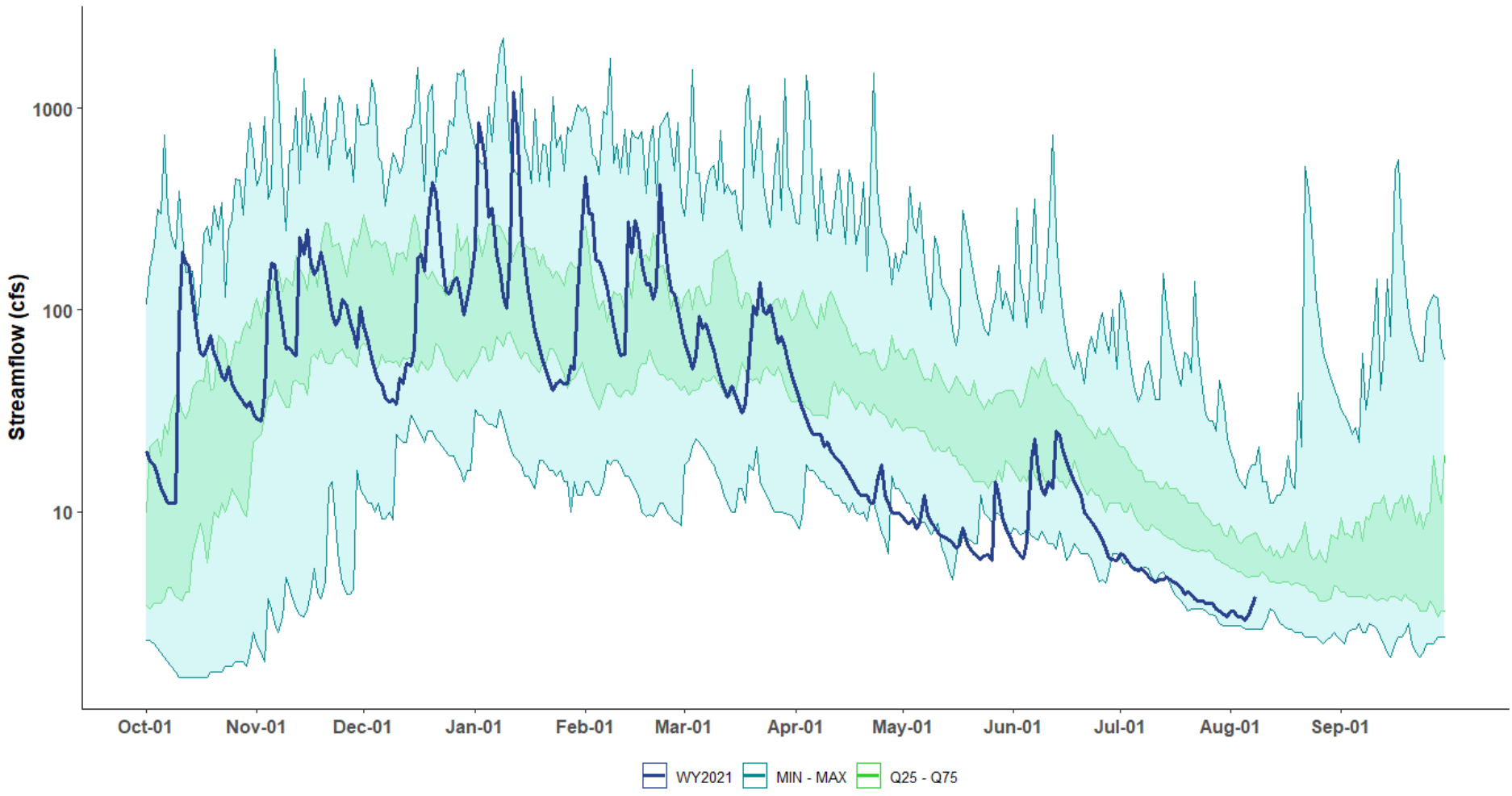


EASTERN BASINS

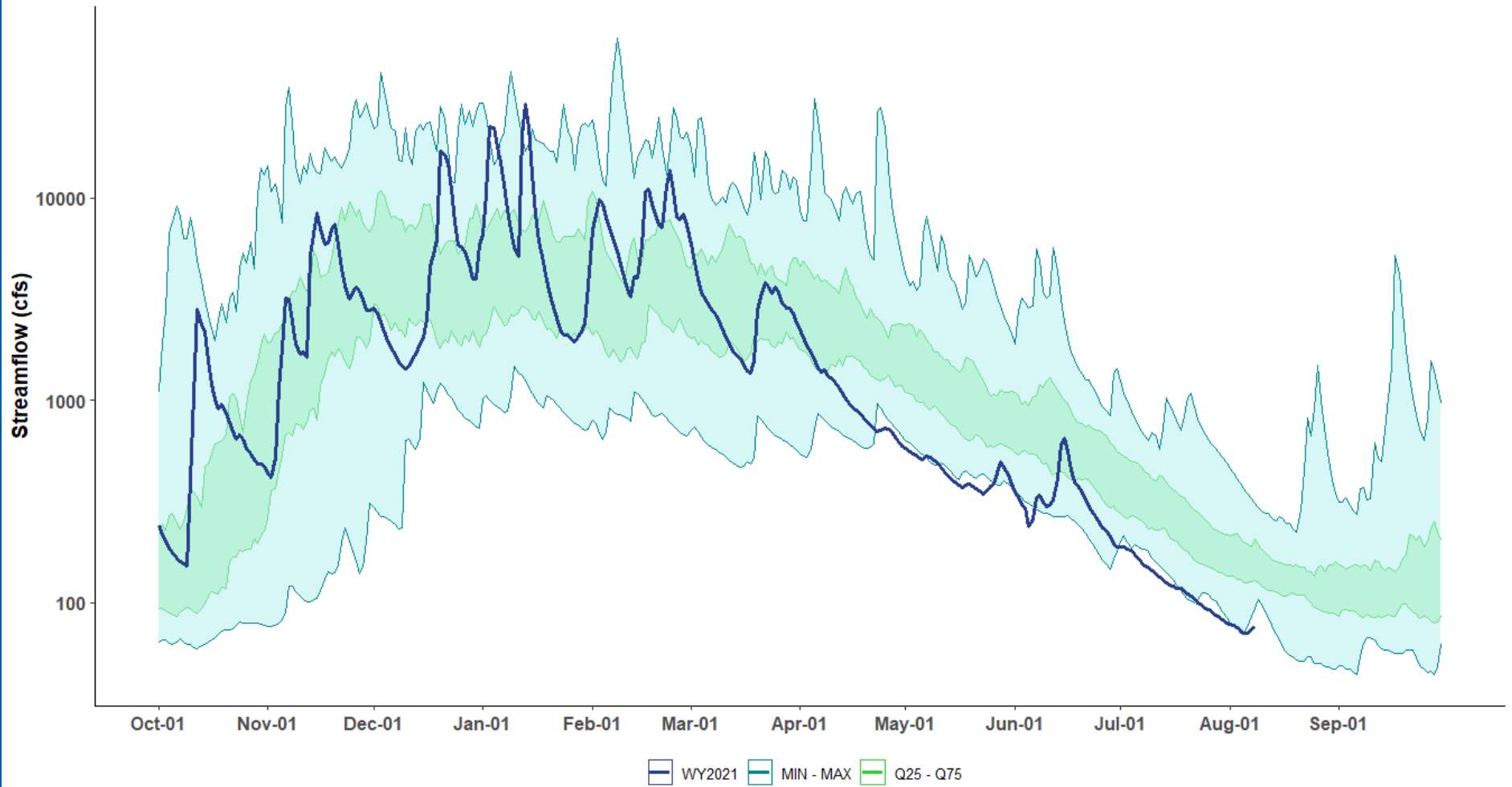
% of Average Yield



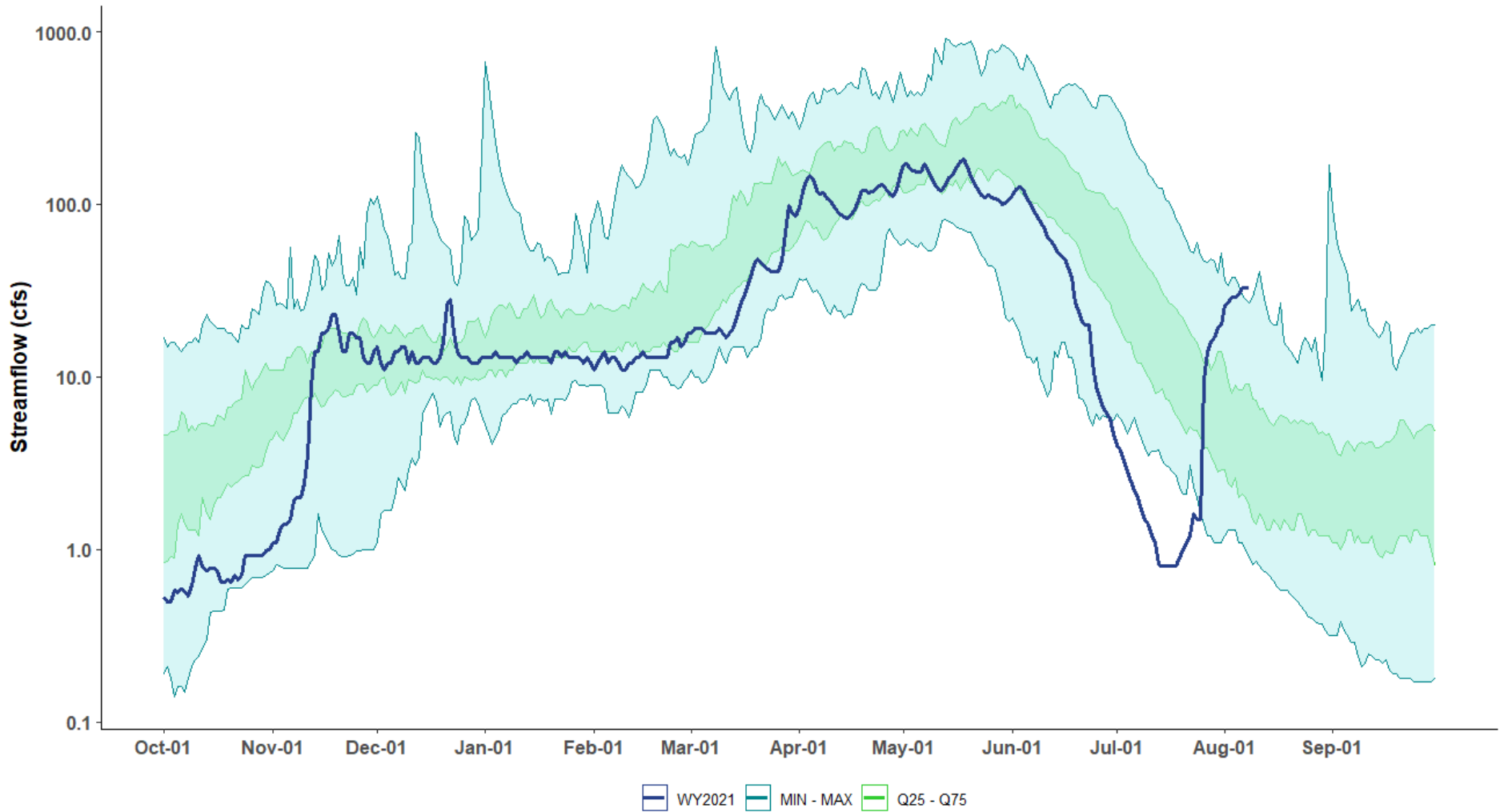
14299000 - S FK NECANICUM R NR SEASIDE, OR
NORTH COAST BASIN
POR: 1981-2010



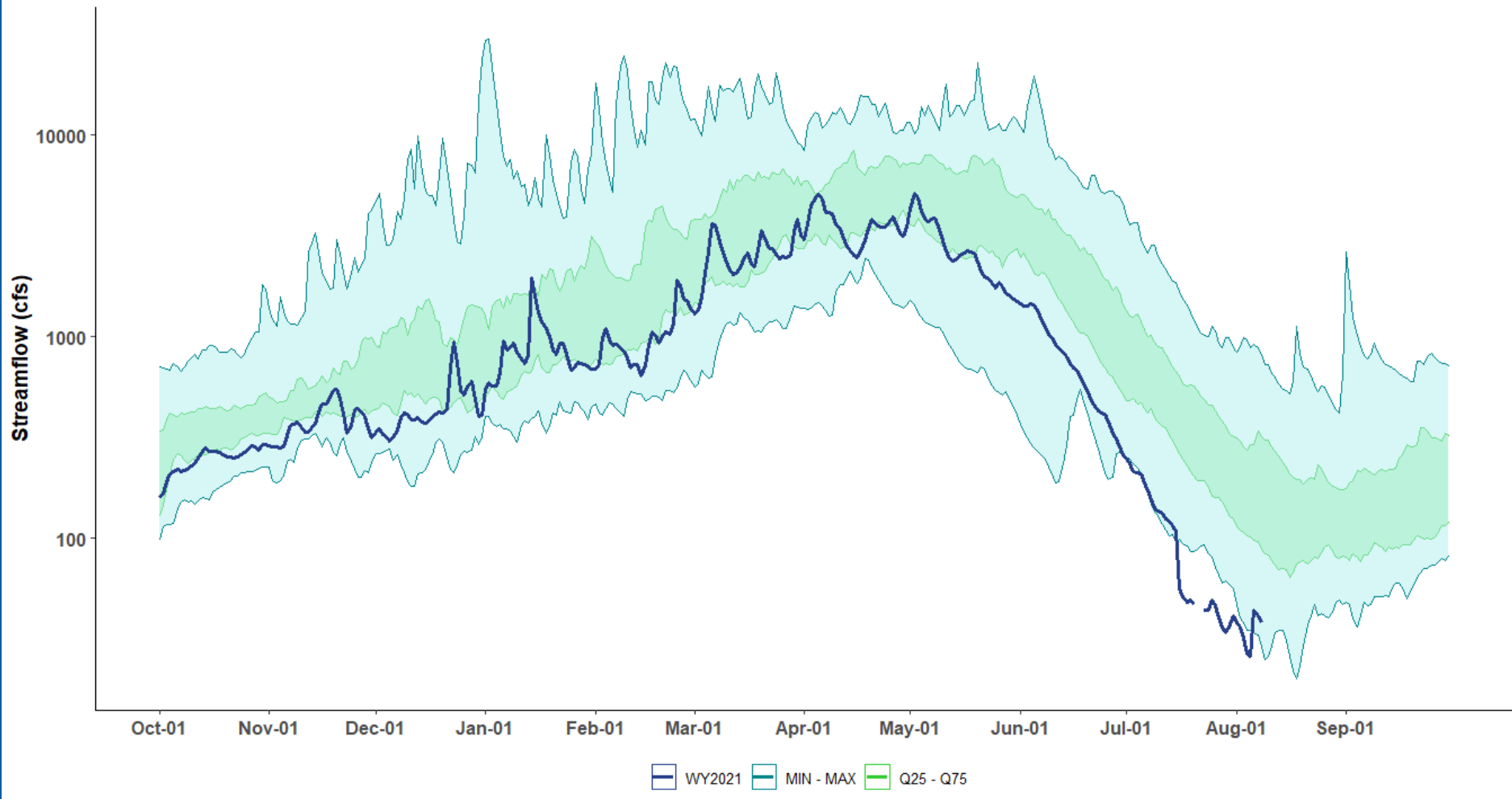
14301000 - NEHALEM R NR FOSS, OR
NORTH COAST BASIN
POR: 1981-2010



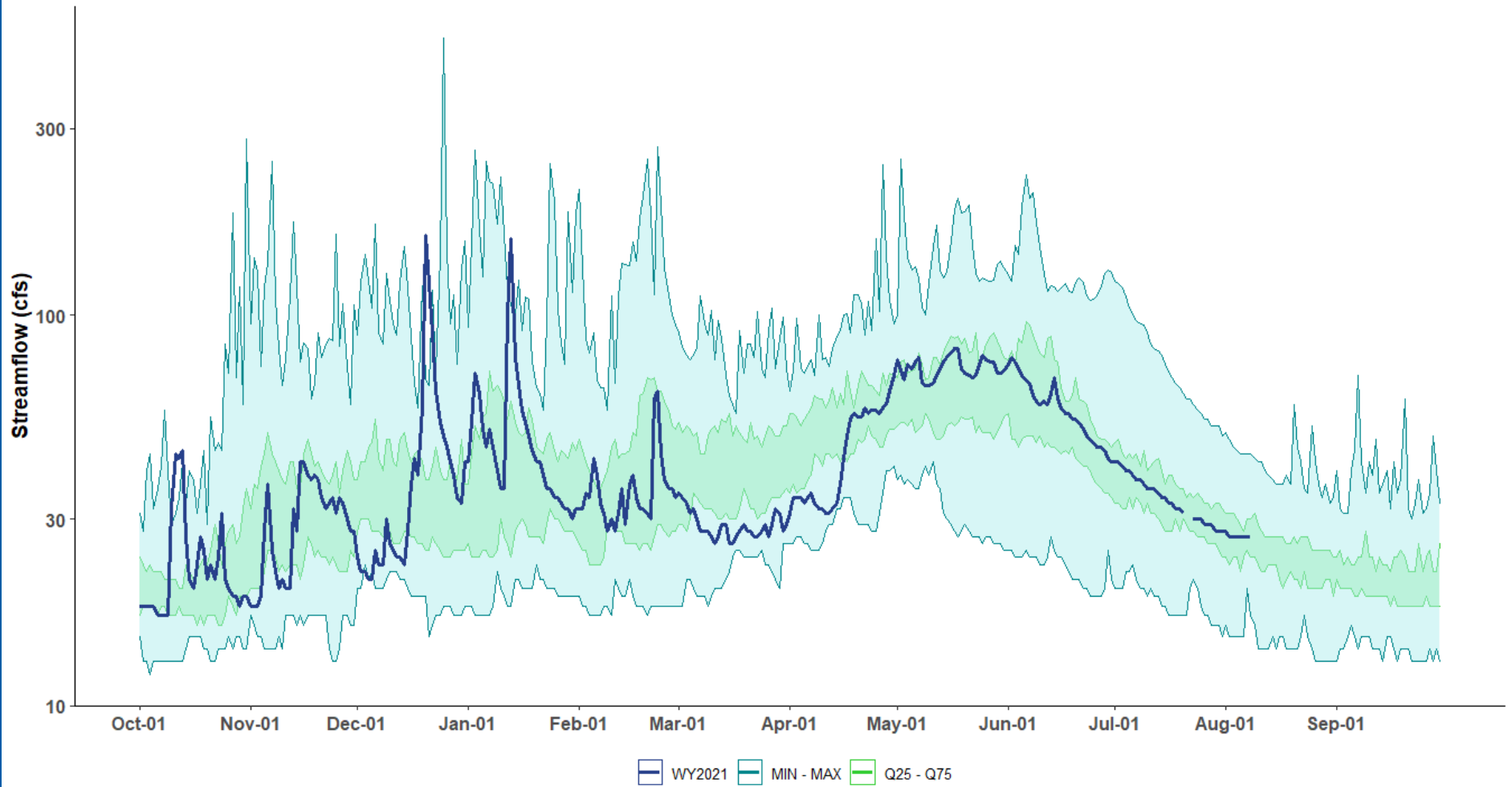
13275105 - POWDER R AT HUDSPETH LANE NR SUMPTER, OR
POWDER BASIN
POR: 1981-2010



14046500 - JOHN DAY R AT SERVICE CR, OR
JOHN DAY BASIN
POR: 1981-2010



14134000 - SALMON R NR GOVERNMENT CAMP, OR
SANDY BASIN
POR: 1981-2010



OREGON



WATER RESOURCES
DEPARTMENT

QUESTIONS?



— BUREAU OF —
RECLAMATION

Reclamation Storage Update

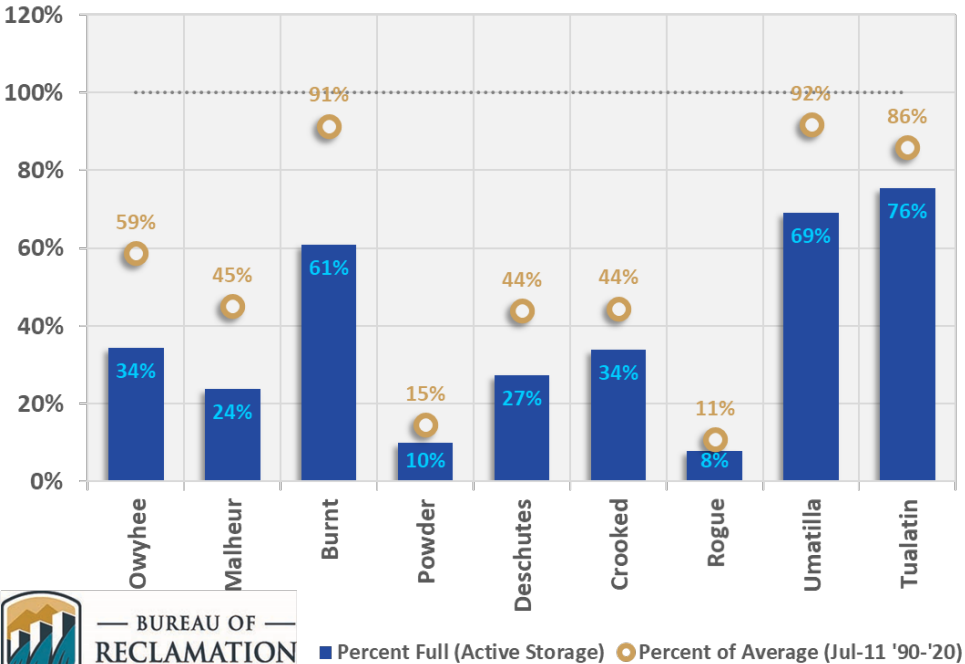
Oregon Water Supply Availability Committee
Meeting

August 11, 2021

Reservoir Storage Conditions

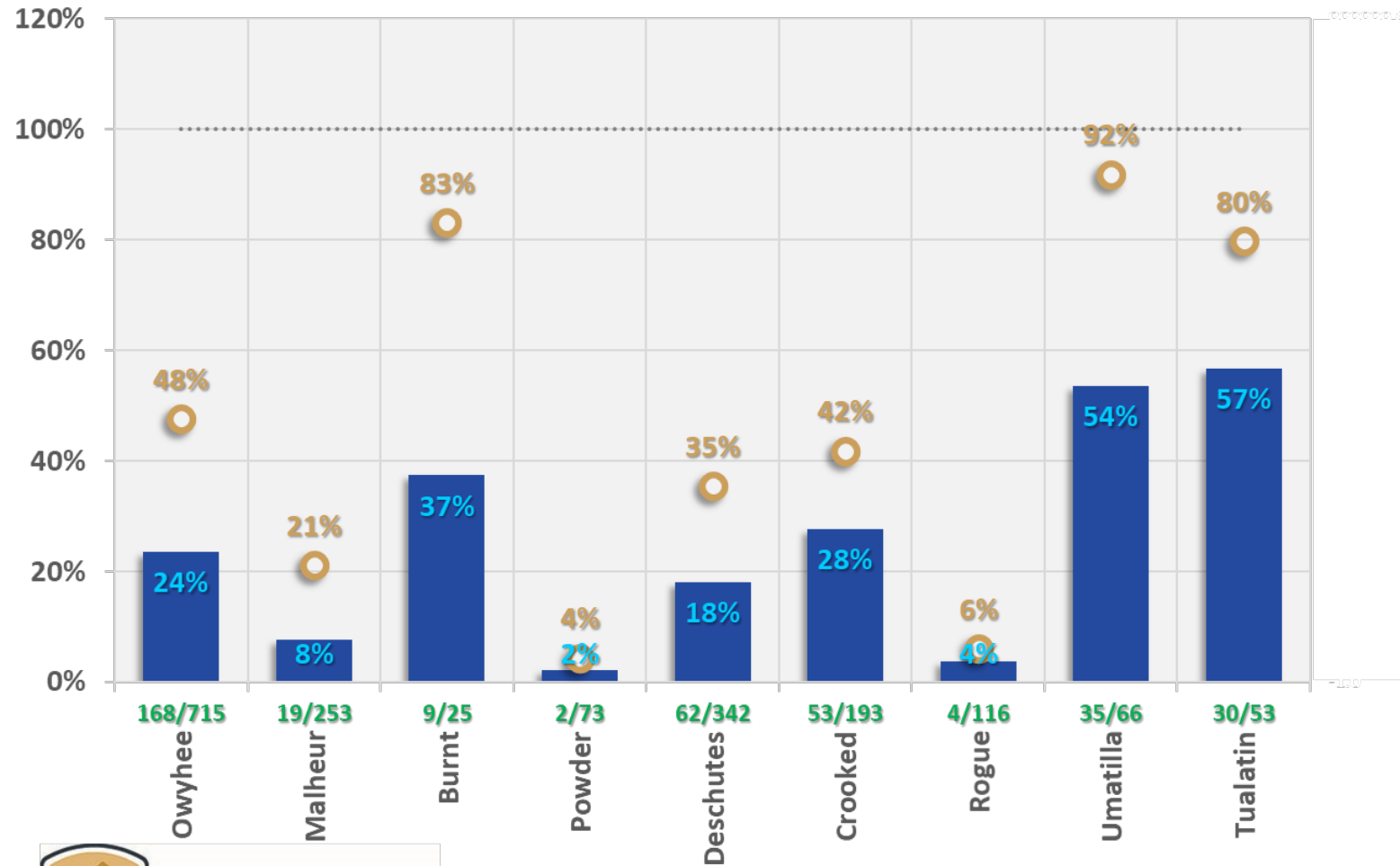
Oregon Reservoir Storage (Aug 8 2021)

Oregon Reservoir Storage (Jul 11 2021)



BUREAU OF RECLAMATION

■ Percent Full (Active Storage) ● Percent of Average (Jul-11 '90-'20)



BUREAU OF RECLAMATION

■ Percent Full (Active Storage) ● Percent of Average (Aug-8 '90-'20)
■ Current/Full Storage (KAF)

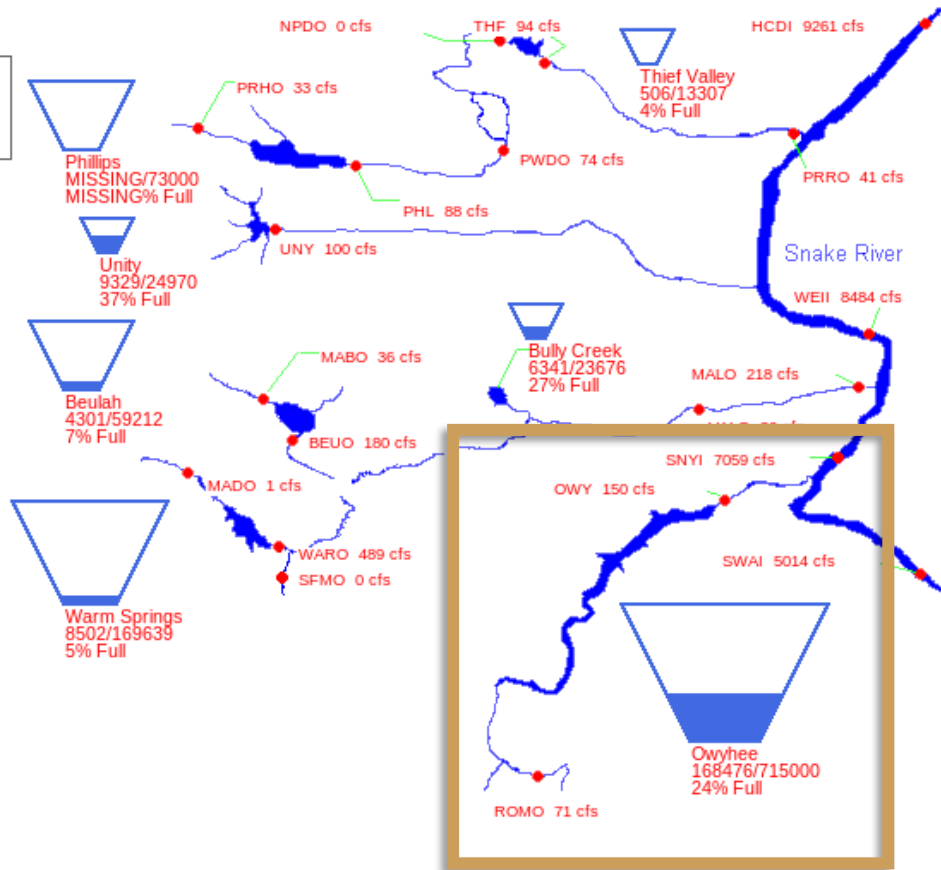
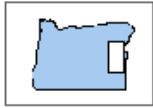
Basin Operations Summary

- **Operations Activities:**
 - Most Reclamation river basins still delivering irrigation water
 - Irrigation delivery shut-down
 - Rogue (July 19), Powder (this week), Malheur (mid-August), Deschutes (late-August), Crooked (early September), Owyhee (mid-September)
- **Water Supply Challenges**
 - Earlier than normal shut-down dates
 - Low carry-over to start the next WY for all Reclamation river basins

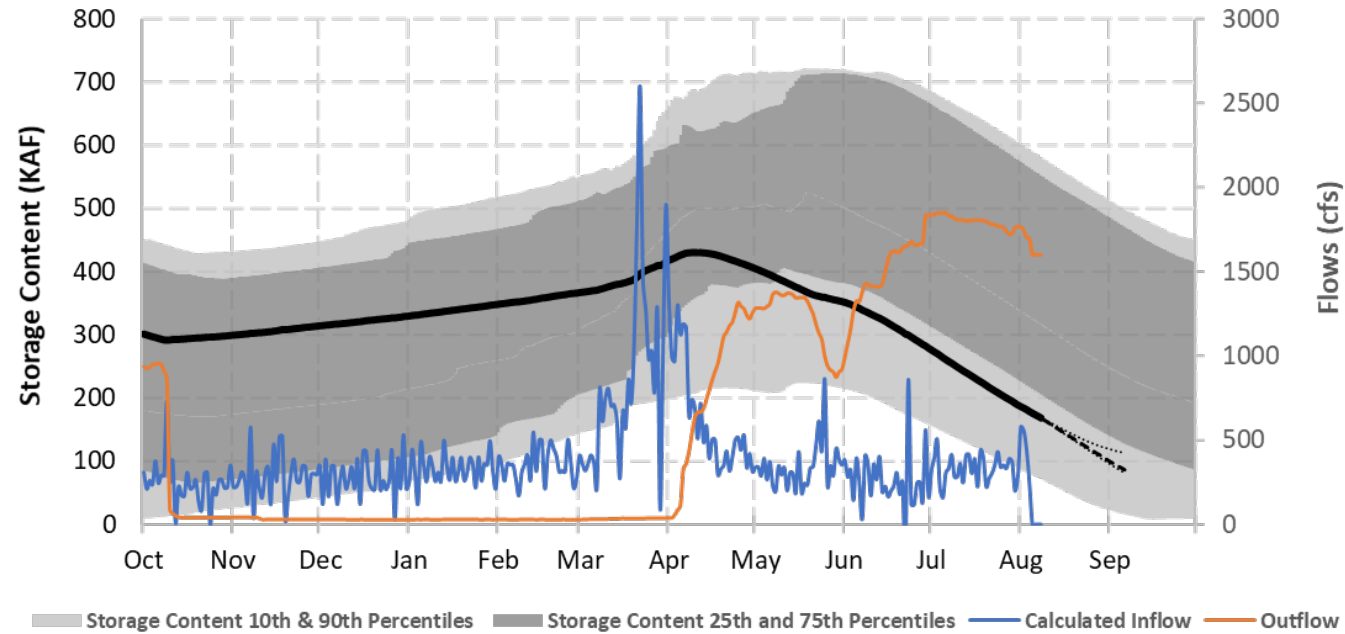


Owyhee River Basin

08/08/2021



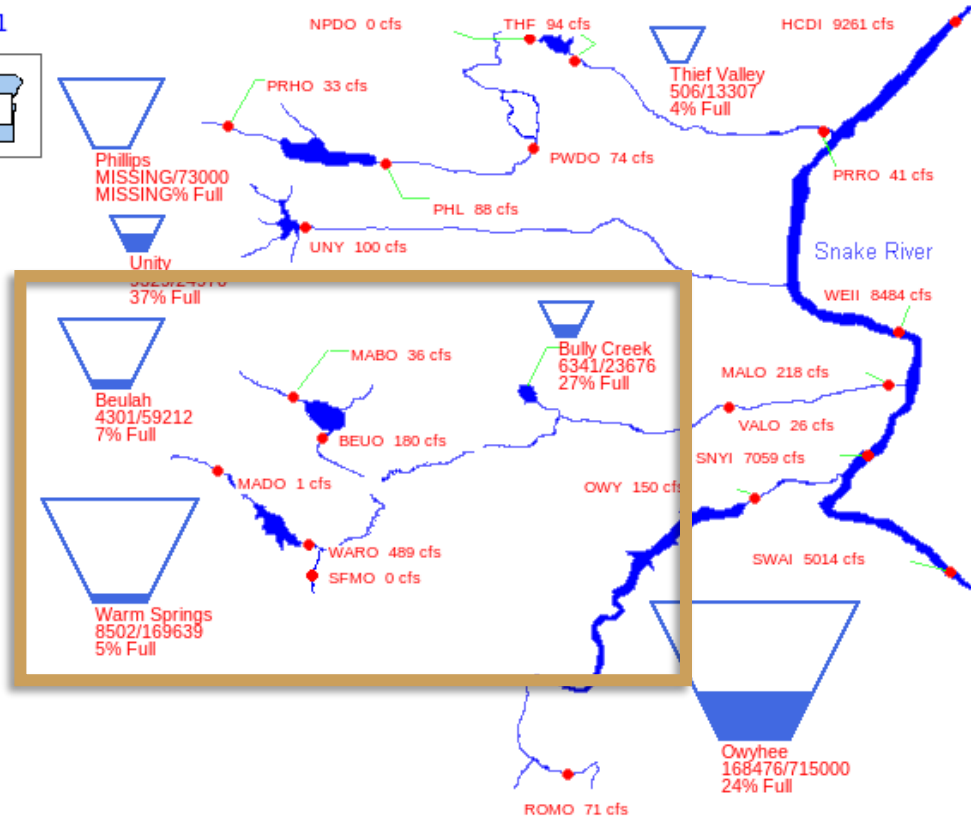
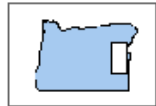
Owyhee Dam and Reservoir



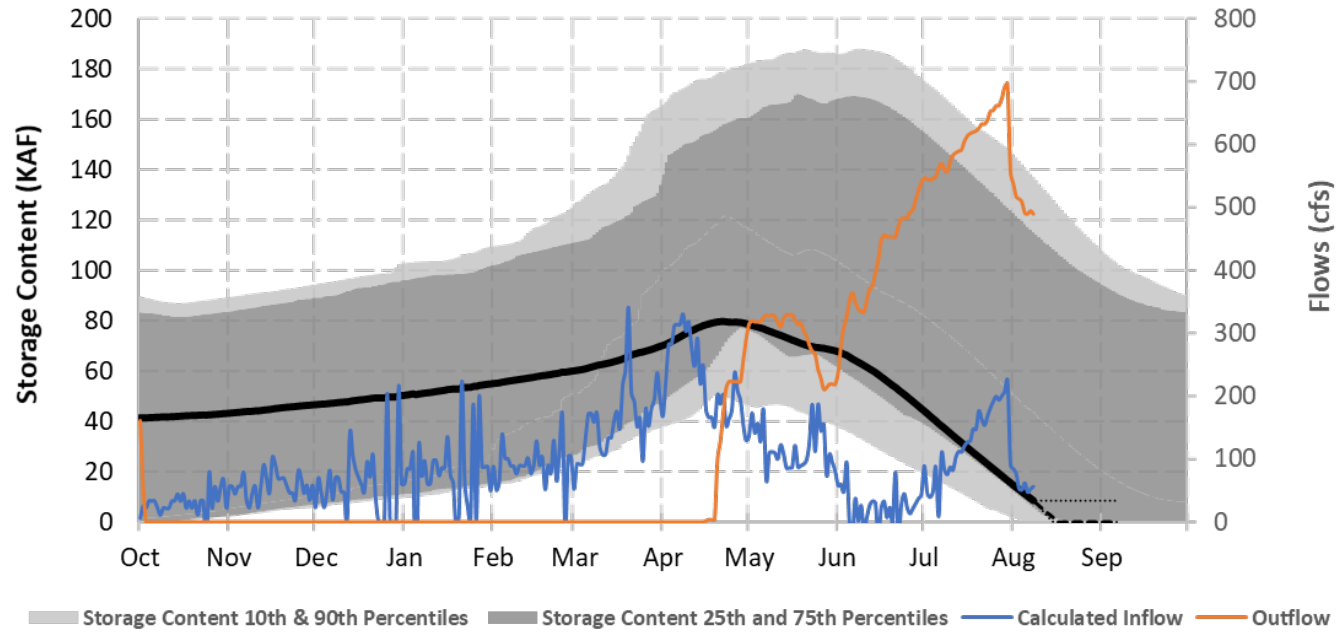
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Malheur River Basin

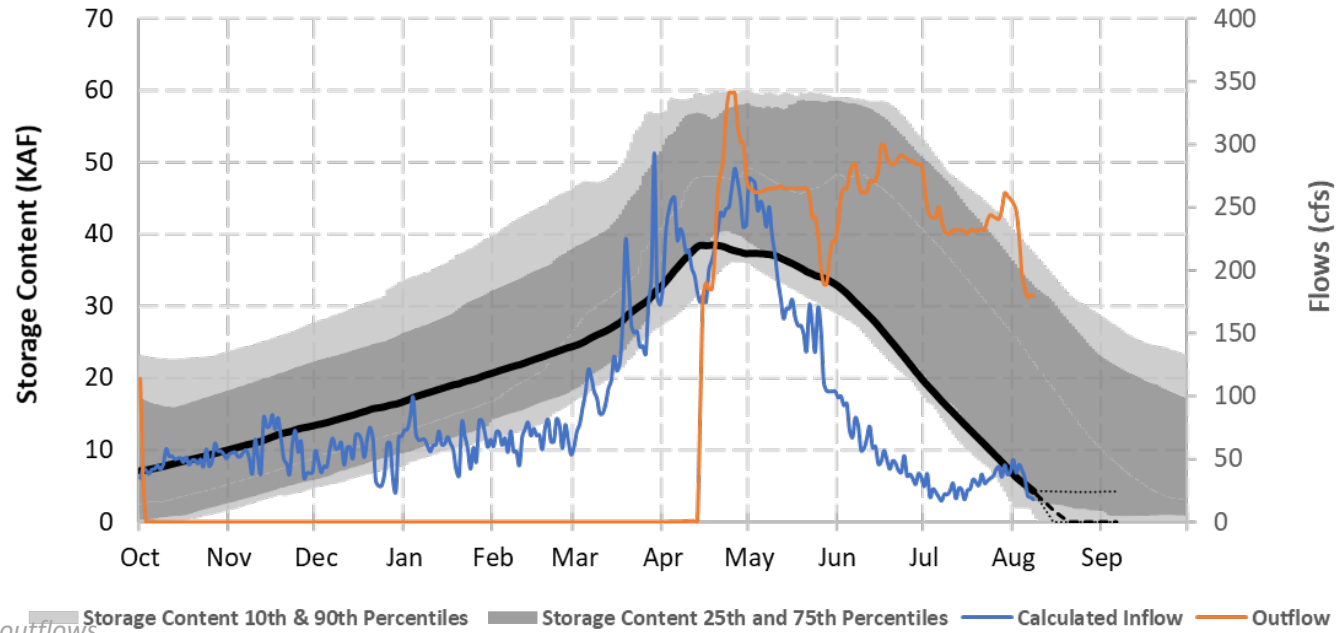
08/08/2021



Warm Springs Dam and Reservoir



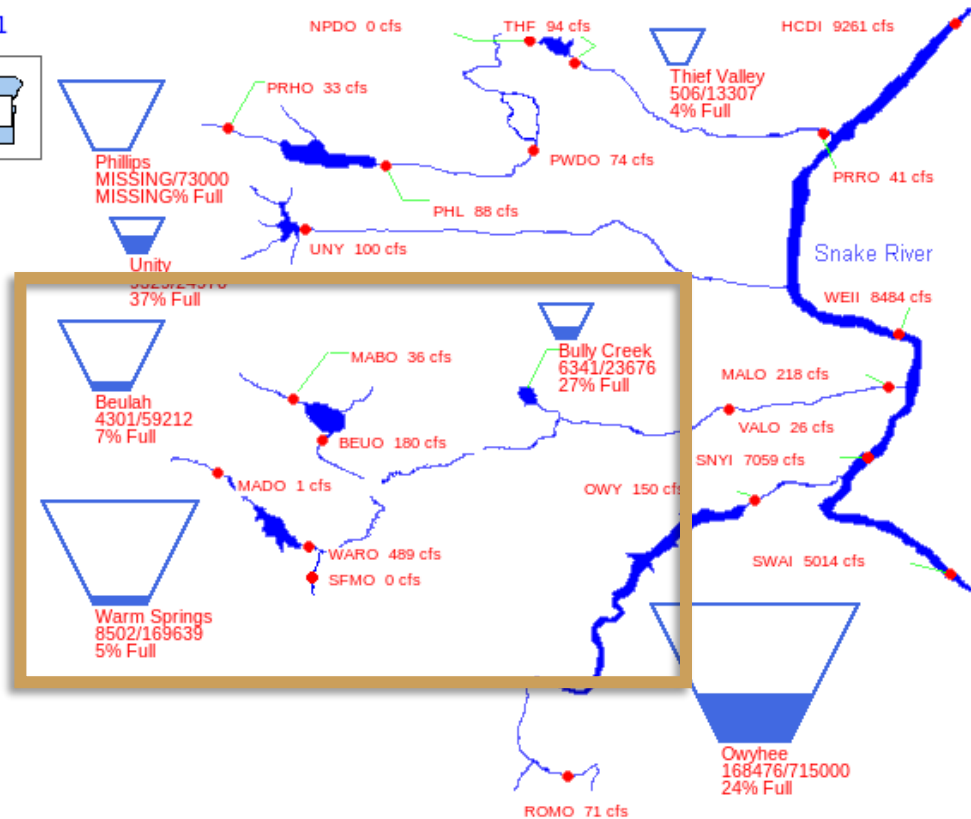
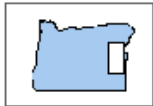
Beulah Dam and Reservoir



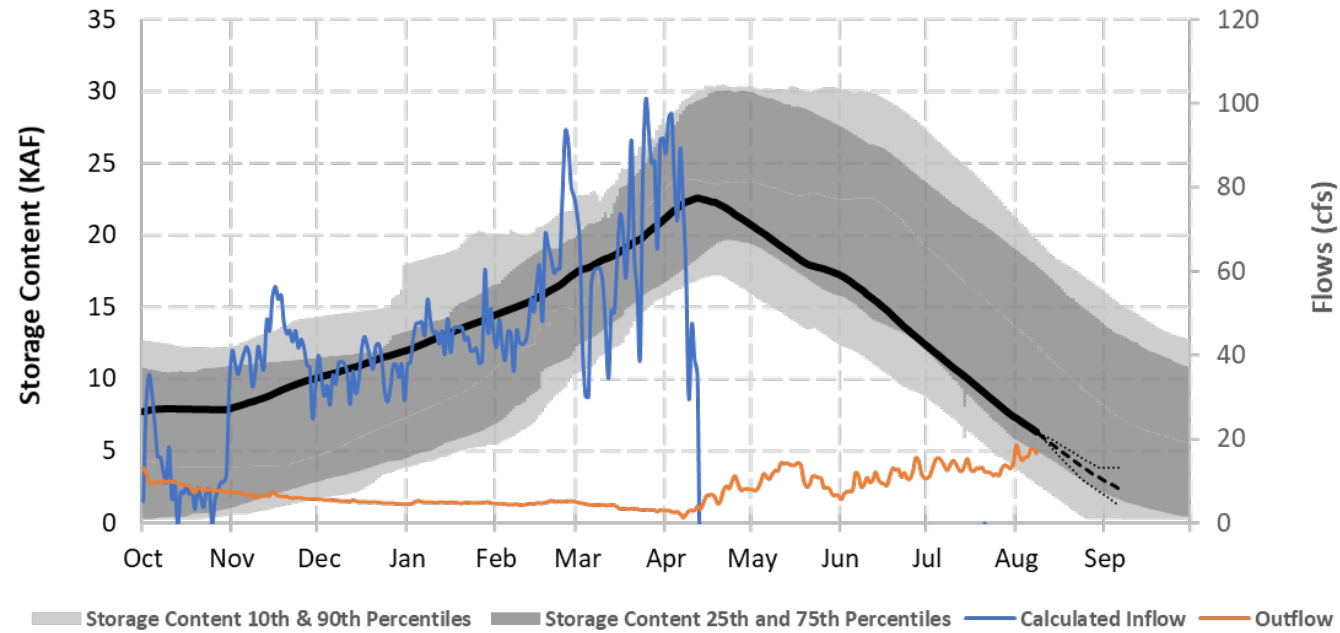
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Malheur River Basin

08/08/2021



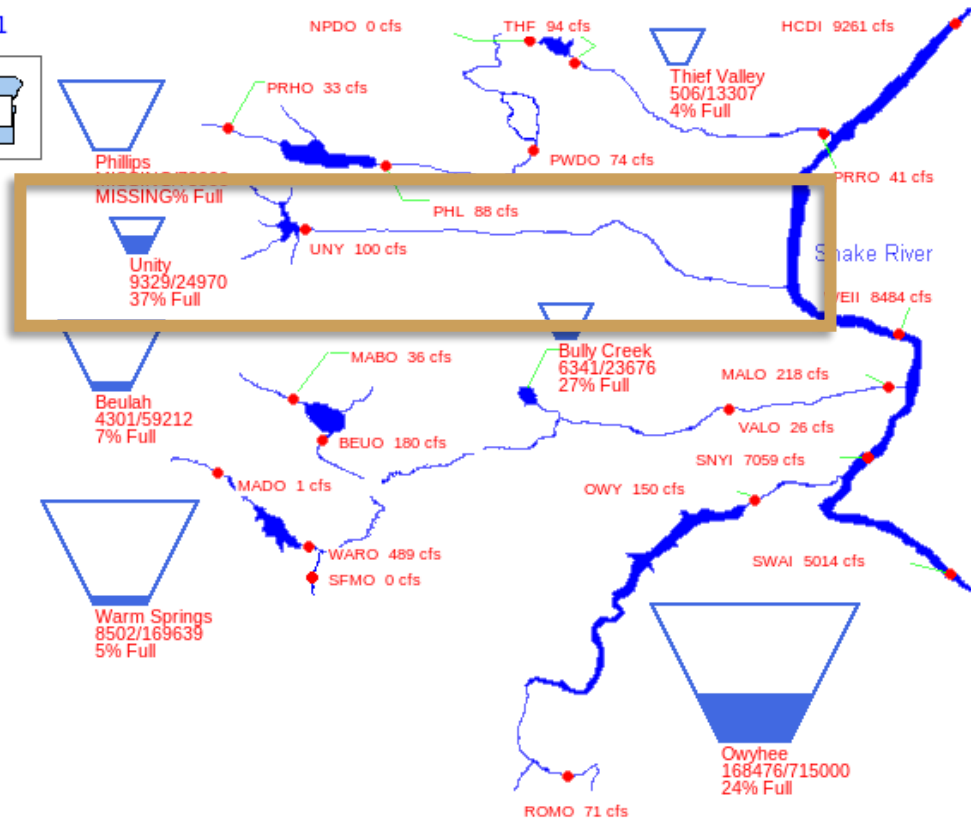
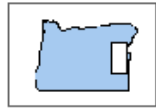
Bully Creek Dam and Reservoir



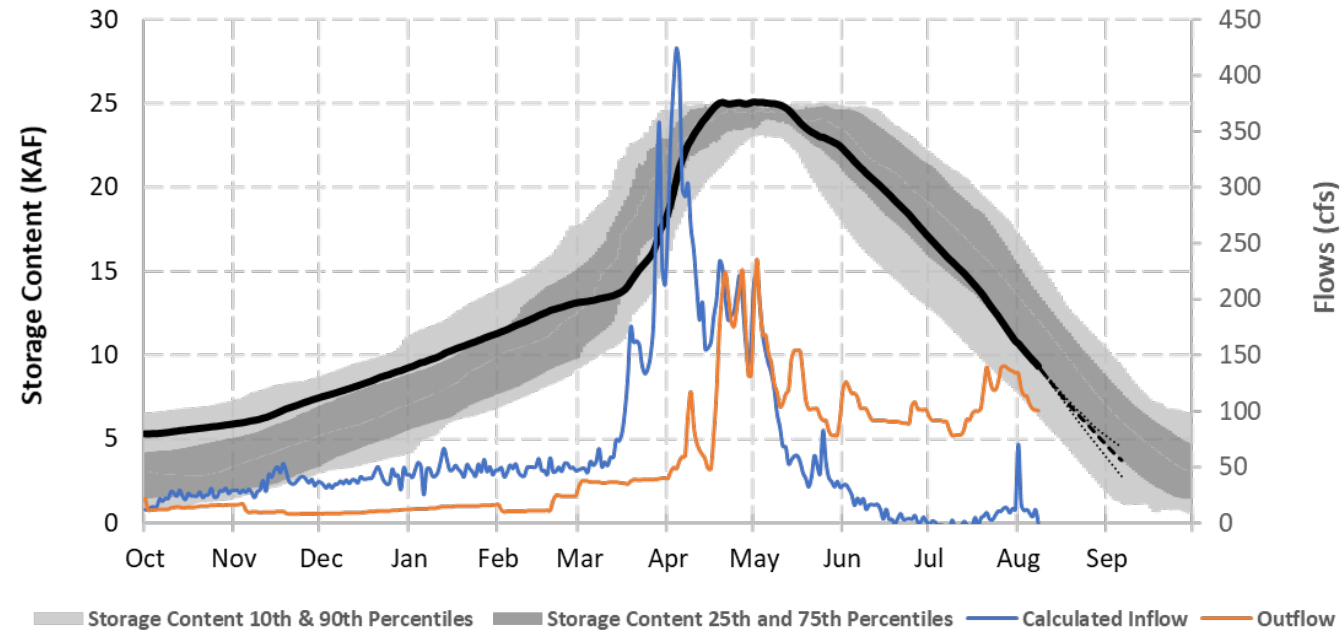
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Burnt River Basin

08/08/2021



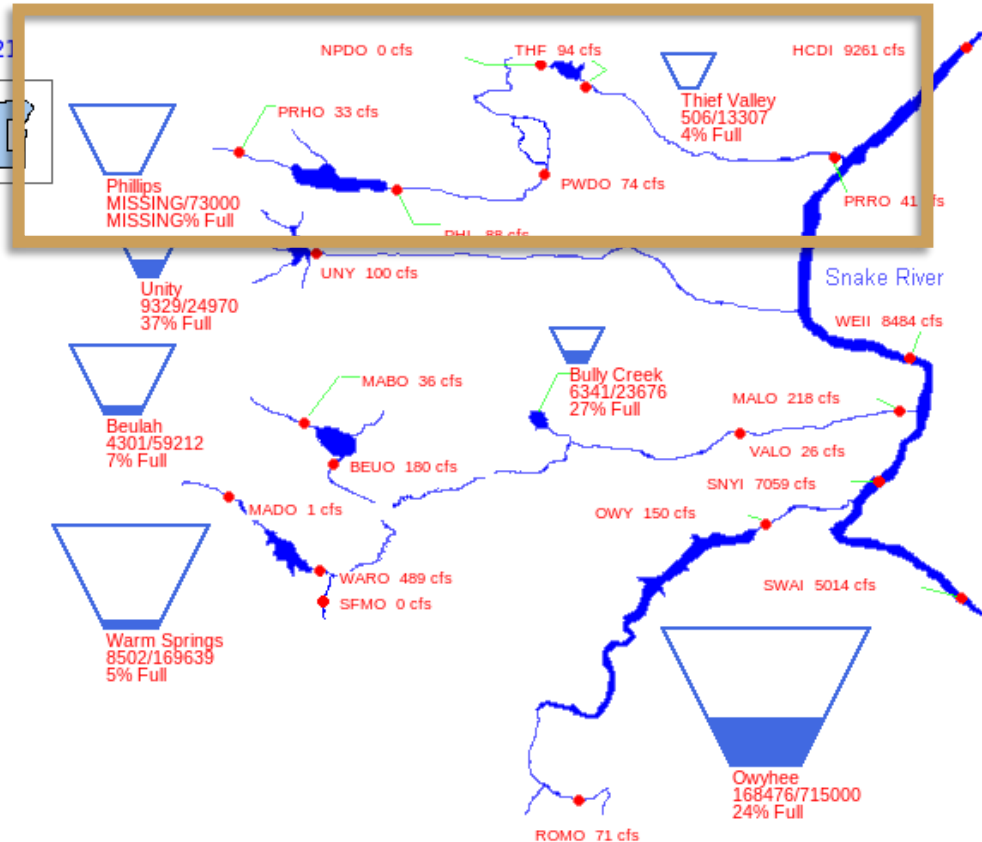
Unity Dam and Reservoir



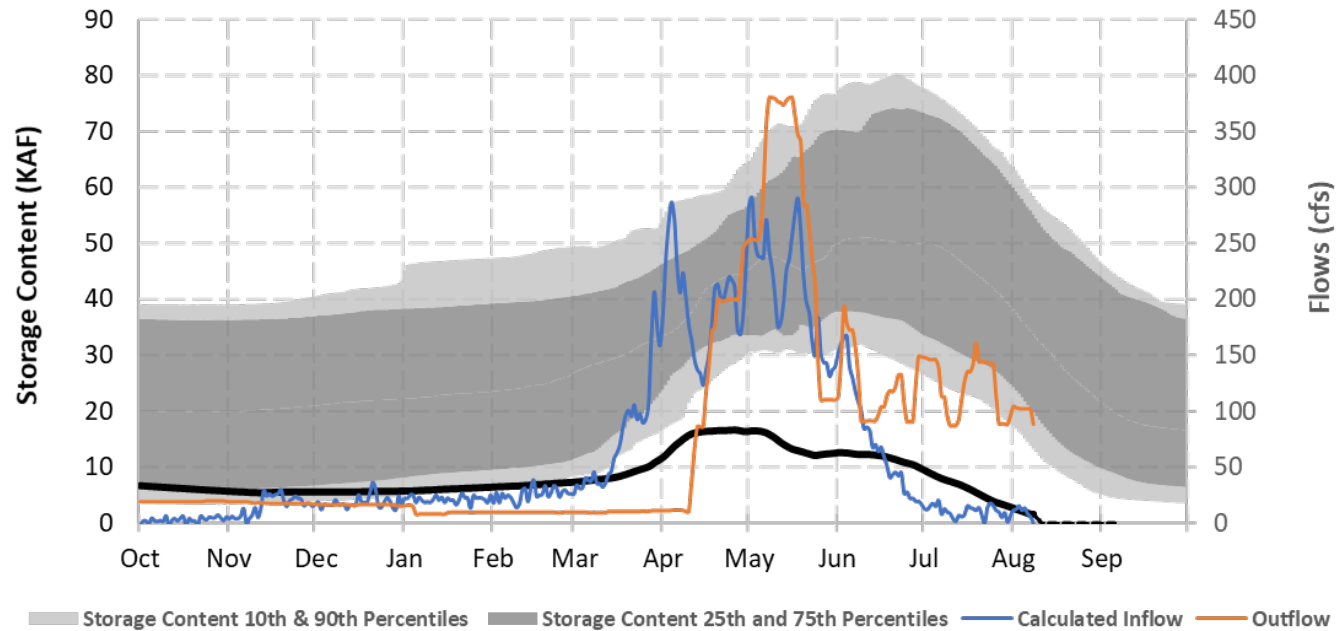
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Powder River Basin

08/08/2021



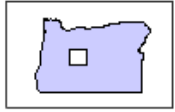
Mason Dam - Phillips Lake



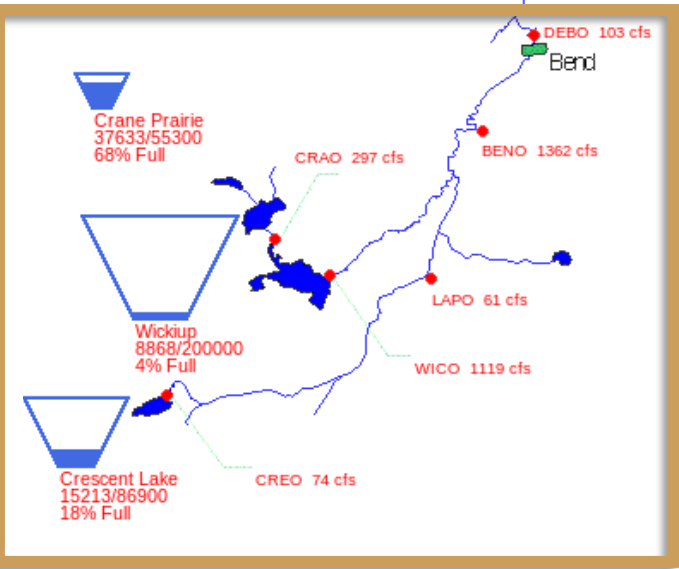
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Deschutes River Basin

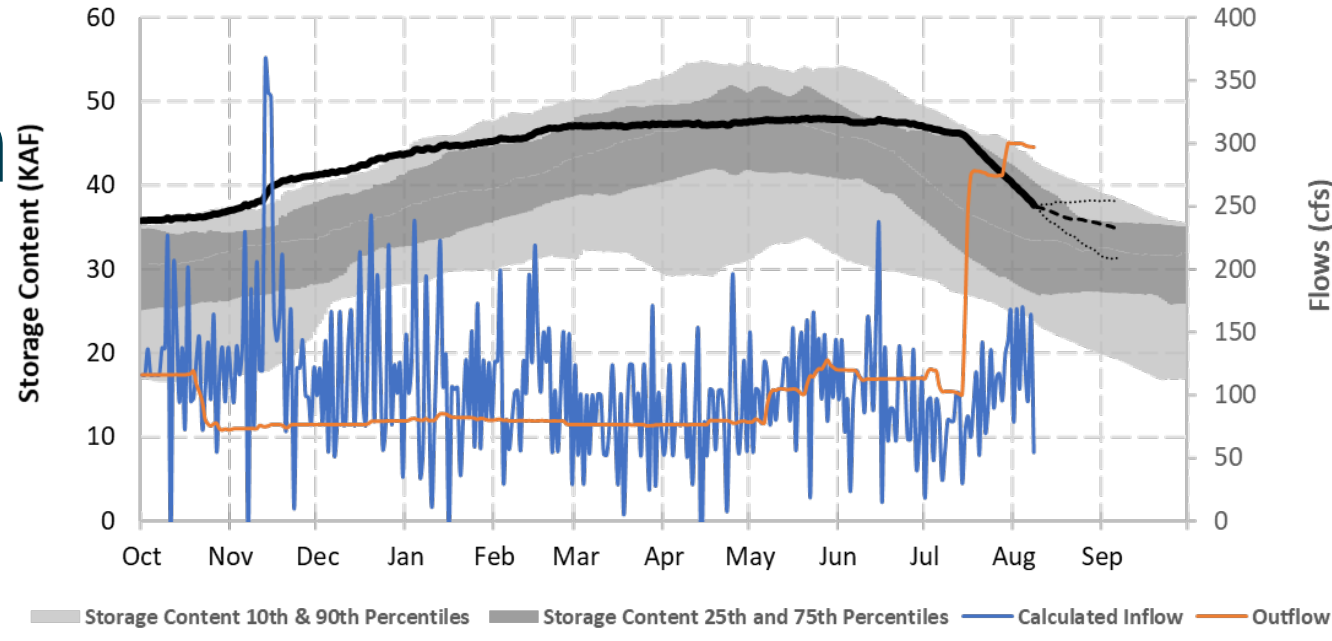
08/08/2021



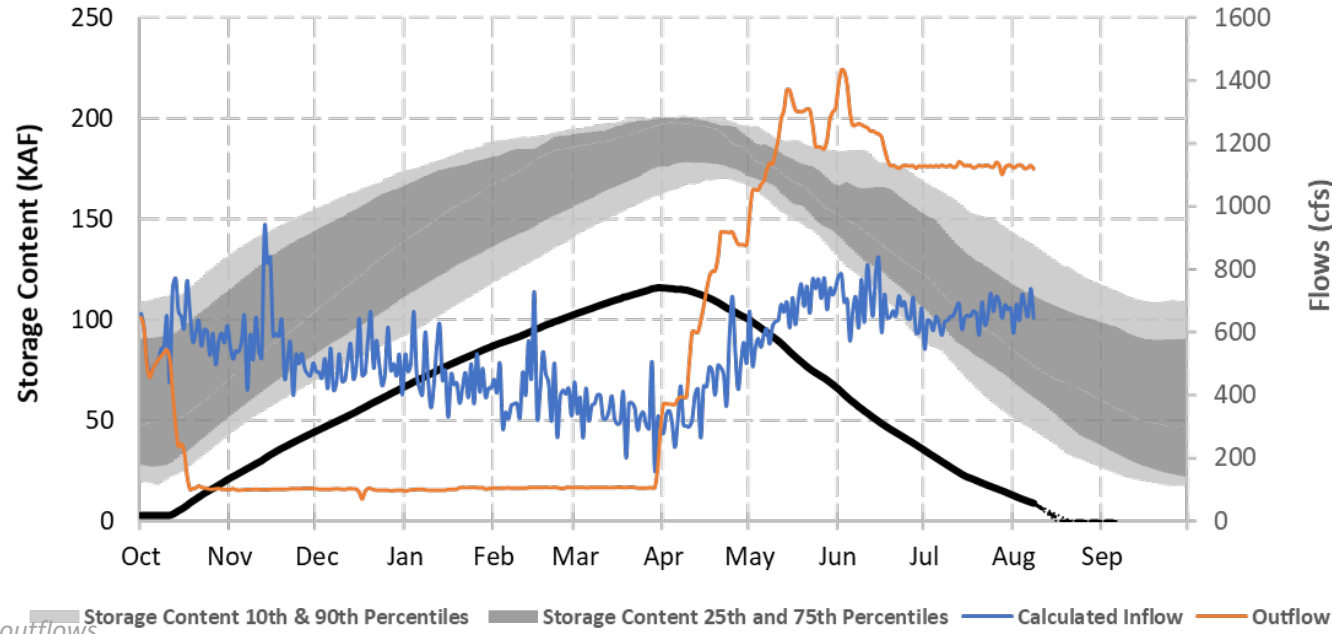
Deschutes ESA



Crane Prairie Dam and Reservoir



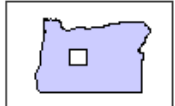
Wickiup Dam and Reservoir



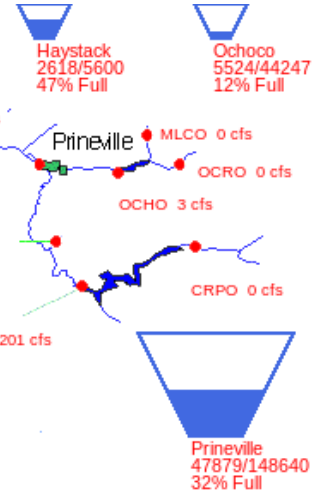
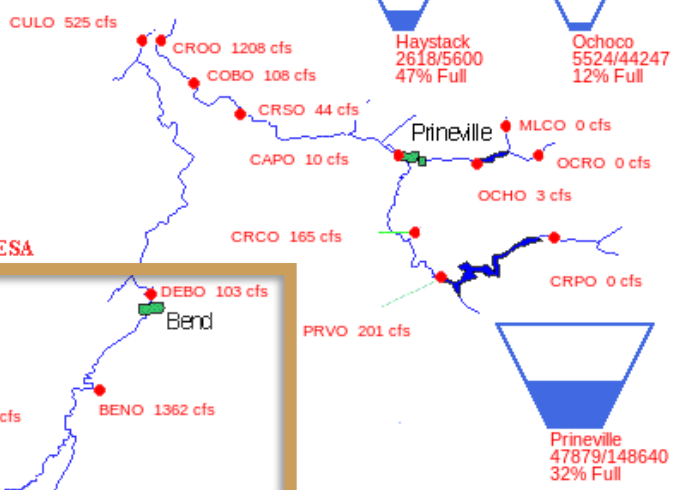
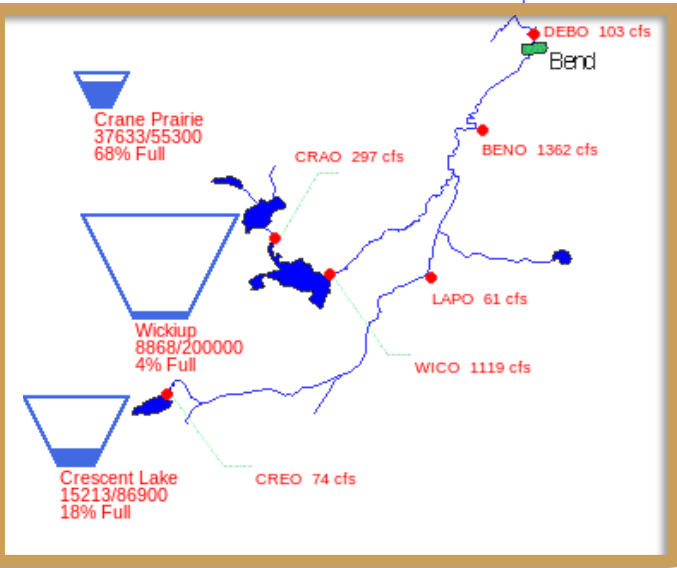
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Deschutes River Basin

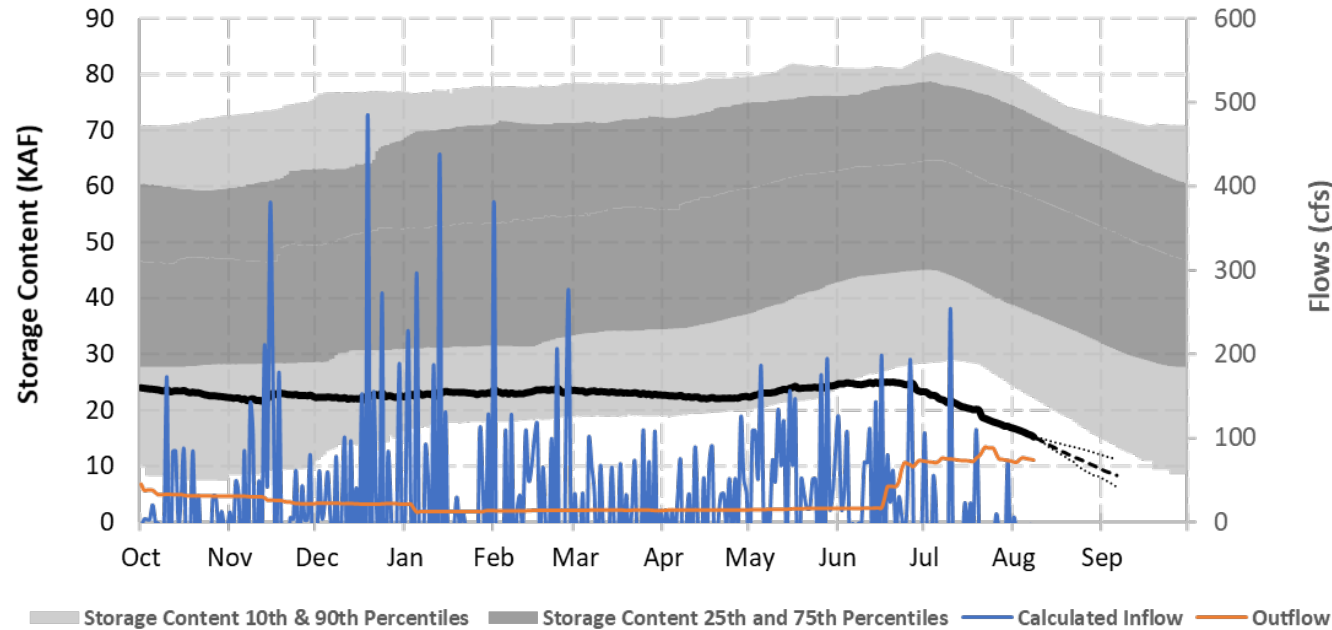
08/08/2021



Deschutes ESA



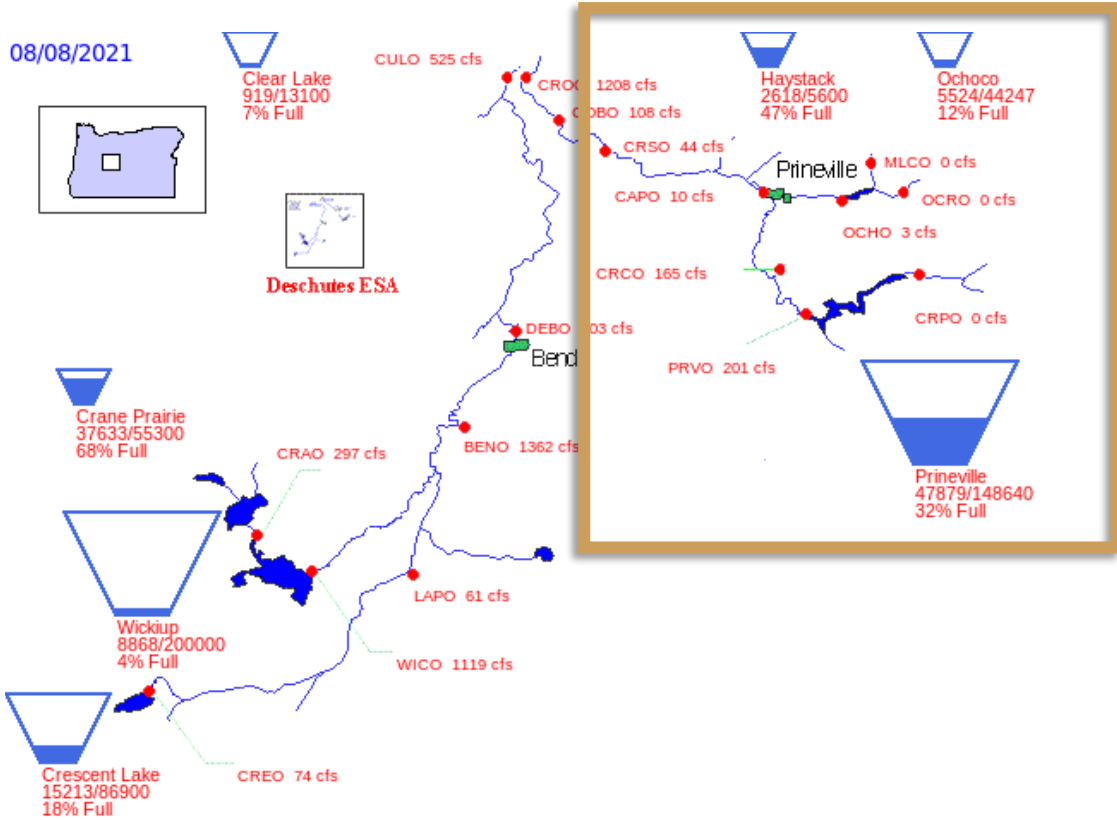
Crescent Lake Dam



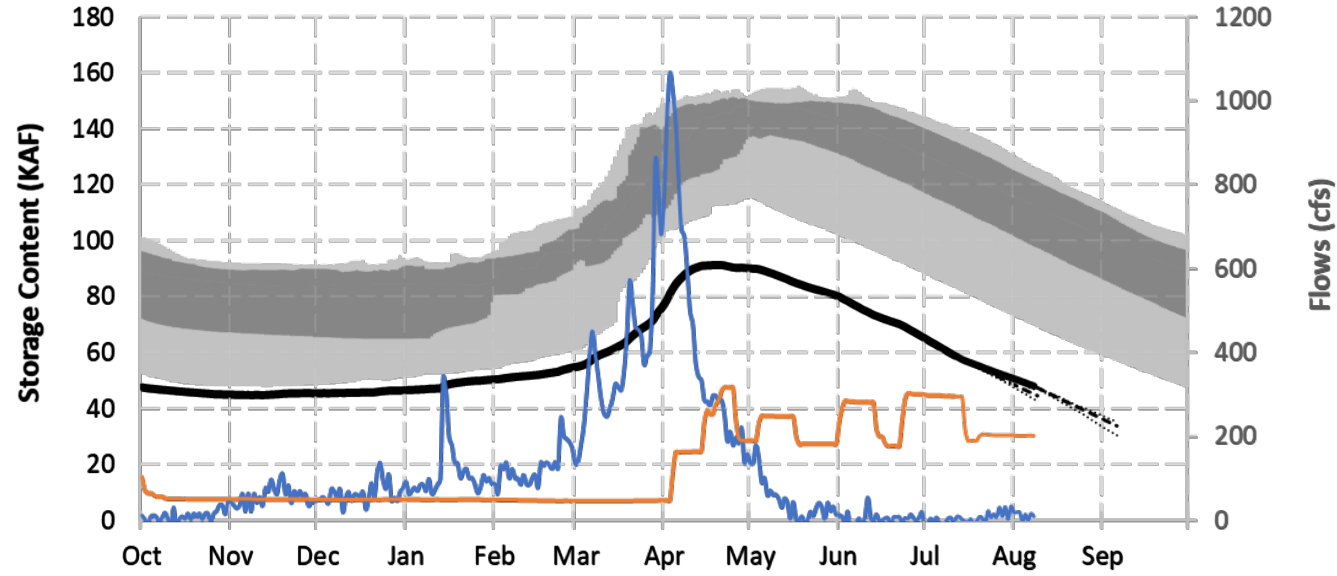
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Crooked River Basin

08/08/2021

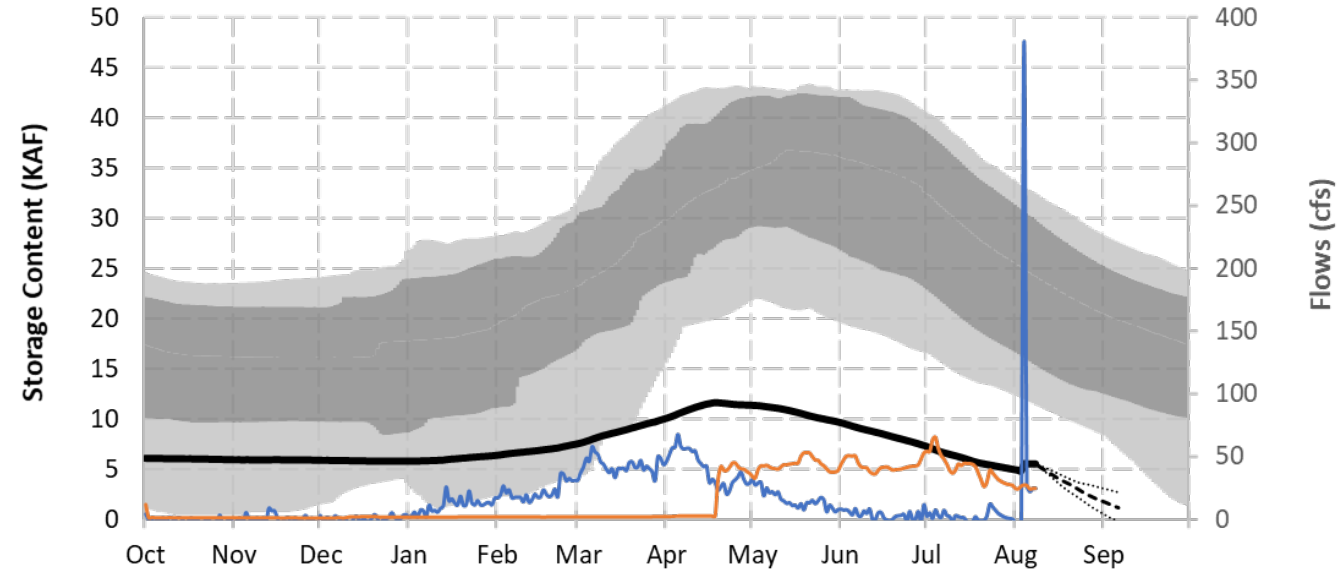


Bowman Dam - Prineville Reservoir



Storage Content 10th & 90th Percentiles Storage Content 25th and 75th Percentiles Calculated Inflow Outflow

Ochoco Dam and Reservoir

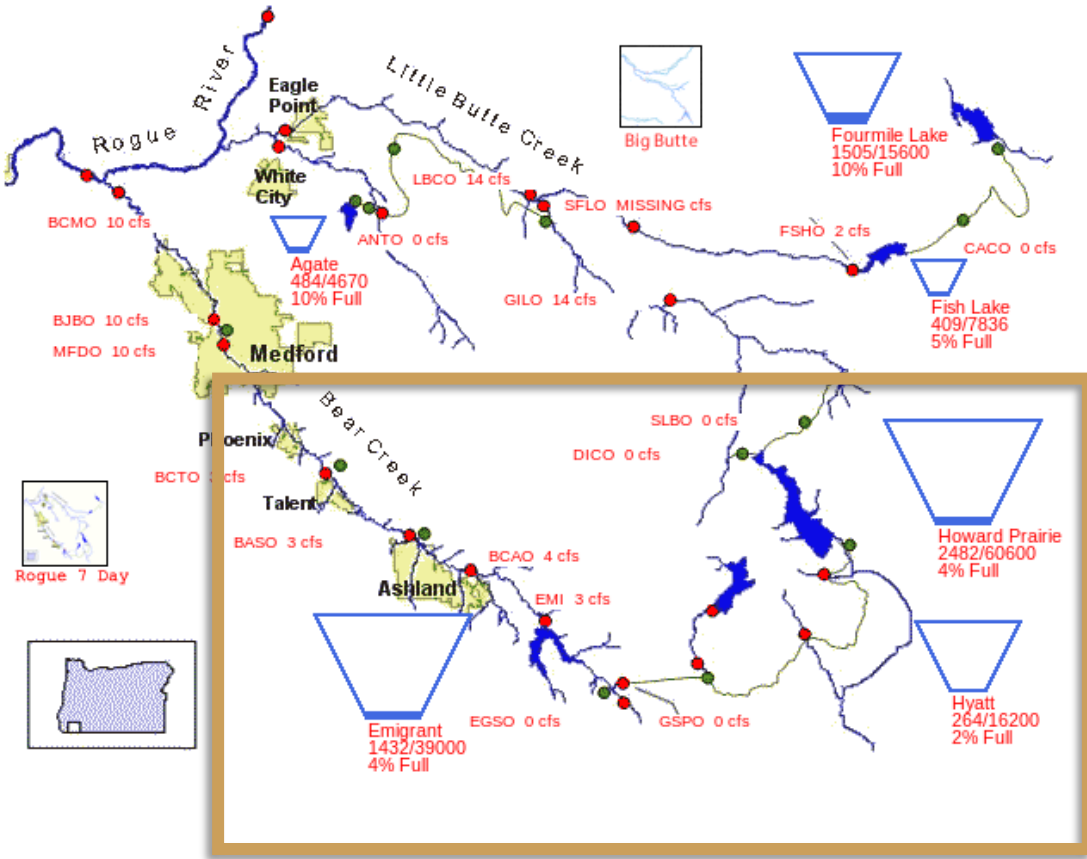


Storage Content 10th & 90th Percentiles Storage Content 25th and 75th Percentiles Calculated Inflow Outflow

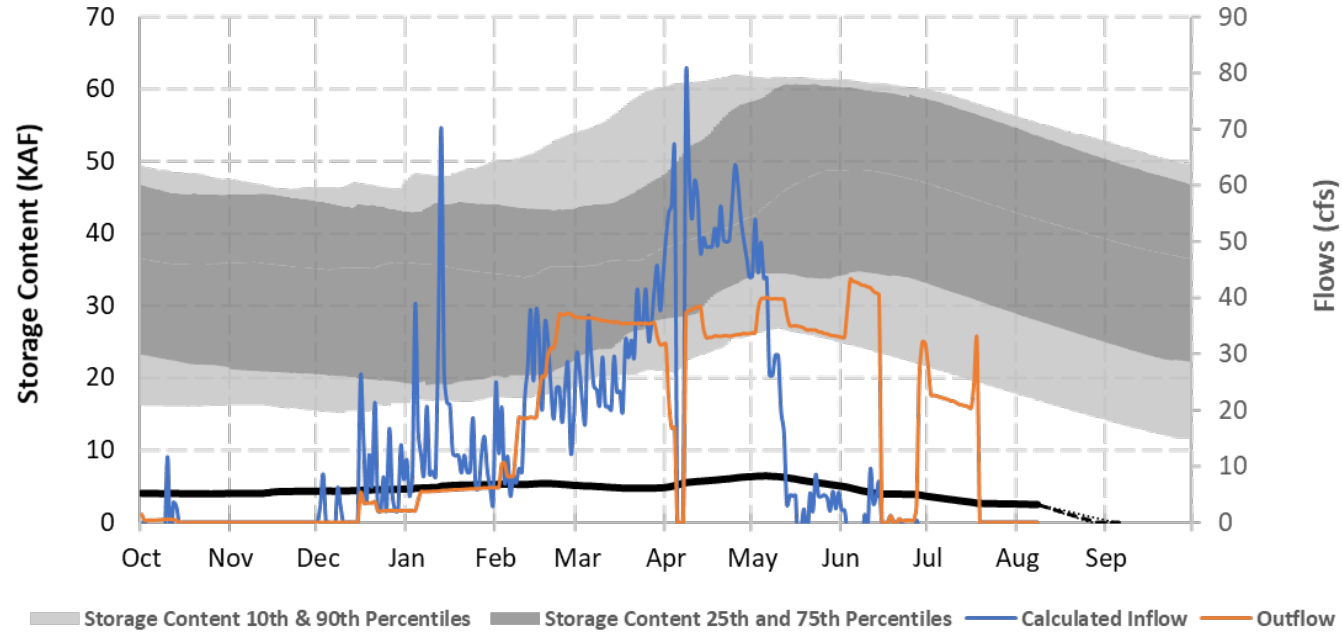
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin

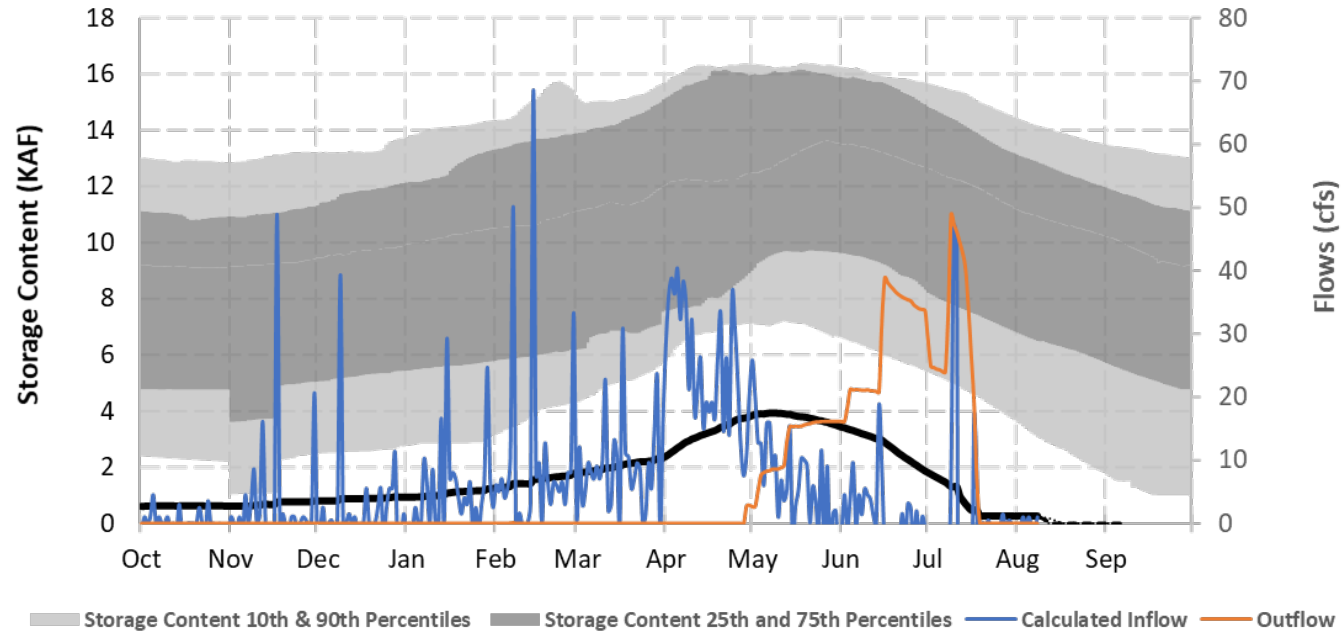
08/08/2021



Howard Prairie Dam and Lake



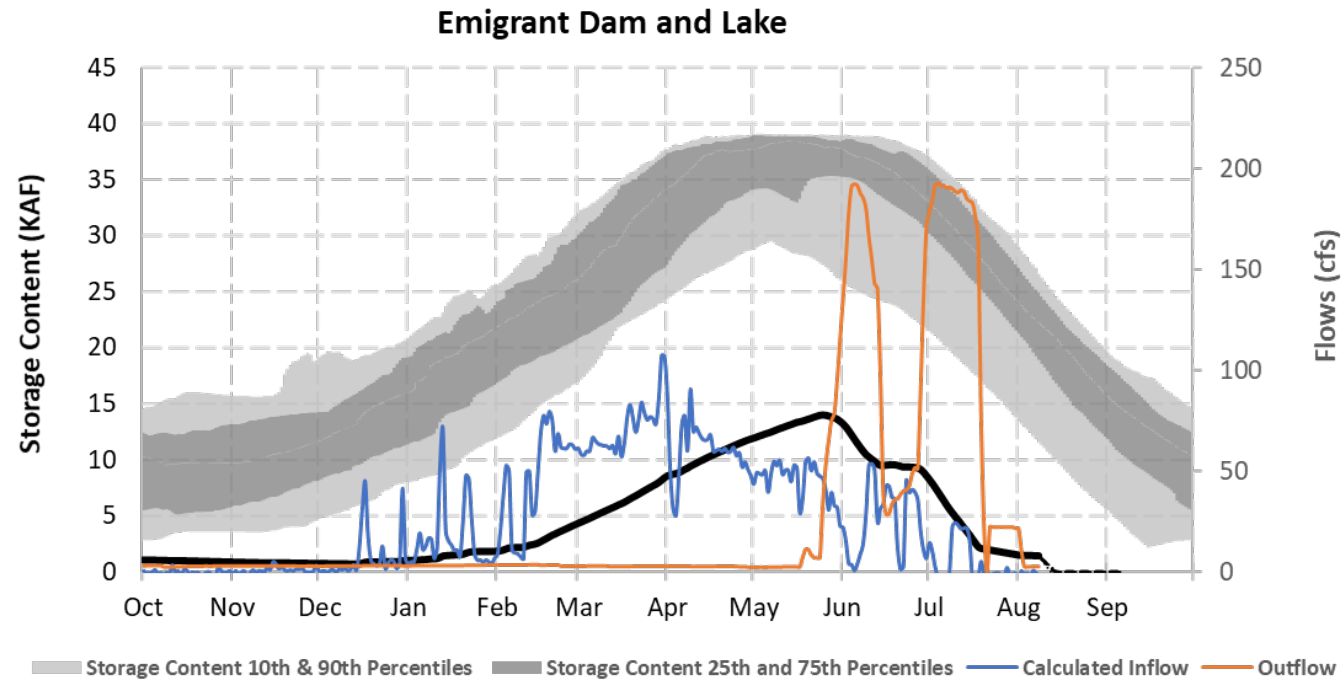
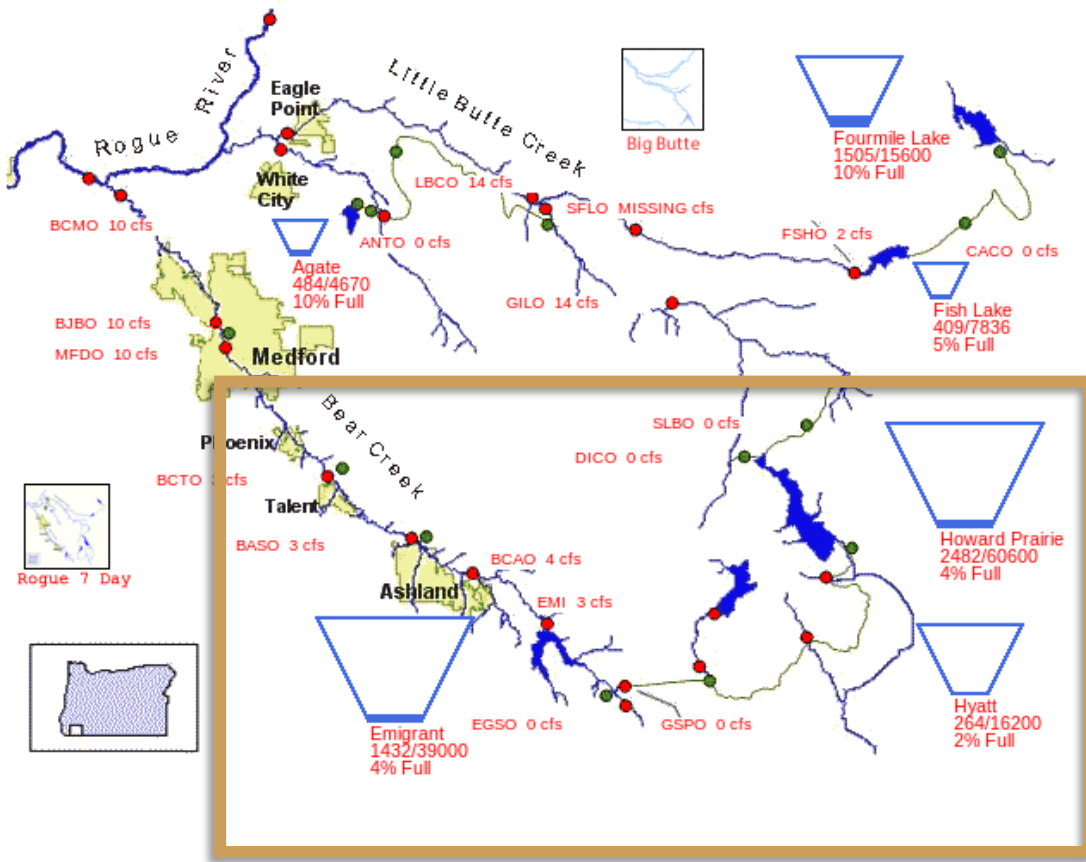
Hyatt Dam and Reservoir



*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin

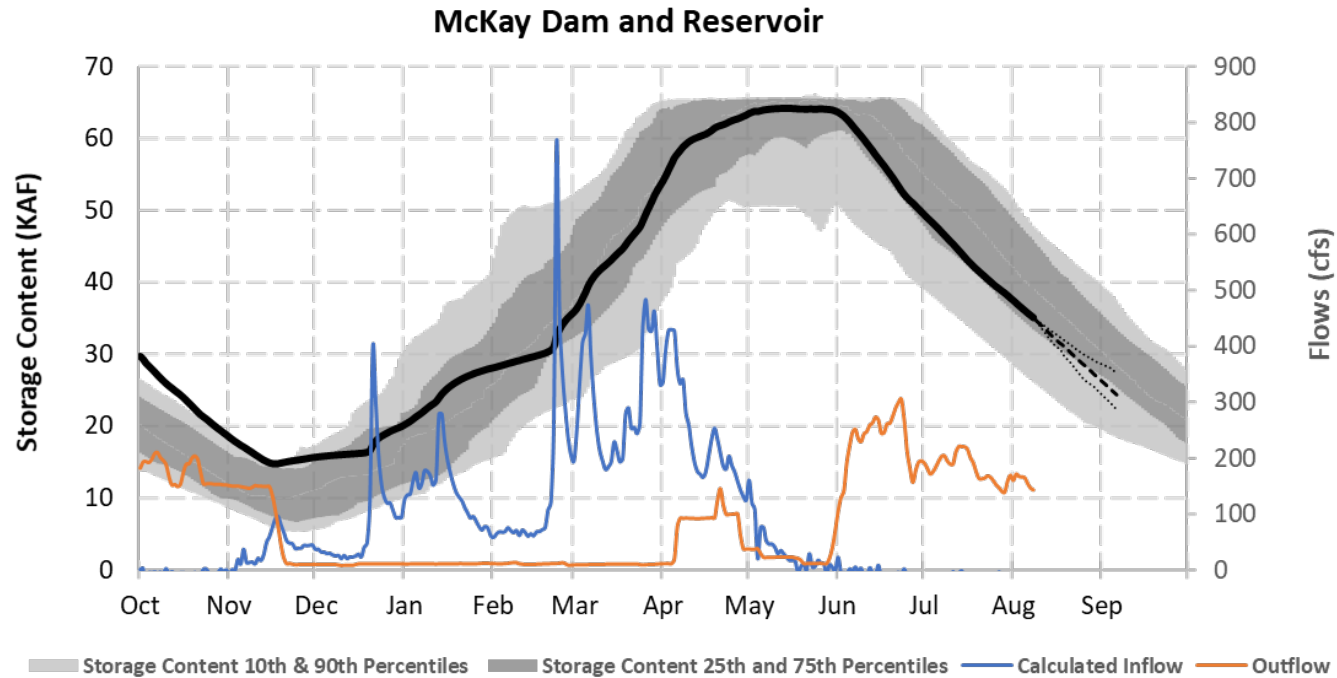
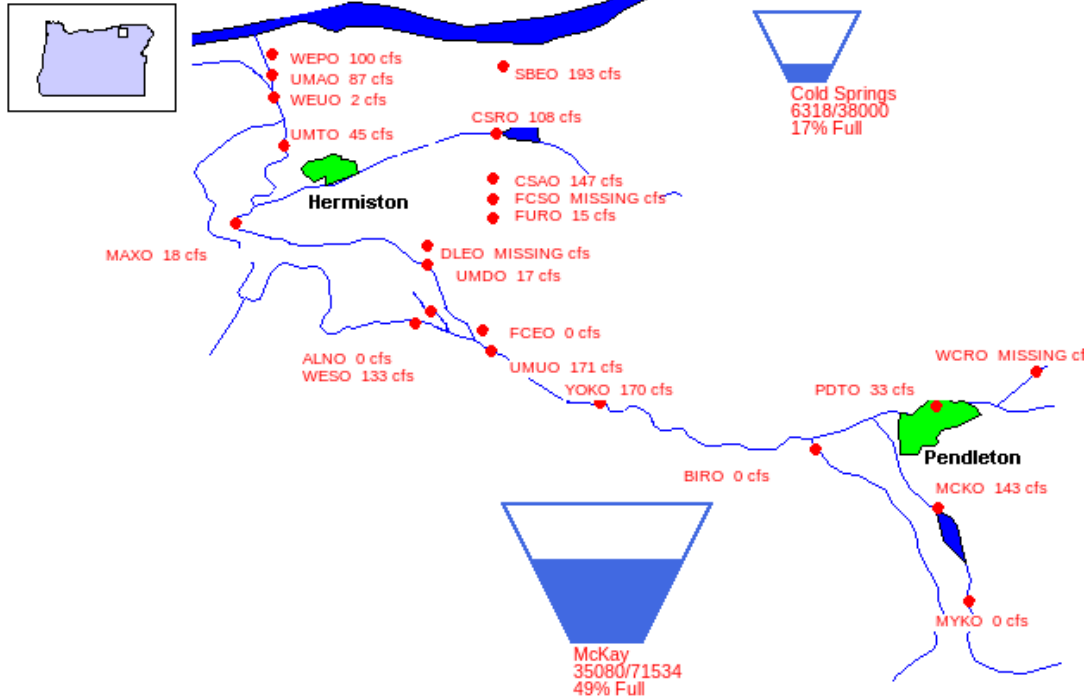
08/08/2021



*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Umatilla River Basin

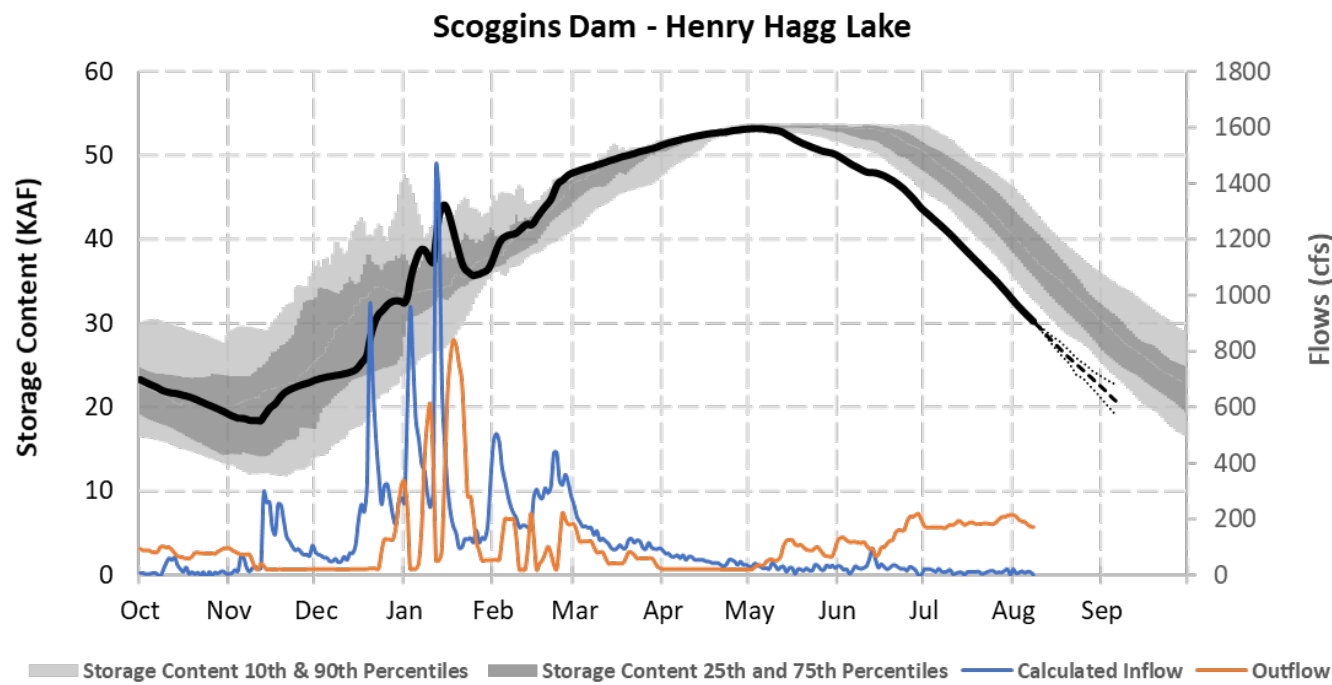
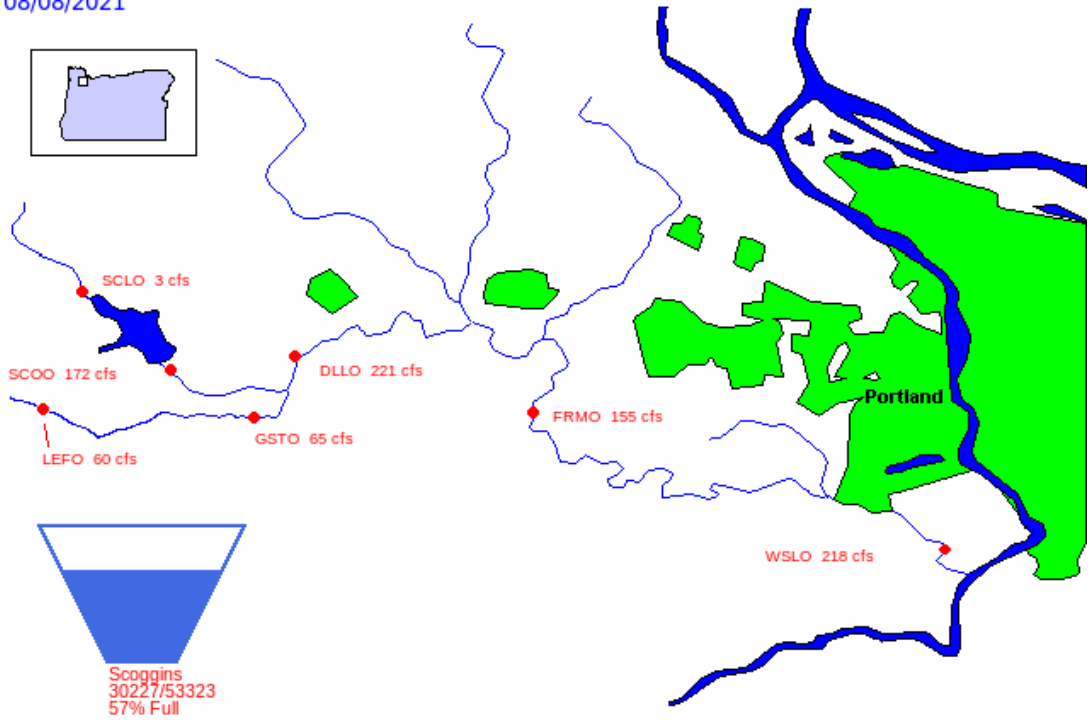
08/08/2021



*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Tualatin River Basin

08/08/2021



*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

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208.378.6213



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RECLAMATION