



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



Klamath

Water Year to Date Precipitation
171% of NRCS 1991-2020 Median
 October 1, 2021 - November 9, 2021
 Current Water Year

Current as of 11/10/2021:
 % of Median - 171%
 Days Until End of WY - 325
 Percentile - 88

Vertical shading tracks at 10th, 30th, 50th, 70th, and 90th Percentiles.
 For more information visit: 30-year hydroclimatic Normals.

- ▶ Stations (18 / 21 used)
- ▶ Parameters
- ▶ Basin Metadata
- ▶ Data Reports

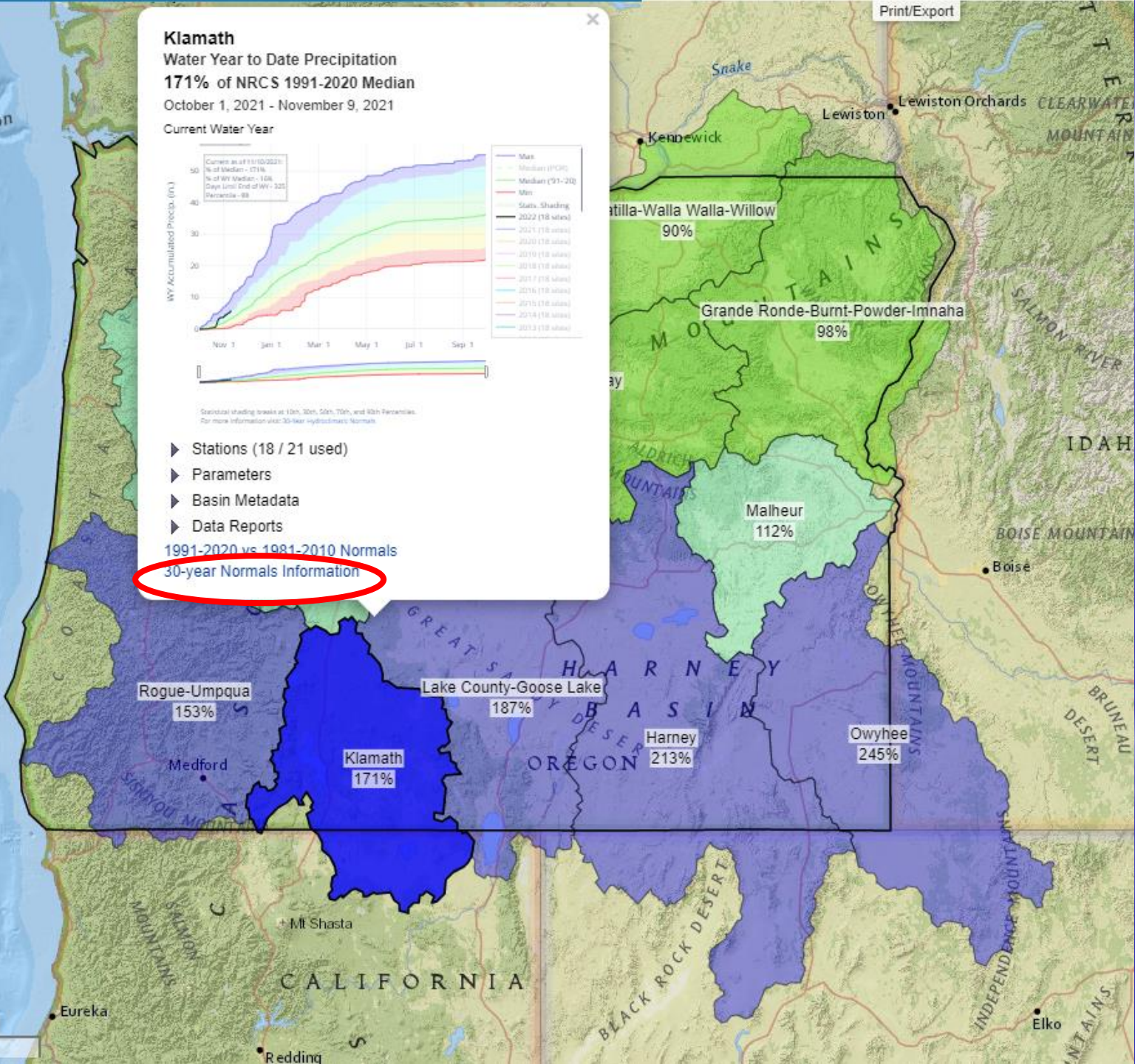
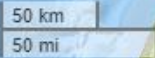
1991-2020 vs 1981-2010 Normals
 30-year Normals Information

Water Year to Date Precipitation
 Percent NRCS 1991-2020 Median
 October 1, 2021 through November 9, 2021

- ≥ 150%
- 130% - 149%
- 110% - 129%
- 90% - 109%
- 70% - 89%
- 50% - 69%
- < 50%
- No basin value

Watershed Boundaries
 — State Watersheds

Natural Resources Conservation Service
 Created 11-10-2021, 06:30 AM PST



1991-2020 Climatic and Hydrologic Normals

The Snow Survey and Water Supply Forecasting (SSWSF) normals are site-specific measures of central tendency (either the median or average) for a data type, such as snow water equivalent (SWE). The statistics are calculated over a 30-year period and updated each decade, in agreement with World Meteorological Organization (WMO) standards. This 30-year reference period was chosen to characterize the current hydroclimatology at each station. The most recent medians and averages have been updated to include data for the water years 1991-2020. The National Water and Climate Center (NWCC) also provides medians and averages for the 1981-2010 and 1971-2000 reference periods for stations with sufficient data.

The normals available from the NWCC include the median and average for SWE, snow depth (snow courses only), precipitation, volumetric streamflow, and reservoir storage. Values are calculated from data collected by NRCS-managed stations and external agencies such as the U.S. Geological Survey (USGS), National Weather Service (NWS), state agencies, and private organizations. Normals are calculated for various durations including daily, month-to-date, semi-monthly, monthly, seasonal, and annual based on the data type.

[1991-2020 Normals Overview](#)



[Calculation Methods](#)



[Differences Between 1991-2020 and Previous Normals](#)



[Median vs. Average](#)



[Retrieving 1991-2020 Normals](#)





Klamath

Water Year to Date Precipitation
171% of NRCS 1991-2020 Median
 October 1, 2021 - November 9, 2021
 Current Water Year

Current as of 11/10/2021:
 % of Median - 171%
 Days Until End of WY - 325
 Percentile - 88

Legend for Stats Shading:
 2022 (18 sites)
 2021 (18 sites)
 2020 (18 sites)
 2019 (18 sites)
 2018 (18 sites)
 2017 (18 sites)
 2016 (18 sites)
 2015 (18 sites)
 2014 (18 sites)
 2013 (18 sites)

Vertical shading tracks at 10th, 30th, 50th, 70th, and 90th Percentiles.
 For more information visit: 30-year hydrologic Normals.

- ▶ Stations (18 / 21 used)
- ▶ Parameters
- ▶ Basin Metadata
- ▶ Data Reports
- ▶ 1991-2020 vs 1981-2010 Normals
- ▶ 30-year Normals Information

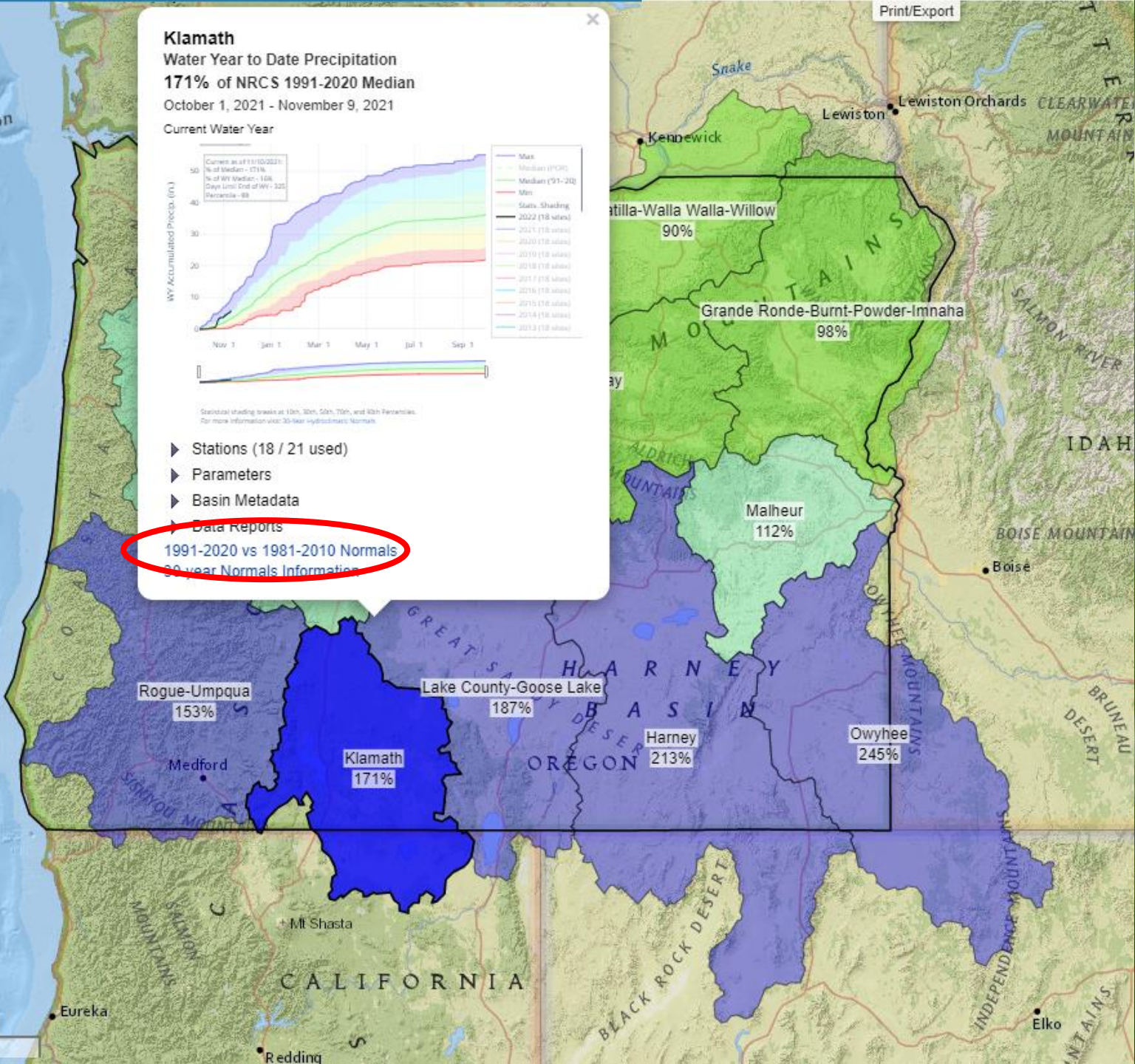
Water Year to Date Precipitation

Percent NRCS 1991-2020 Median
 October 1, 2021 through November 9, 2021

- ≥ 150%
- 130% - 149%
- 110% - 129%
- 90% - 109%
- 70% - 89%
- 50% - 69%
- < 50%
- No basin value

Watershed Boundaries
 — State Watersheds

Natural Resources Conservation Service
 Created 11-10-2021, 06:30 AM PST

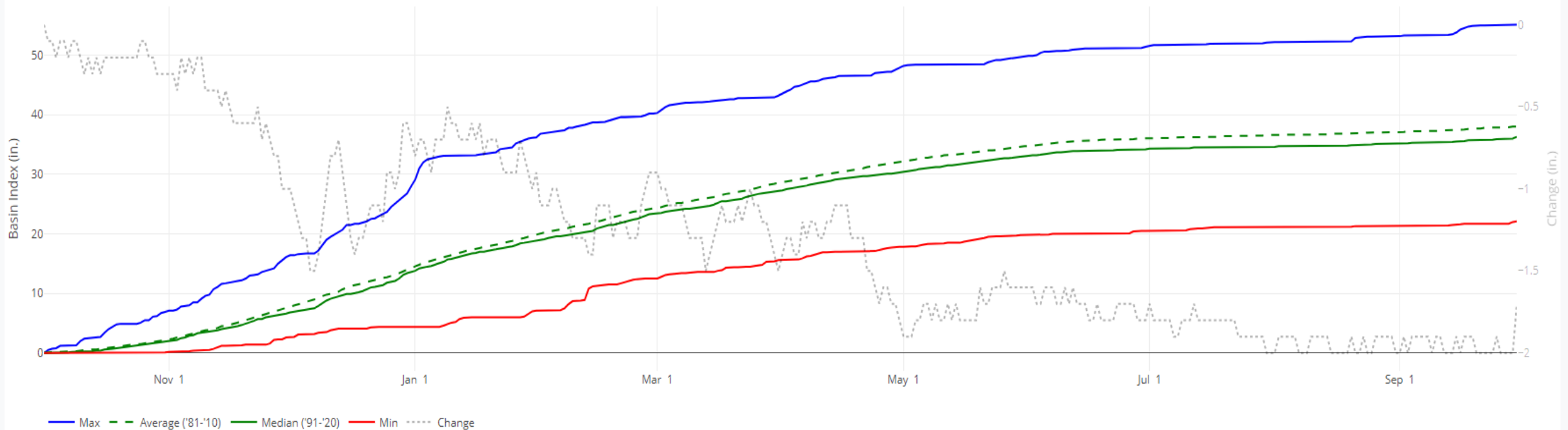


This application highlights changes between the 1981-2010 and 1991-2020 basin normals which are a simple aggregation of SNOTEL station normals found within or in close proximity to the selected basin. [More info here...](#)

Caution is recommended when making inferences from comparisons between the old and new reference periods. A shift in normals may occur for several reasons including: 1) change in underlying data due to different 30-year reference periods; 2) change in calculation methods; 3) change in number of stations with official normals; 4) change in monitoring site conditions.

KLAMATH Precipitation Normals Comparison

Site List - Site Normals



Search [Icons: Refresh, Home, Zoom, List, Download]

Date	Min (POR)	Median ('91-'20)	Average ('81-'10)	Change (in.)	Change (%)	Median (POR)	Max (POR)
10-01	0	0	0	0	0	0	0
10-02	0	0	0.1	-0.1	-100	0	0.5
10-03	0	0	0.1	-0.1	-100	0	0.7



Klamath

Water Year to Date Precipitation
171% of NRCS 1991-2020 Median
 October 1, 2021 - November 9, 2021
 Current Water Year

Stations (18 / 21 used)
 Parameters
 Basin Metadata
 Data Reports

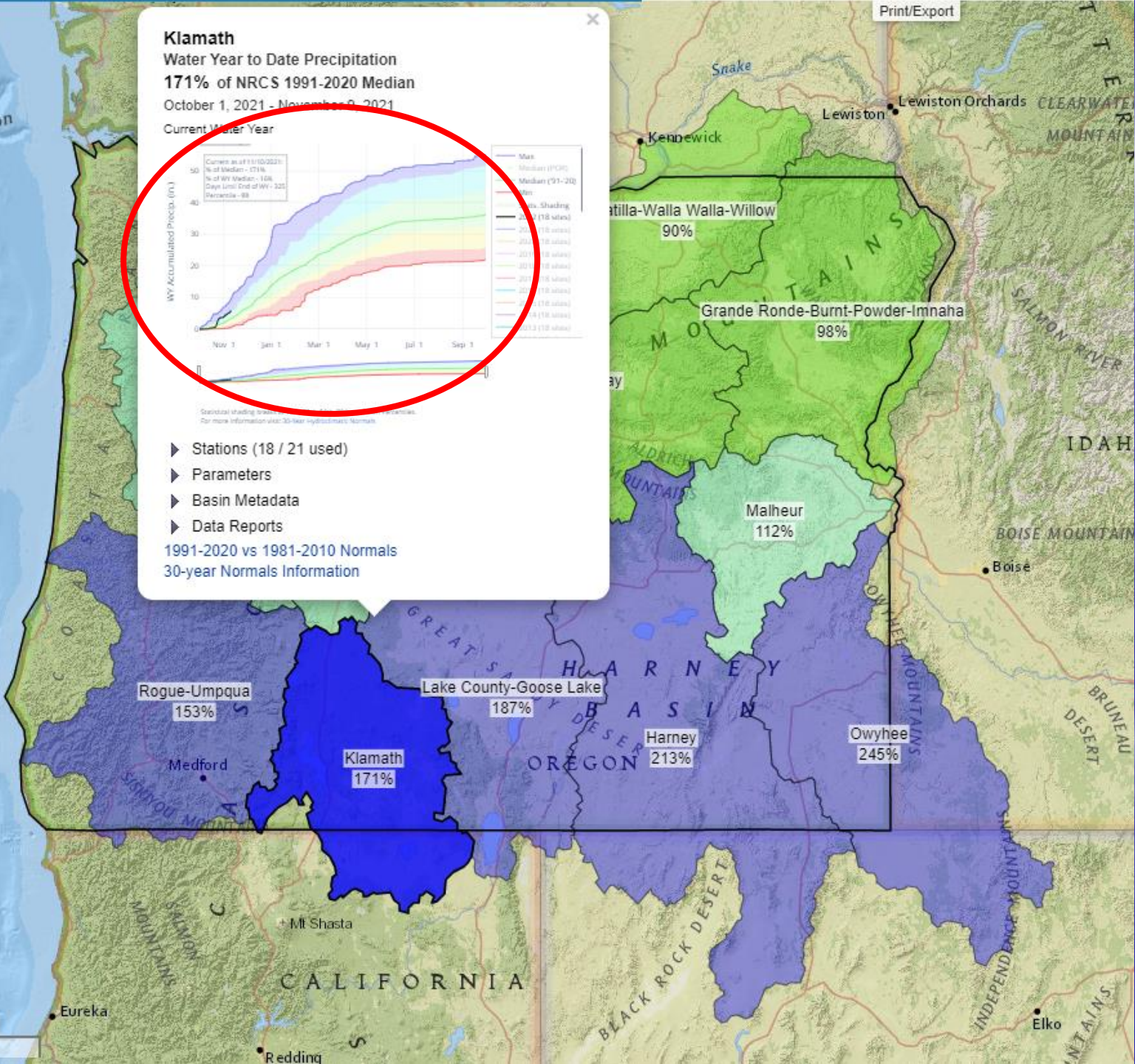
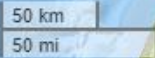
1991-2020 vs 1981-2010 Normals
 30-year Normals Information

Water Year to Date Precipitation
 Percent NRCS 1991-2020 Median
 October 1, 2021 through November 9, 2021

- ≥ 150%
- 130% - 149%
- 110% - 129%
- 90% - 109%
- 70% - 89%
- 50% - 69%
- < 50%
- No basin value

Watershed Boundaries
 — State Watersheds

Natural Resources Conservation Service
 Created 11-10-2021, 06:30 AM PST



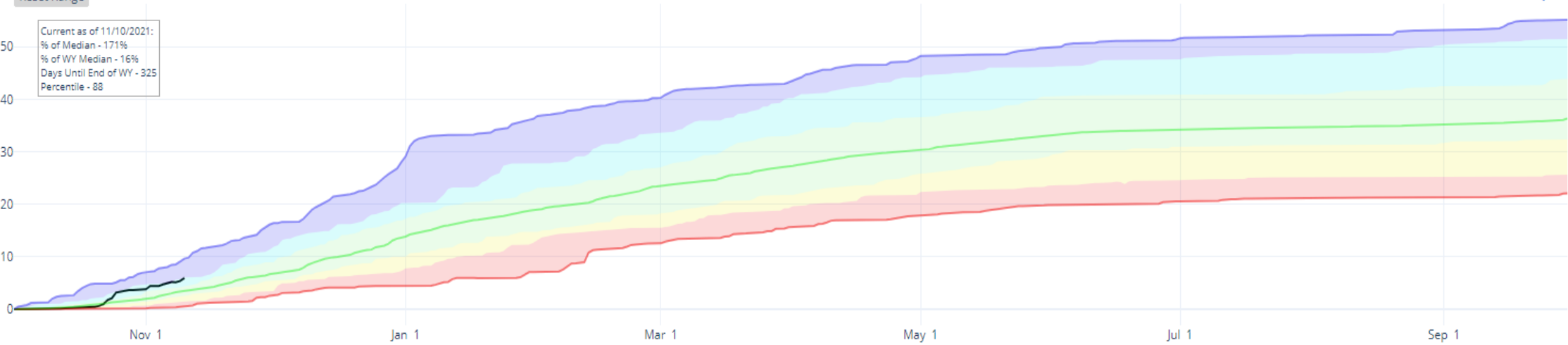
PRECIPITATION IN KLAMATH

Reset Range

[Link to data: CSV / JSON](#)

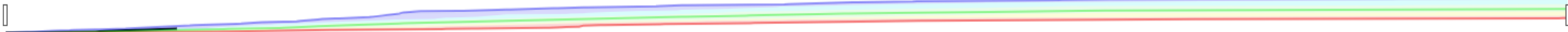
Current as of 11/10/2021:
% of Median - 171%
% of WY Median - 16%
Days Until End of WY - 325
Percentile - 88

WY Accumulated Precip. (in.)



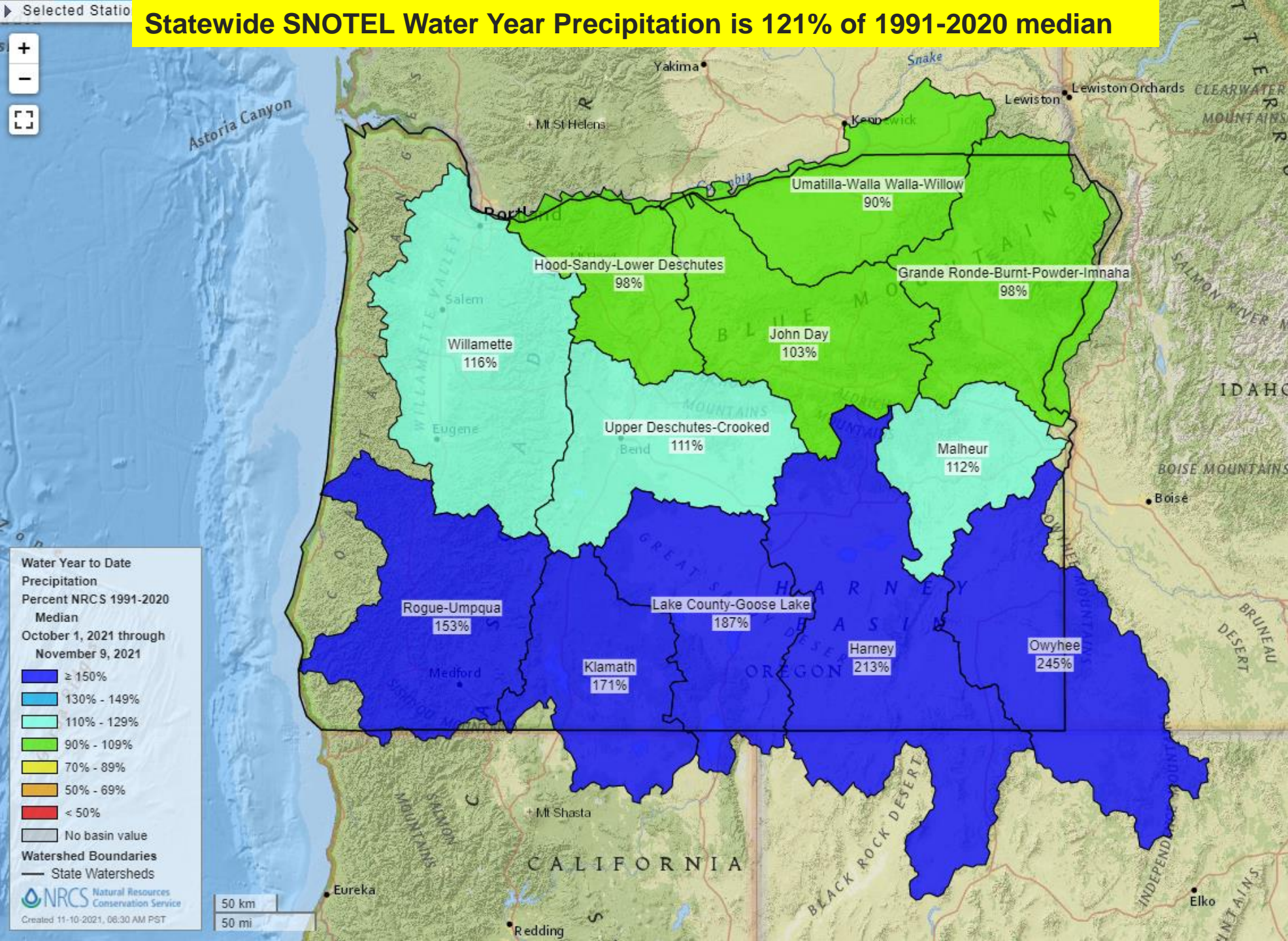
Station List

- Max
- Median (POR)
- Median ('91-'20)
- Min
- Stats. Shading
- 2022 (18 sites)
- 2021 (18 sites)
- 2020 (18 sites)
- 2019 (18 sites)
- 2018 (18 sites)
- 2017 (18 sites)
- 2016 (18 sites)
- 2015 (18 sites)
- 2014 (18 sites)
- 2013 (18 sites)



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.
For more information visit: [30-Year Hydroclimatic Normals](#)

Statewide SNOTEL Water Year Precipitation is 121% of 1991-2020 median



SNOTEL Precipitation Records – March 1, 2021 – September 15, 2021



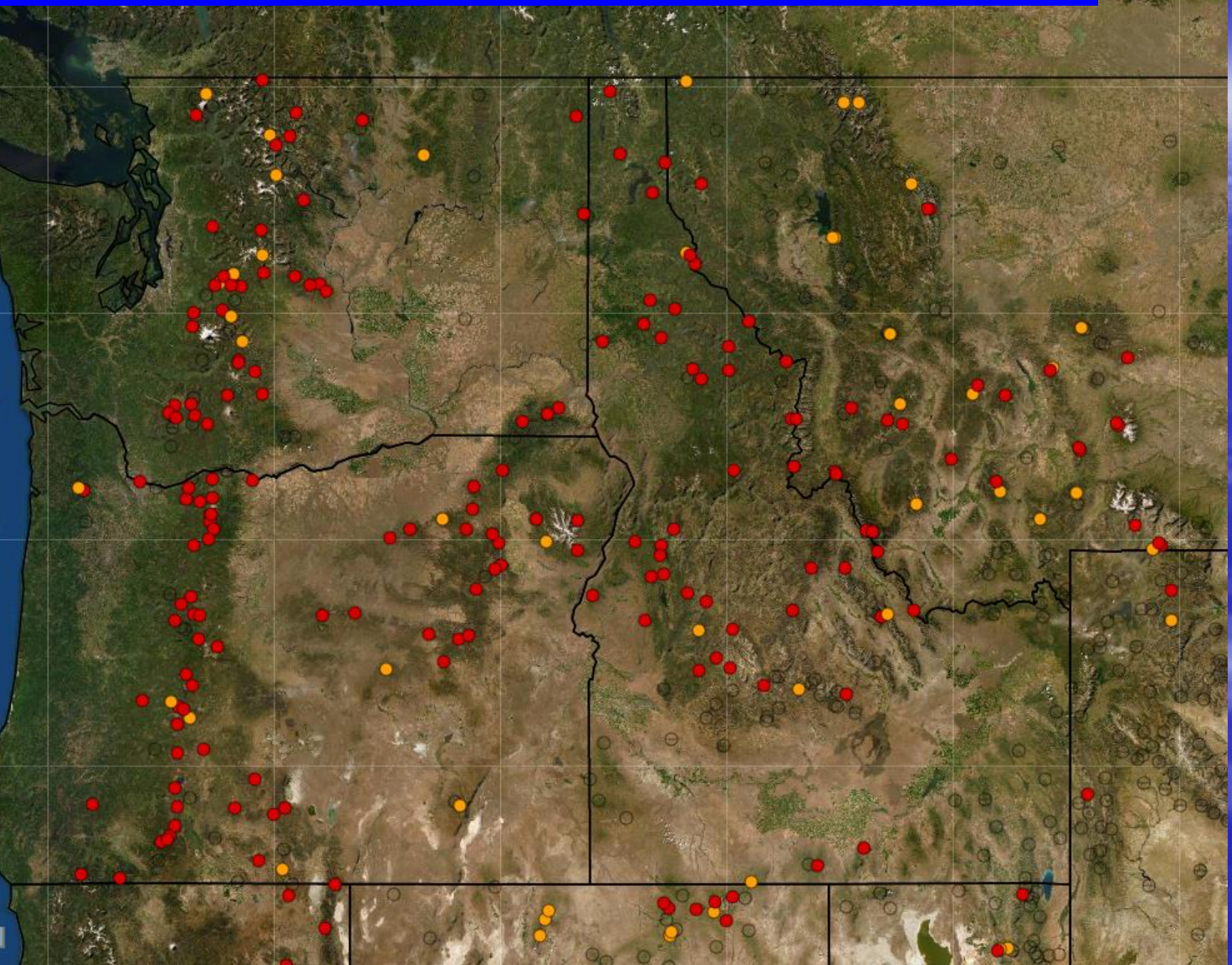
199 day Precipitation Records (POR)
March 1, 2021 through
September 15, 2021

- Highest
- 2nd Highest
- 2nd Lowest
- Lowest

⊖ Observation missing
Sites with less than 20 years of data
or low variability excluded

 **Natural Resources Conservation Service**
Created 11-09-2021, 07:38 AM PST

100 km
50 mi



SNOTEL Precipitation Records – March 1, 2021 – November 9, 2021



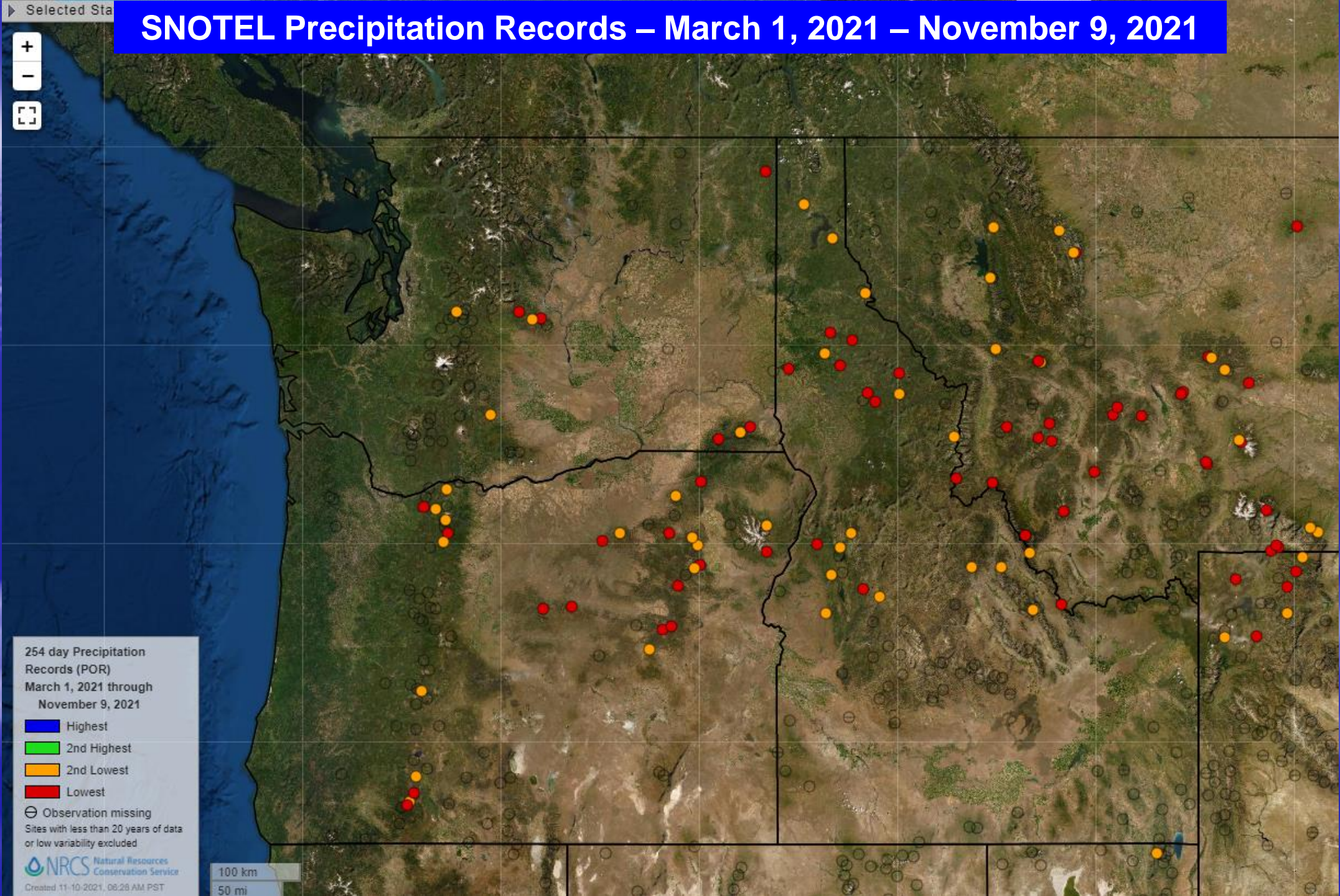
254 day Precipitation Records (POR)
March 1, 2021 through November 9, 2021

- Highest
- 2nd Highest
- 2nd Lowest
- Lowest

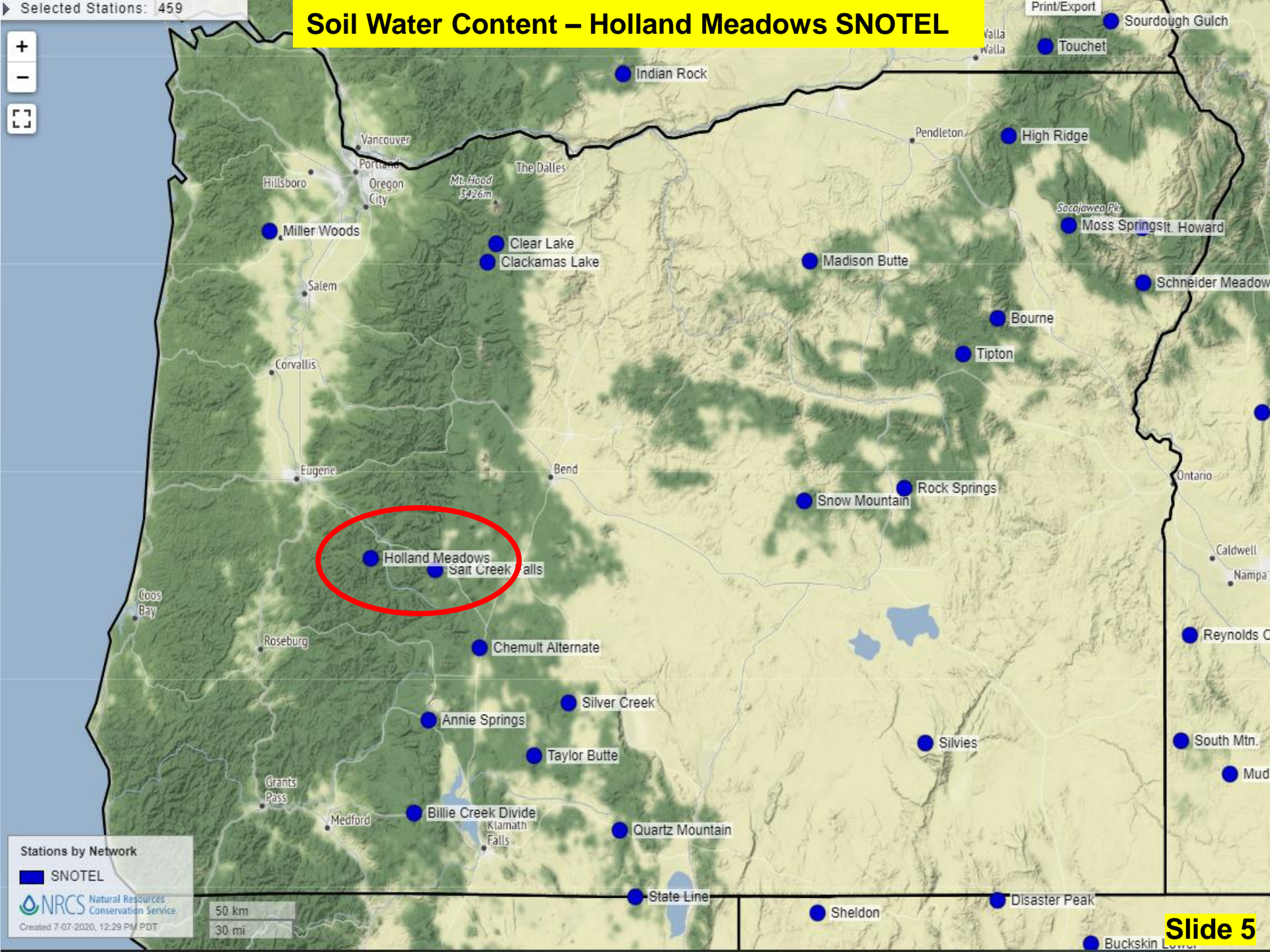
⊖ Observation missing
Sites with less than 20 years of data or low variability excluded

Natural Resources Conservation Service
Created 11-10-2021, 06:28 AM PST

100 km
50 mi



Soil Water Content – Holland Meadows SNOTEL



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

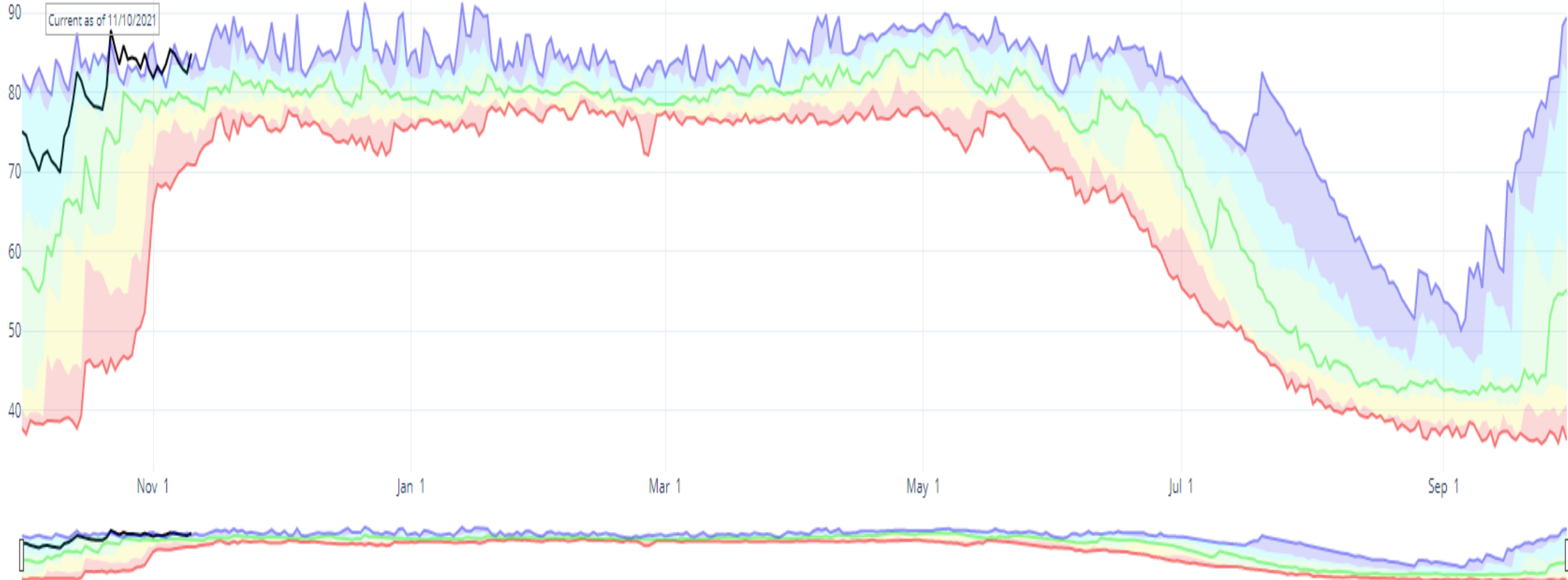
DEPTH AVERAGED SOIL SATURATION AT
HOLLAND MEADOWS

Reset Range

Link to data: [CSV](#) / [JSON](#)

Percent Saturation (%)

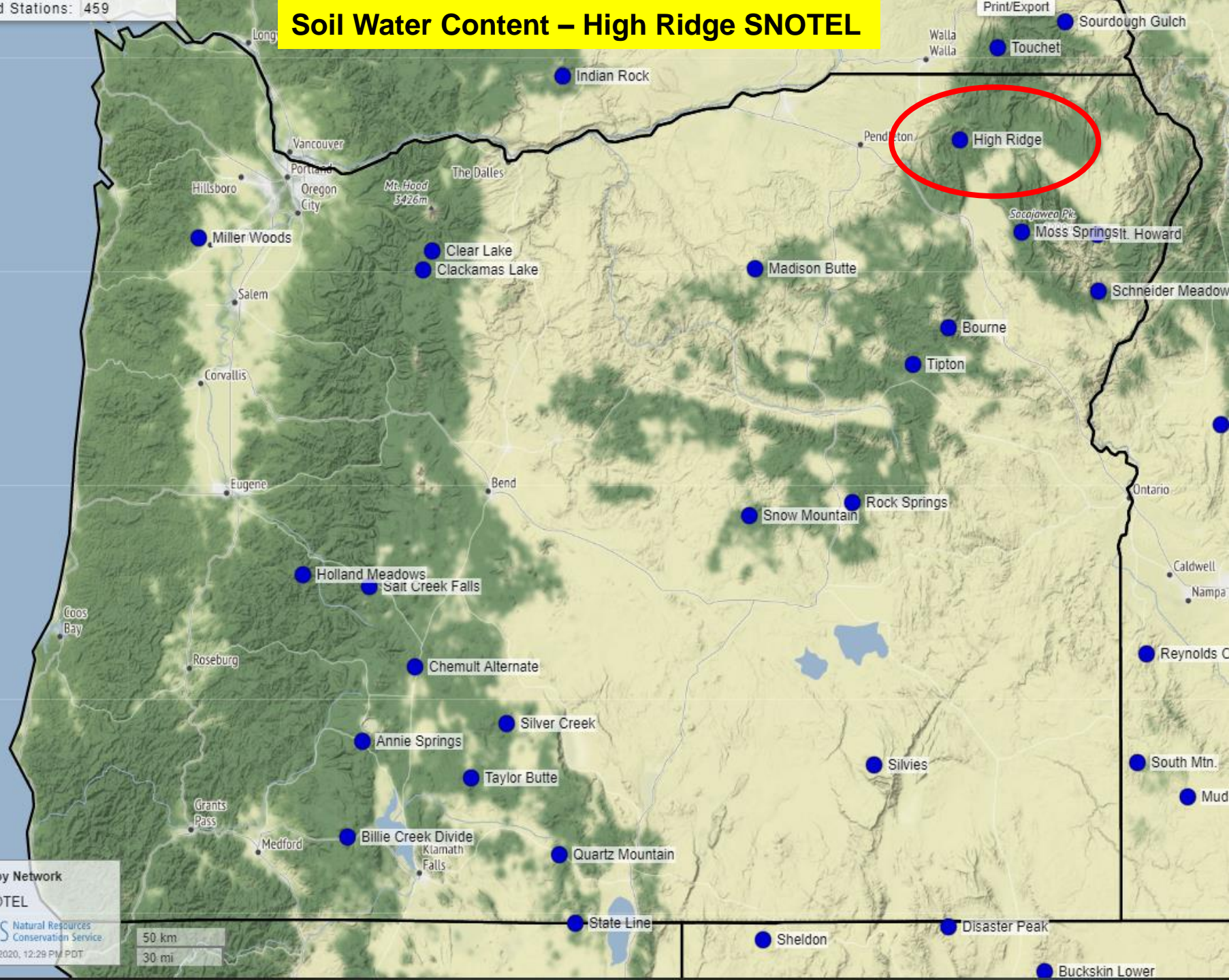
Current as of 11/10/2021



- Max
- Median (POR)
- Min
- Stats. Shading
- 2022
- 2021
- 2020
- 2019
- 2018
- 2017
- 2016
- 2015
- 2014
- 2013
- 2012

Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.
For more information visit: [30-Year Hydroclimatic Normals](#)

Soil Water Content – High Ridge SNOTEL



Stations by Network
■ SNOTEL

NRCS Natural Resources Conservation Service
Created 7-07-2020, 12:29 PM PDT

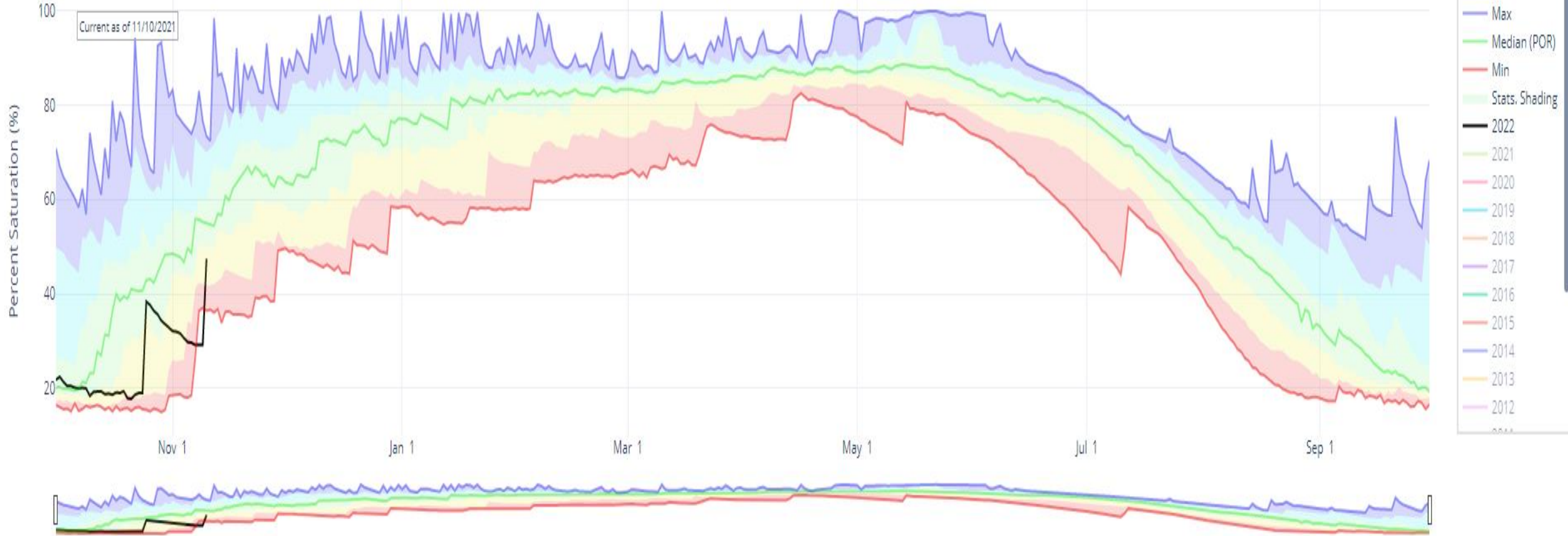
50 km
30 mi

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

DEPTH AVERAGED SOIL SATURATION AT
HIGH RIDGE

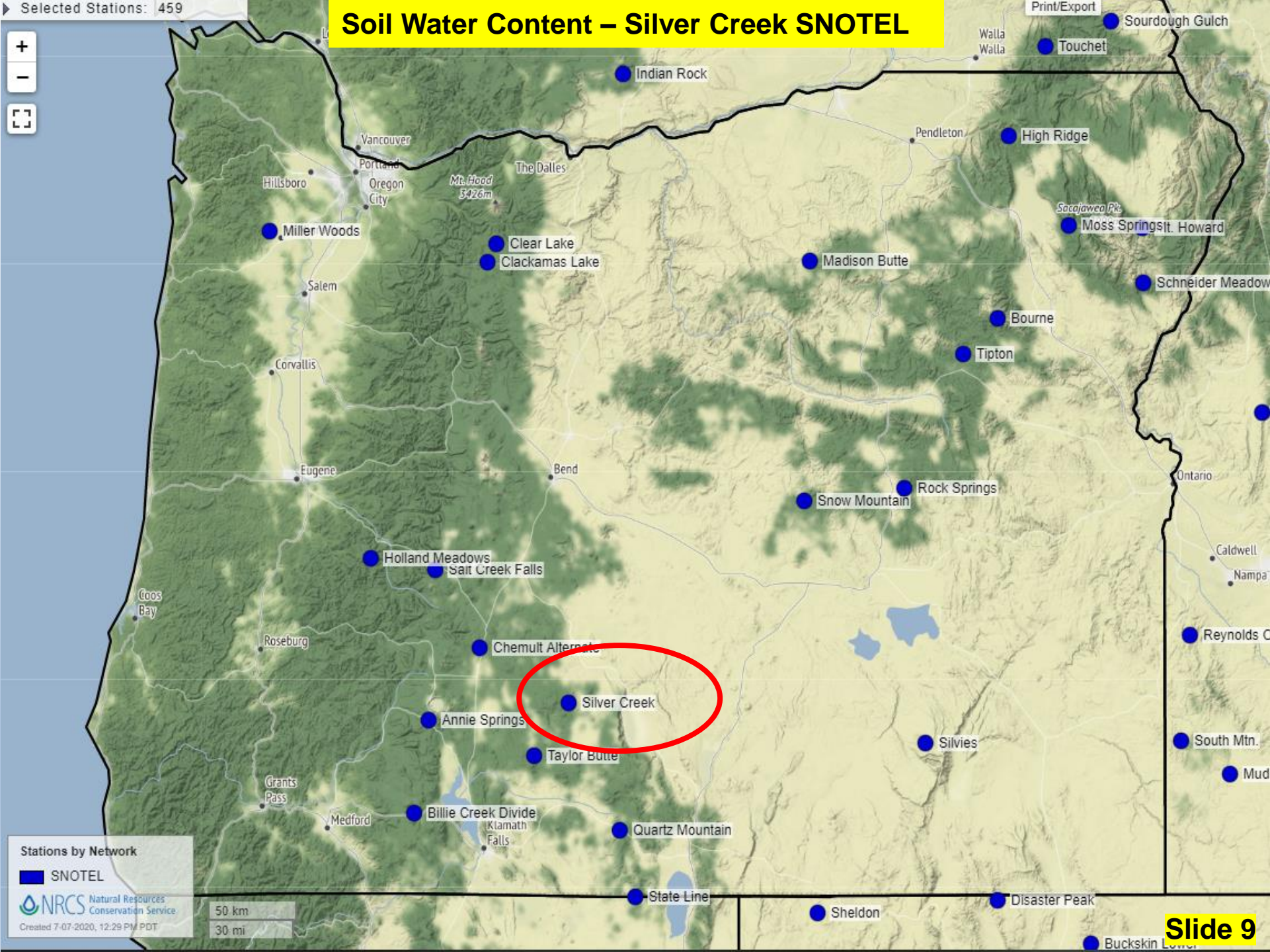
Reset Range

[Link to data: CSV / JSON](#)



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.
For more information visit: [30-Year Hydroclimatic Normals](#)

Soil Water Content – Silver Creek SNOTEL



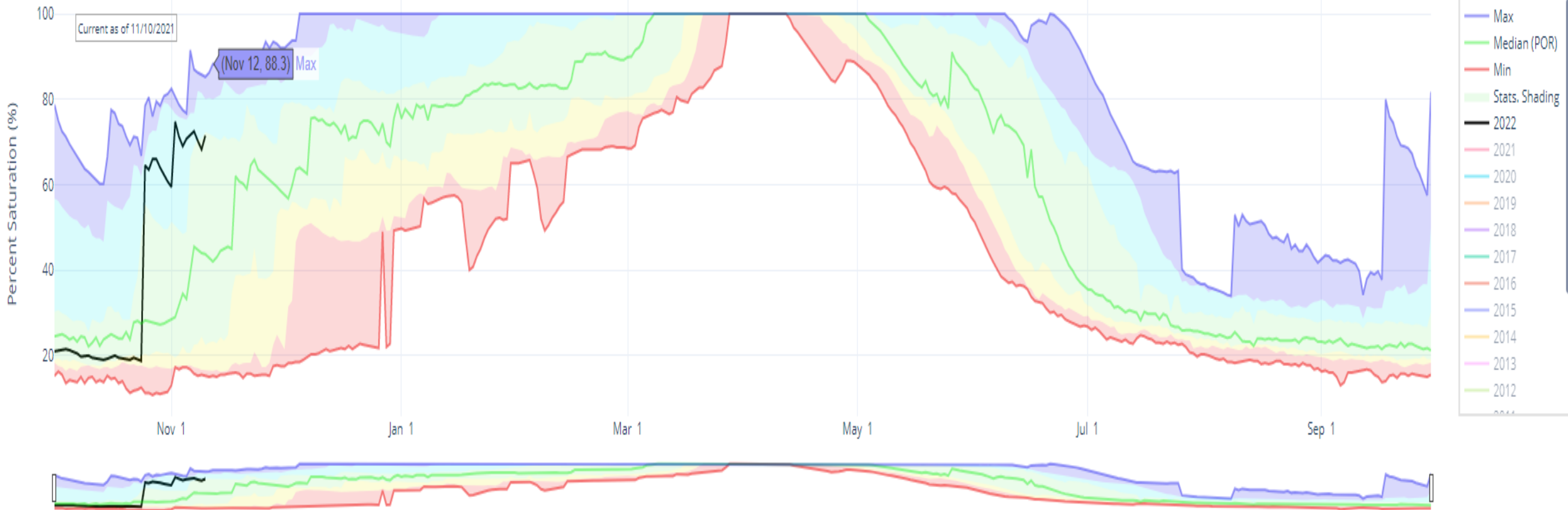
Soil Water Content – Silver Creek SNOTEL (2004-2021)



DEPTH AVERAGED SOIL SATURATION AT SILVER CREEK

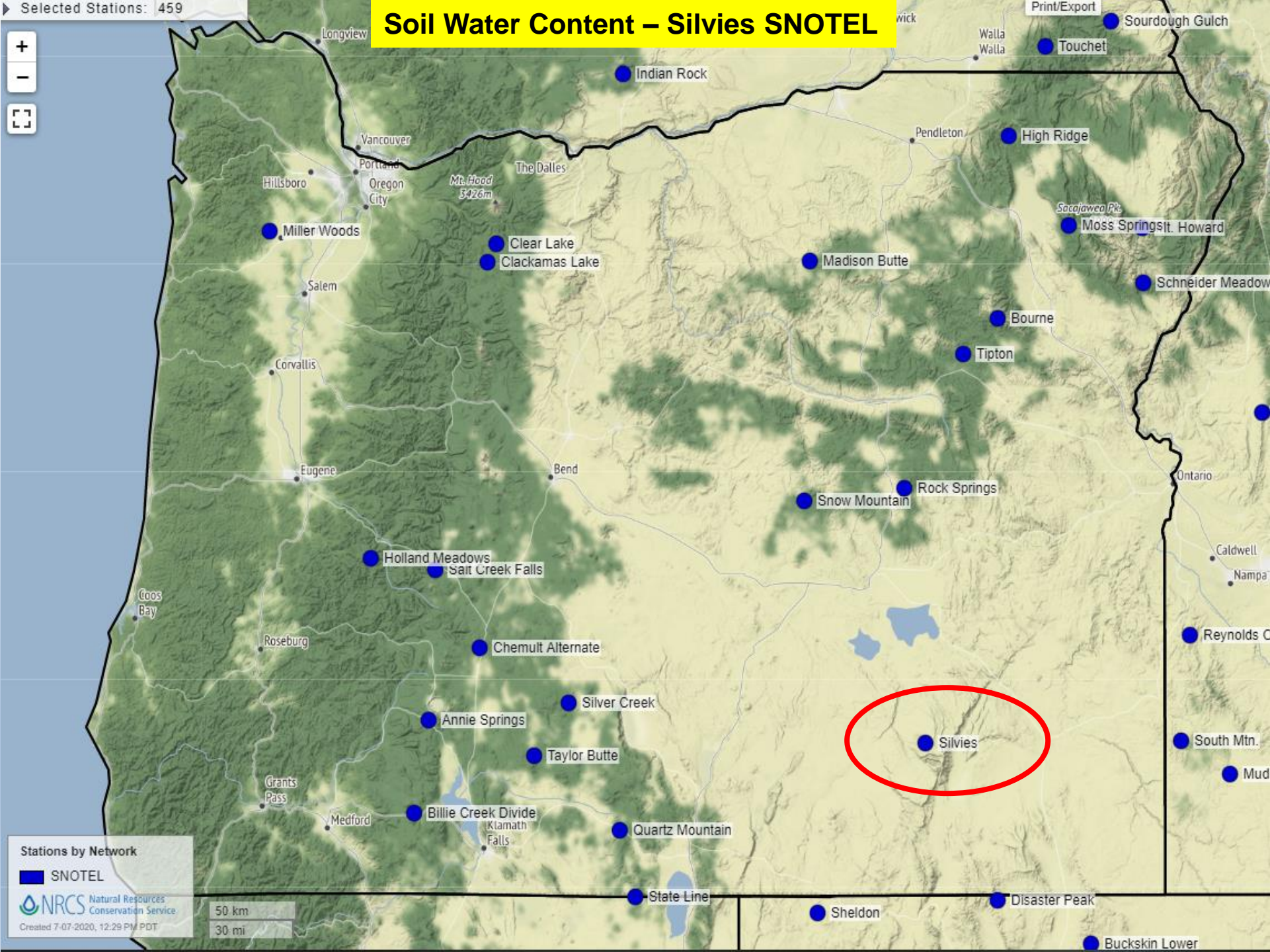
Reset Range

[Link to data: CSV / JSON](#)



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.
For more information visit: [30-Year Hydroclimatic Normals](#)

Soil Water Content – Silvies SNOTEL



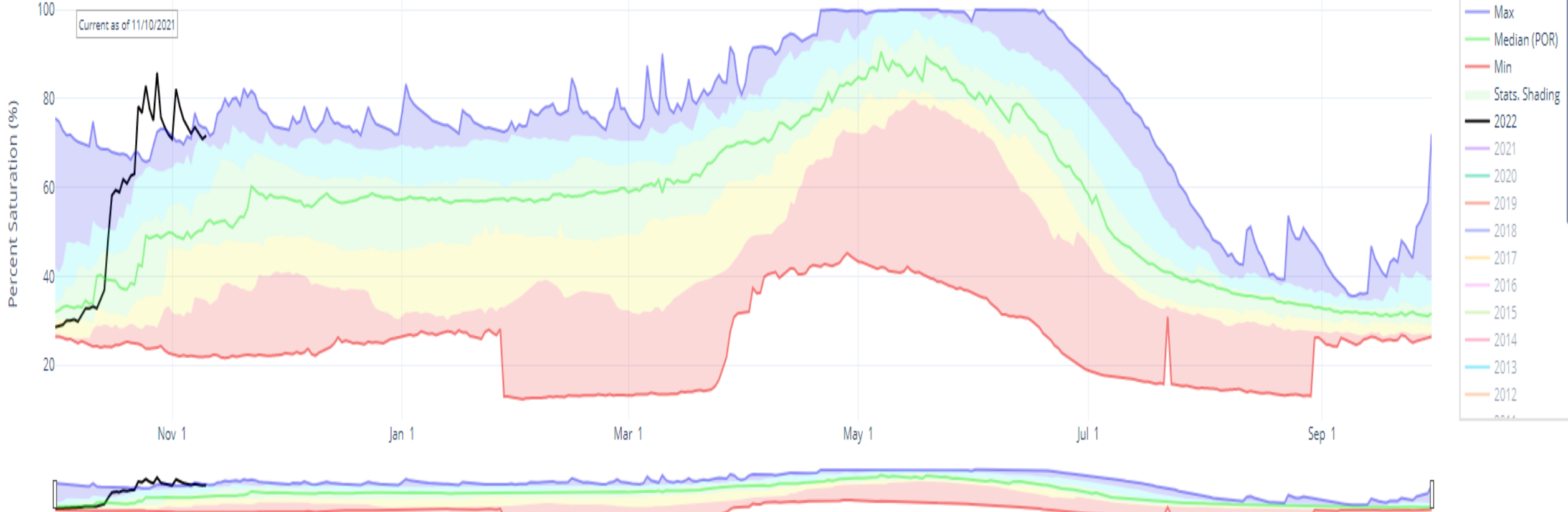
Soil Water Content – Silvies SNOTEL (1997-2021)

DEPTH AVERAGED SOIL SATURATION AT SILVIES

Reset Range

[Link to data: CSV / JSON](#)

Current as of 11/10/2021



Statistical shading breaks at 10th, 30th, 50th, 70th, and 90th Percentiles.

For more information visit: [30-Year Hydroclimatic Normals](#)

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.

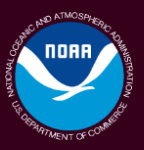


H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA Natural Resources Conservation Service
Oregon State Office
Scott.Oviatt@usda.gov
503-414-3271



November 2021 Update for Precipitation, Temperatures, and Hydrological Conditions

Andy Bryant
Service Hydrologist
NOAA/NWS Portland
Weather Forecast Office



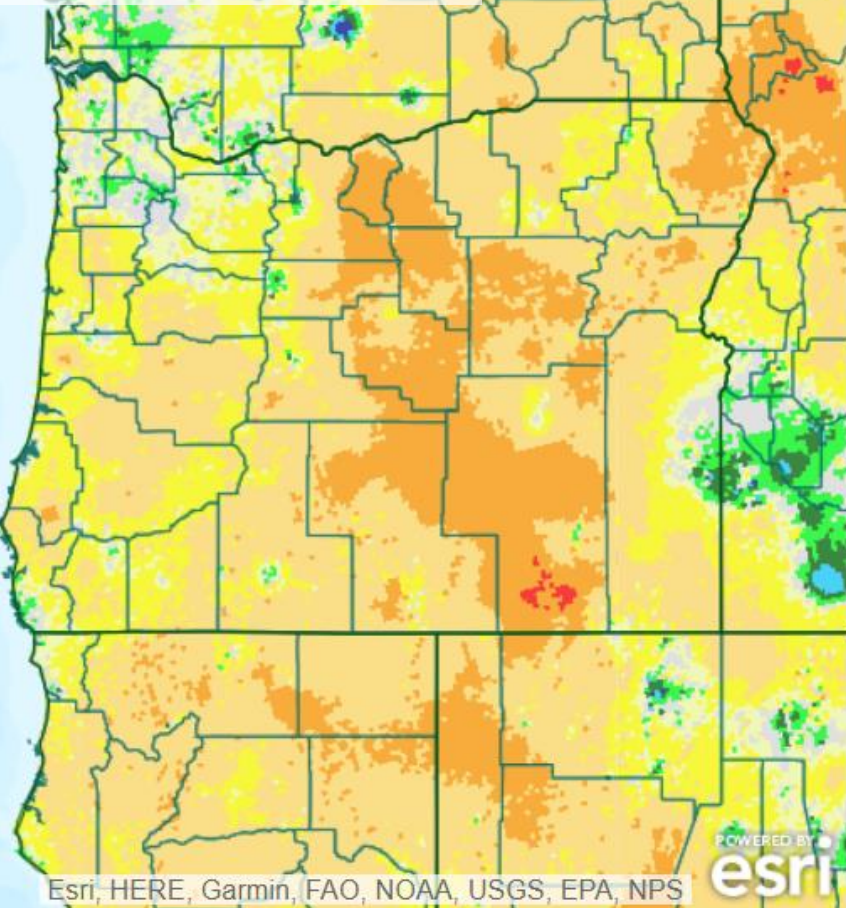
Precipitation

Past 365 Days Percent of Average

Switch Basemap
Reset View



Percent



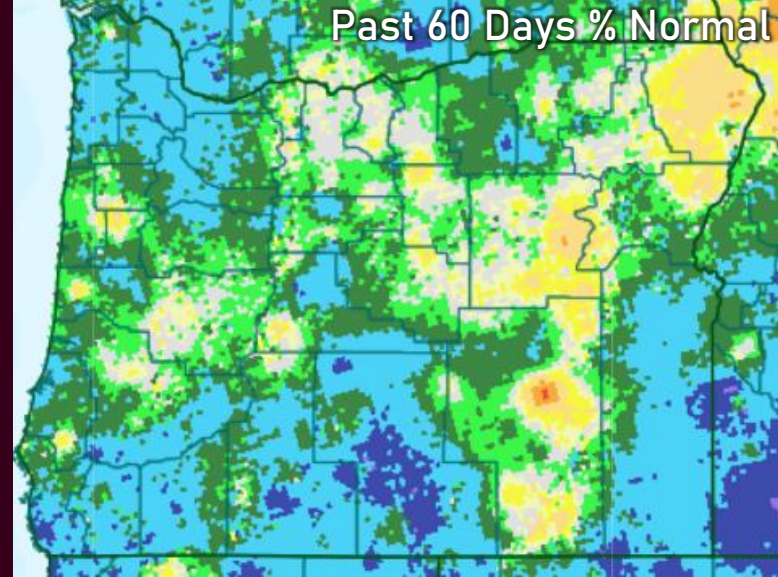
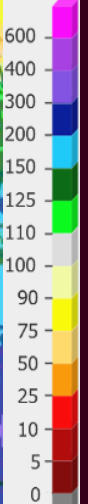
Esri, HERE, Garmin, FAO, NOAA, USGS, EPA, NPS



Past 60 Days % Normal



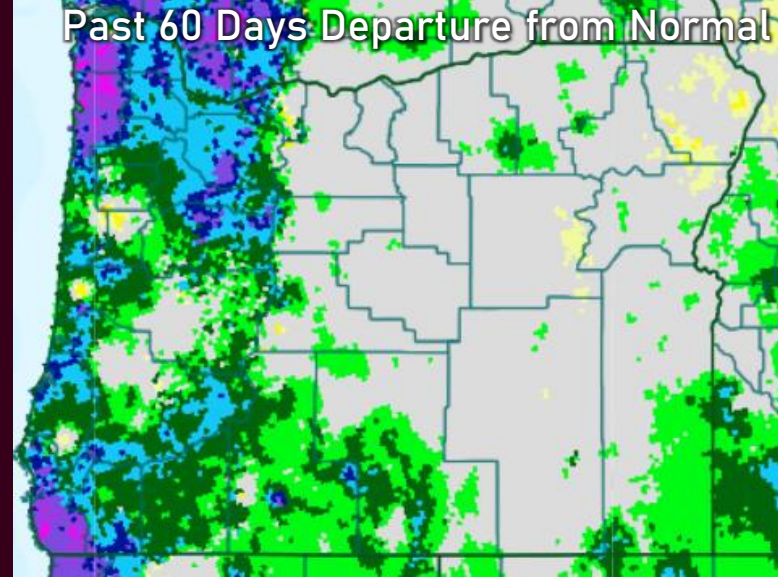
Percent



Past 60 Days Departure from Normal



Inches



Precipitation Data as of Nov 9, 2021

water.weather.gov/precip/index.php

11/18/2021

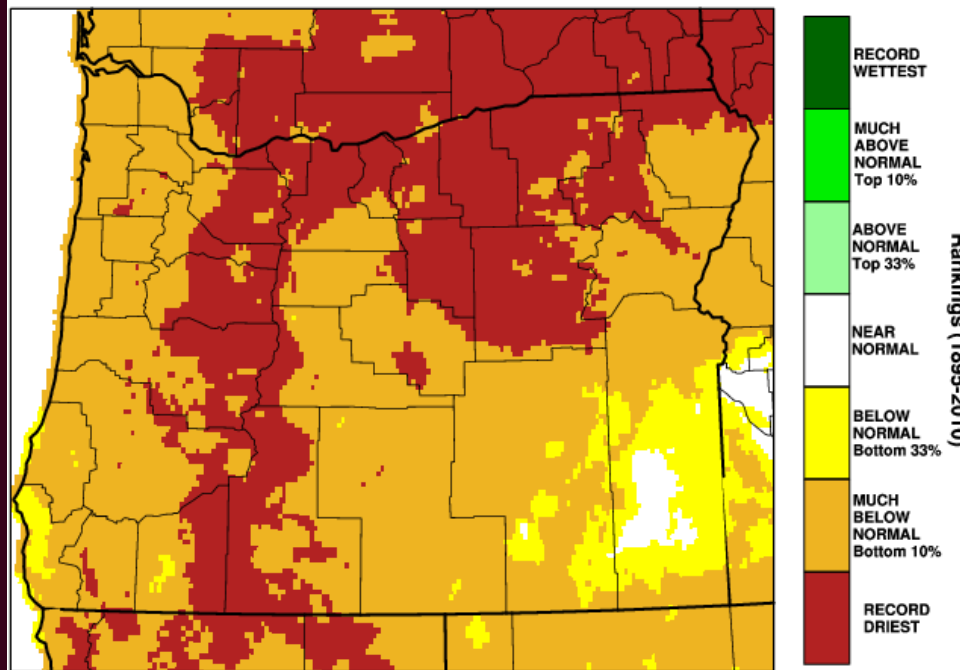
weather.gov/portland & www.nwrfc.noaa.gov

Precipitation – Percentile / Ranking

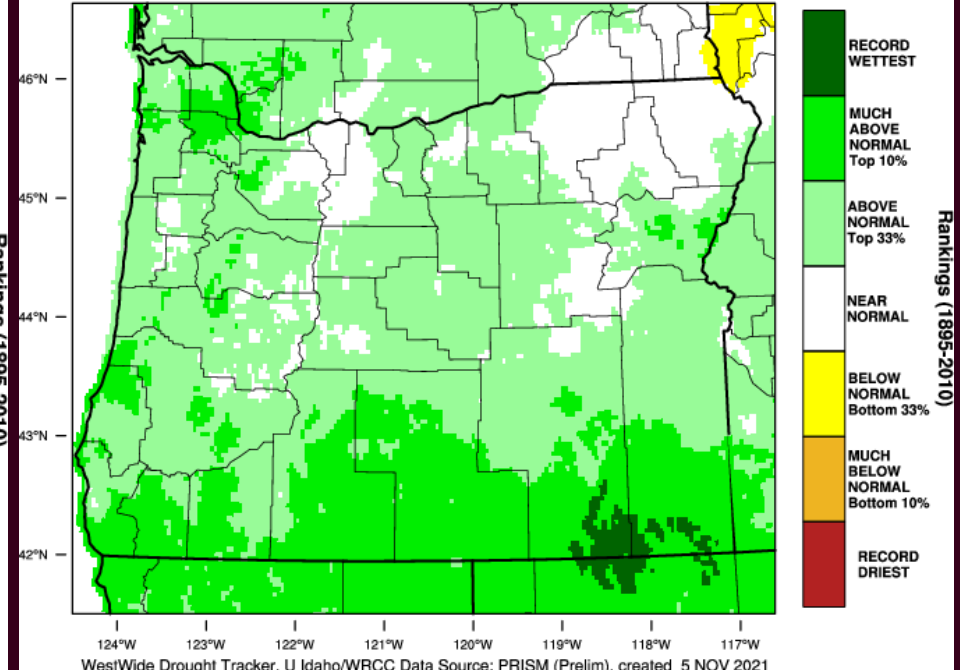
March – August

September – October

Oregon - Precipitation
March-August 2021 Percentile

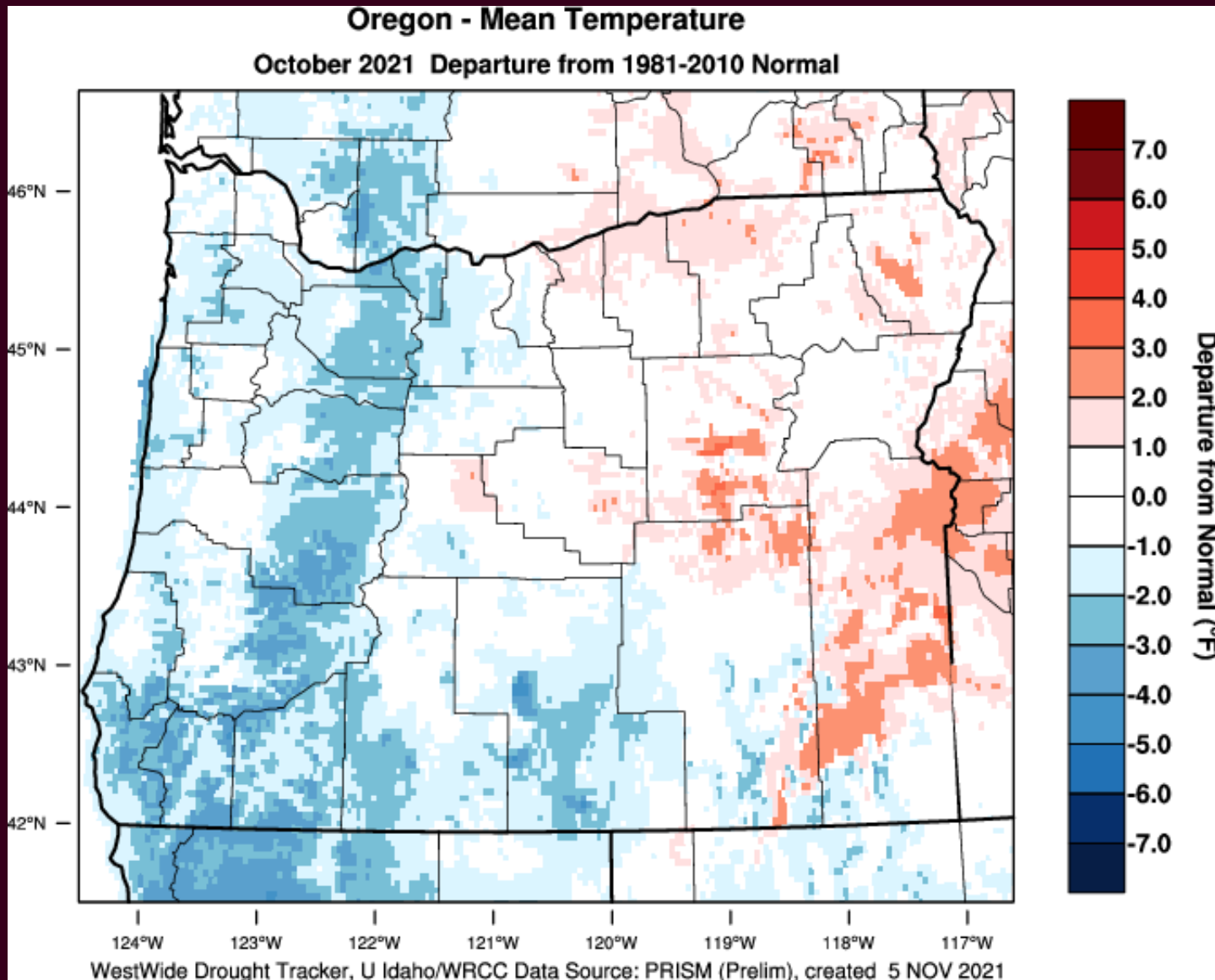


Oregon - Precipitation
September-October 2021 Percentile





Recent Temperatures



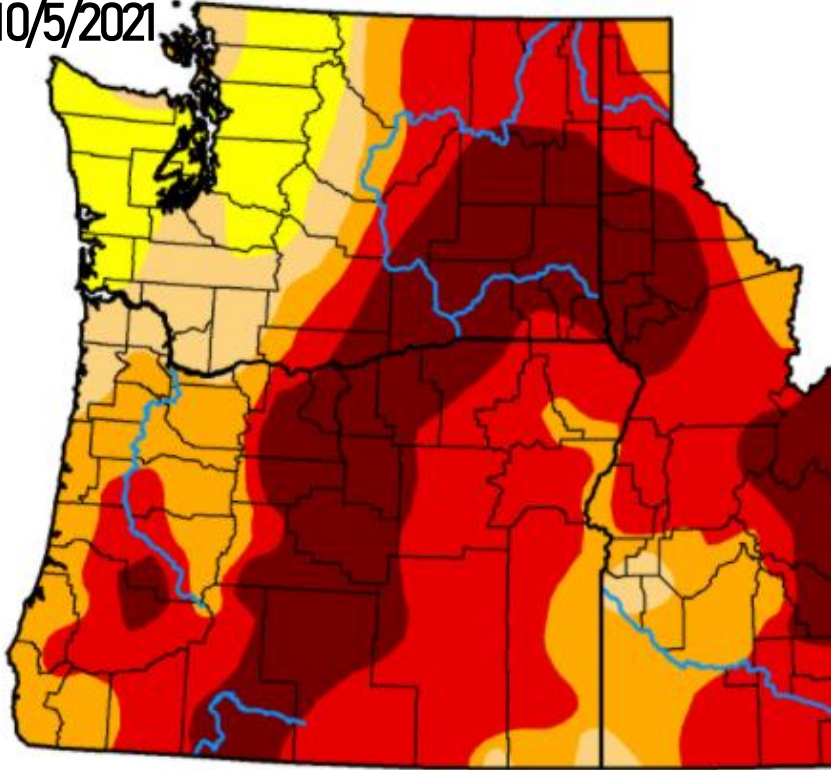
<https://wrcc.dri.edu/wwdt/index.php?region=pnw>

11/8/2021

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

Drought Monitor

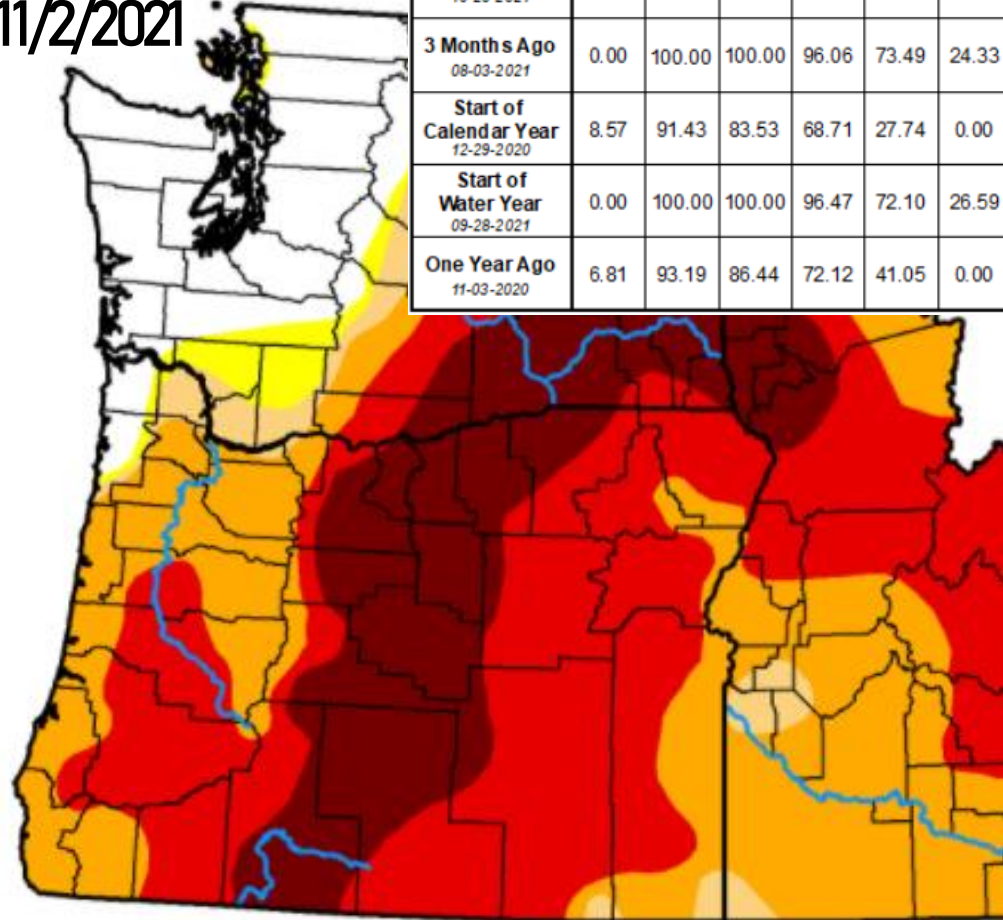
10/5/2021



Intensity:

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

11/2/2021



Oregon Drought Conditions History Table (% Area)

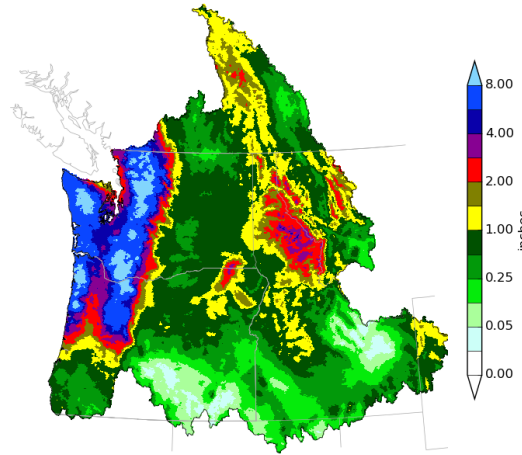
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	1.34	98.66	98.27	96.55	72.11	25.34
Last Week <i>10-26-2021</i>	0.00	100.00	98.66	96.55	72.11	25.34
3 Months Ago <i>08-03-2021</i>	0.00	100.00	100.00	96.06	73.49	24.33
Start of Calendar Year <i>12-29-2020</i>	8.57	91.43	83.53	68.71	27.74	0.00
Start of Water Year <i>09-28-2021</i>	0.00	100.00	100.00	96.47	72.10	26.59
One Year Ago <i>11-03-2020</i>	6.81	93.19	86.44	72.12	41.05	0.00

Mid November Outlook

NWRFC 10-DAY PRECIPITATION

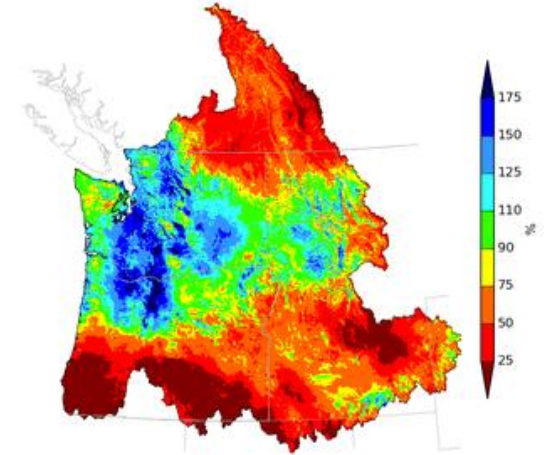
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php

Northwest River Forecast Center
10 Day QPF, Ending 12Z, 11/19/21



Creation Time: Tue Nov 9 21:01:03 UTC 2021

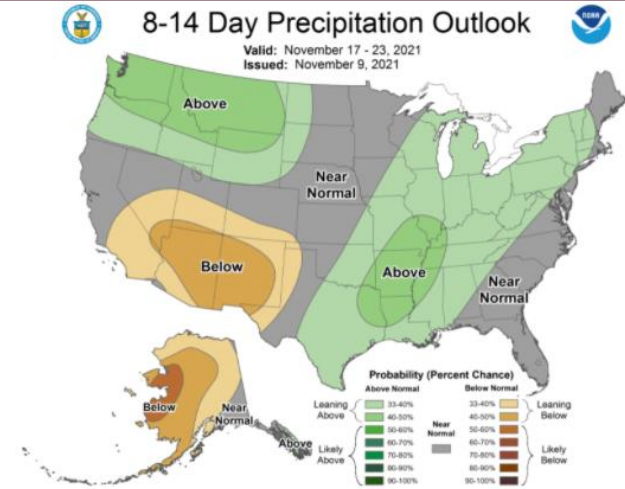
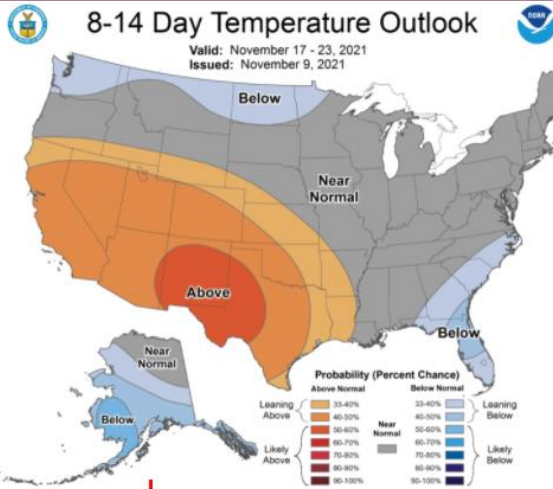
Northwest River Forecast Center
10 Day QPF (Percent of Climatology), Ending 12Z, 11/19/21



Creation Time: Tue Nov 9 21:01:52 UTC 2021

CPC 8 - 14 DAY OUTLOOK

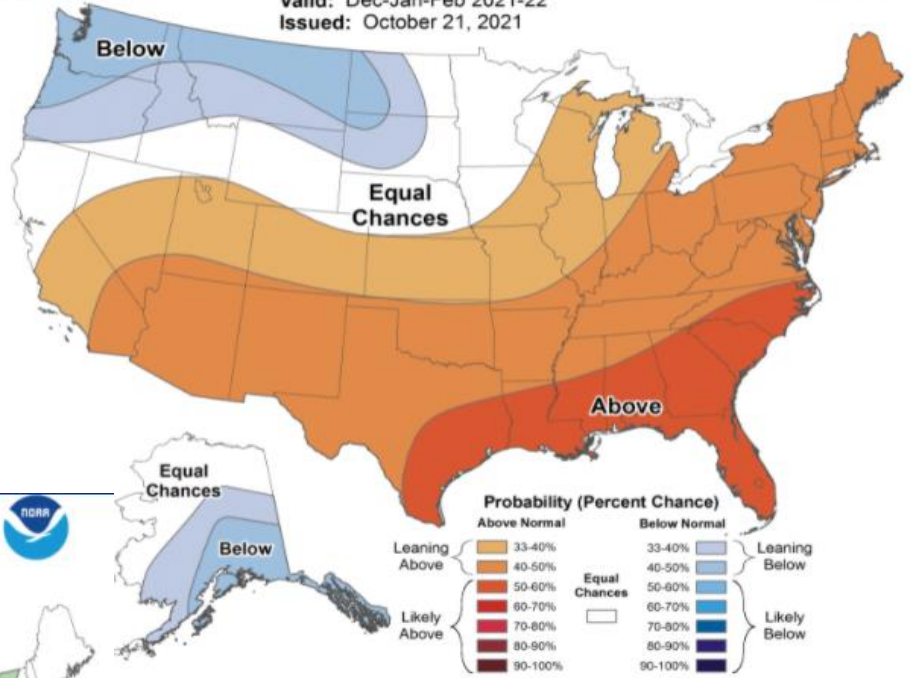
www.cpc.ncep.noaa.gov





Seasonal Temperature Outlook

Valid: Dec-Jan-Feb 2021-22
Issued: October 21, 2021



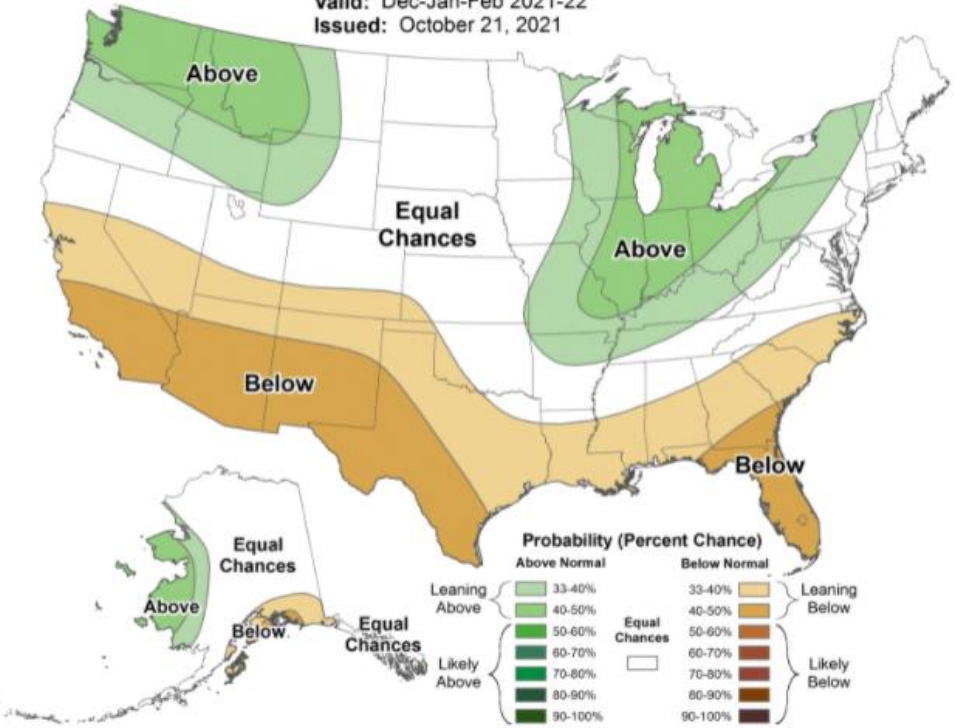
Climate Prediction Center Outlook Dec-Jan-Feb 2021-22

www.cpc.ncep.noaa.gov

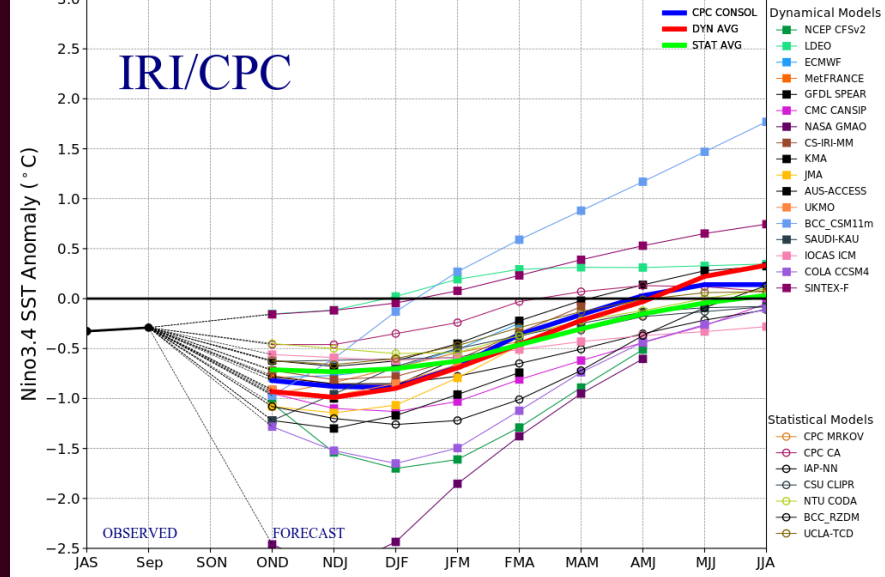


Seasonal Precipitation Outlook

Valid: Dec-Jan-Feb 2021-22
Issued: October 21, 2021



Model Predictions of ENSO from Oct 2021





Northwest River Forecast Center Observed Water Year Natural Runoff



River and Hydrology

Water Supply

Observations

Weather Forecasts

Climate

NWRFC

New RFC Normals for 1991-2020

(Posted: Wednesday, October 27, 2021)

NWRFC updated our 30 year runoff and streamflow normals for the 1991-2020 period. Please see this [link](#) for additional information.

Home

Zoom Out

--- Quick Zooms ---

ESP Issued: 2021-11-09

Ensemble Date: 2021-11-09

Permalink

Search

Enter NWS ID:

GO

Map Overlays

- NWRFC Boundary
- NWRFC Basins
- NWS HSAs
- Counties

ESP Natural Forecast

- Natural Status
- Natural % of Normal
- Rank (ASC)
- Rank (DESC)
- Exceedance (%)
- Percentile (%)

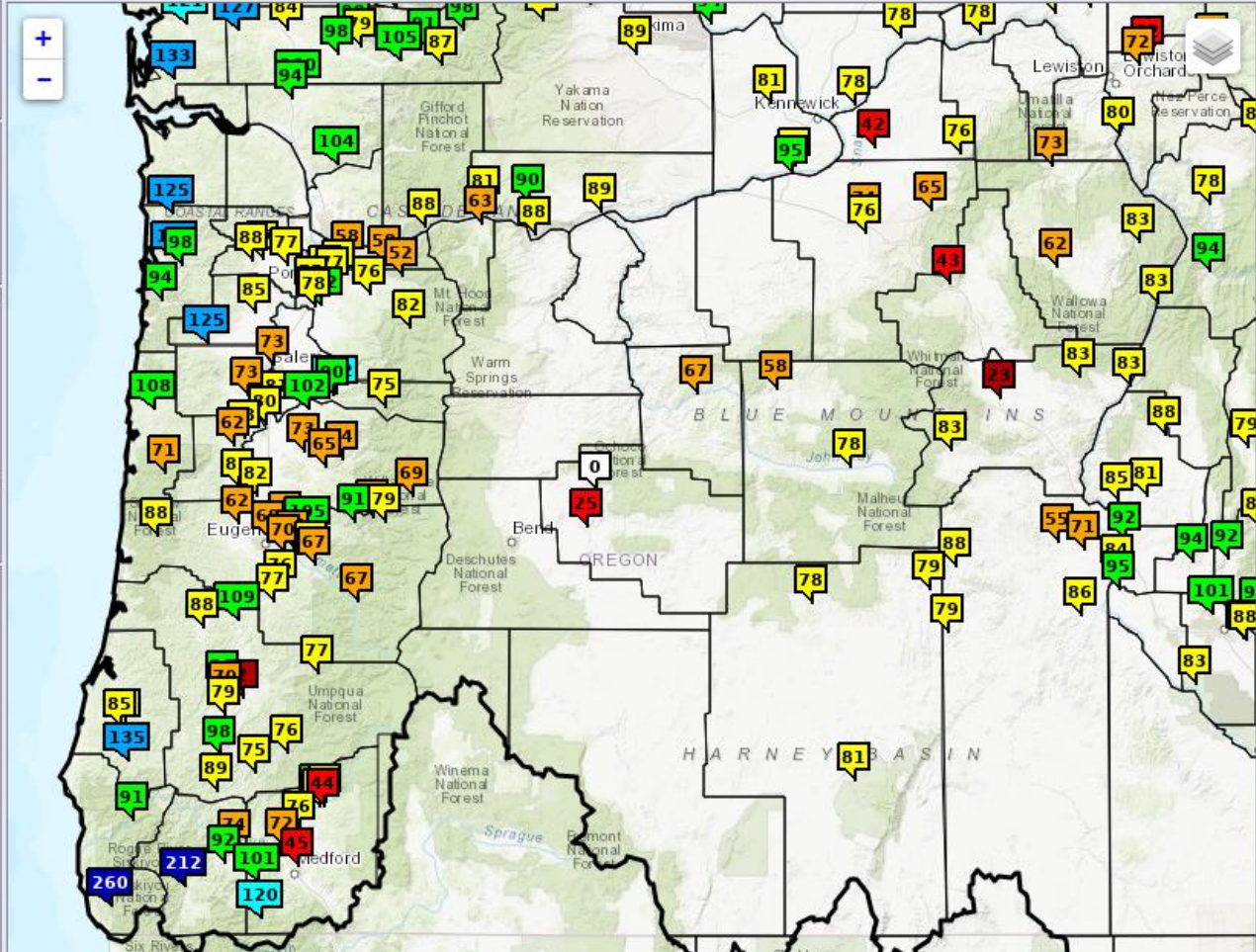
Natural Runoff

- Runoff Status
- Runoff % of Normal

Natural Runoff

Period: Oct thru Curr
(% Normal)

- No Normal, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175



Observed Runoff WY2022 Thus Far



Northwest River Forecast Center

ESP Natural Forecast



River and Hydrology

Water Supply

Observations

Weather Forecasts

Climate

NWRFC

New RFC Normals for 1991-2020

(Posted: Wednesday, October 27, 2021)

NWRFC updated our 30 year runoff and streamflow normals for the 1991-2020 period. Please see this [link](#) for additional information.

Home

Zoom Out

--- Quick Zooms ---

ESP Issued: 2021-11-09

Ensemble Date: 2021-11-09

Permalink

Search

Enter NWS ID:

GO

Map Overlays

- NWRFC Boundary
- NWRFC Basins
- NWS HSAs
- Counties

ESP Natural Forecast

- Natural Status
- Natural % of Normal
- Rank (ASC)
- Rank (DESC)
- Exceedance (%)
- Percentile (%)

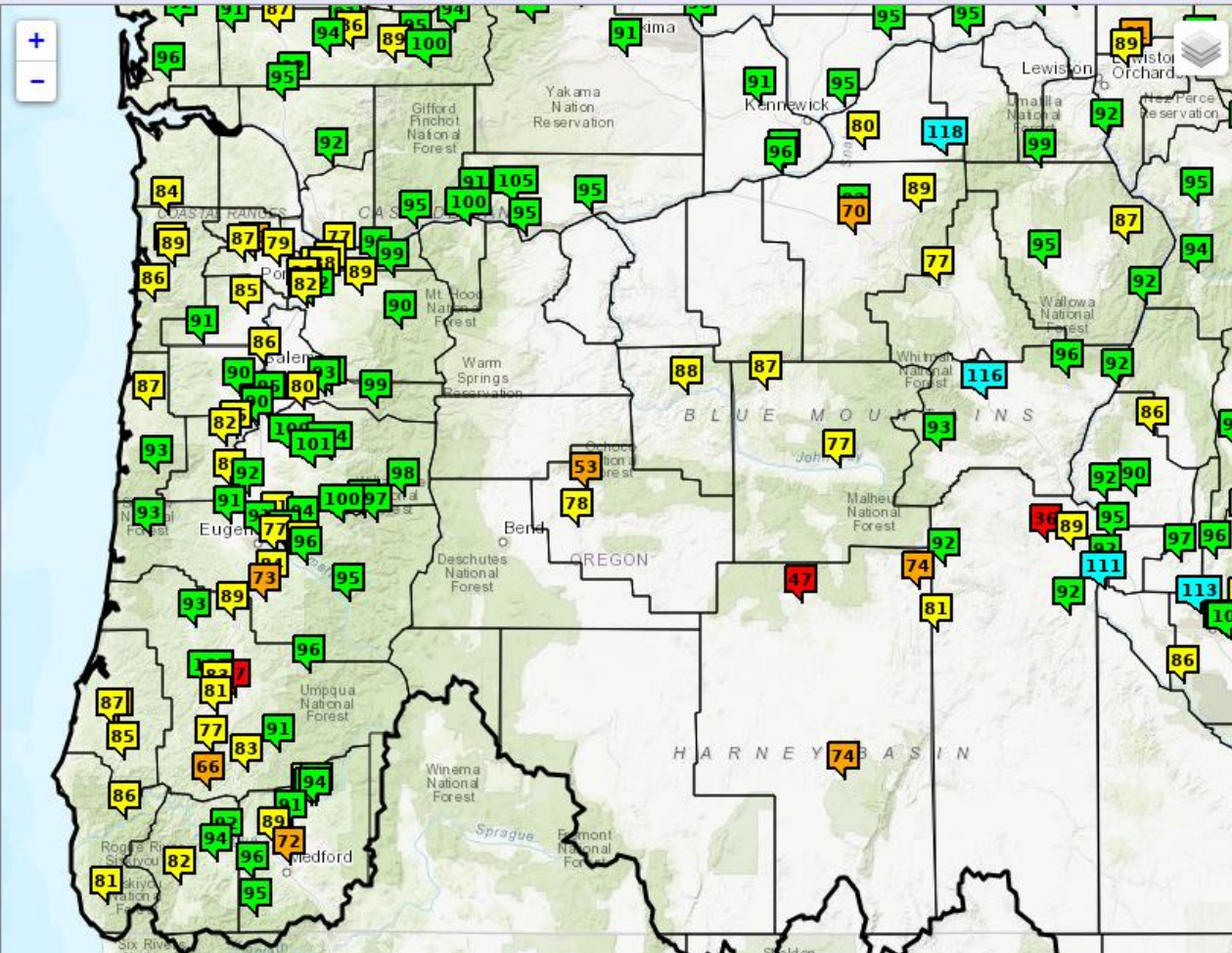
Natural Runoff

- Runoff Status
- Runoff % of Normal

ESP Natural Forecast

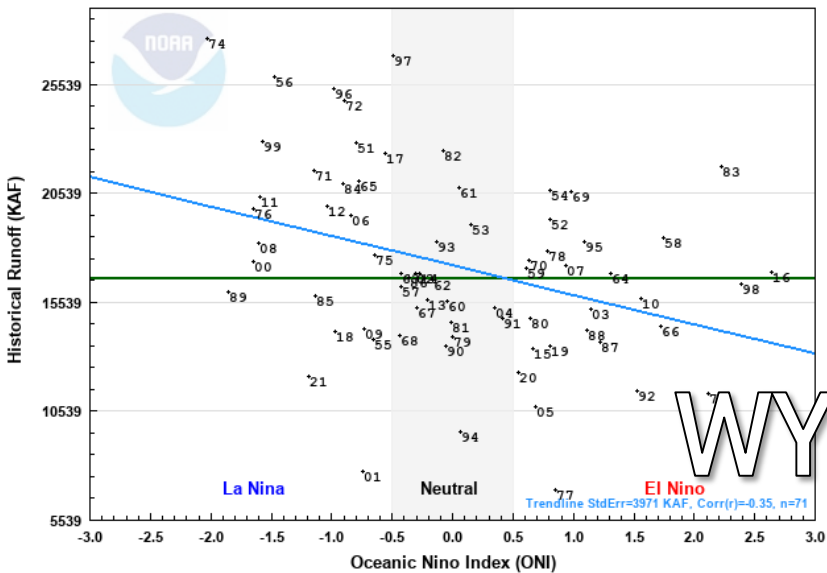
Period: APR-SEP
Forecast (% Normal)

- No Normal, No Data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175

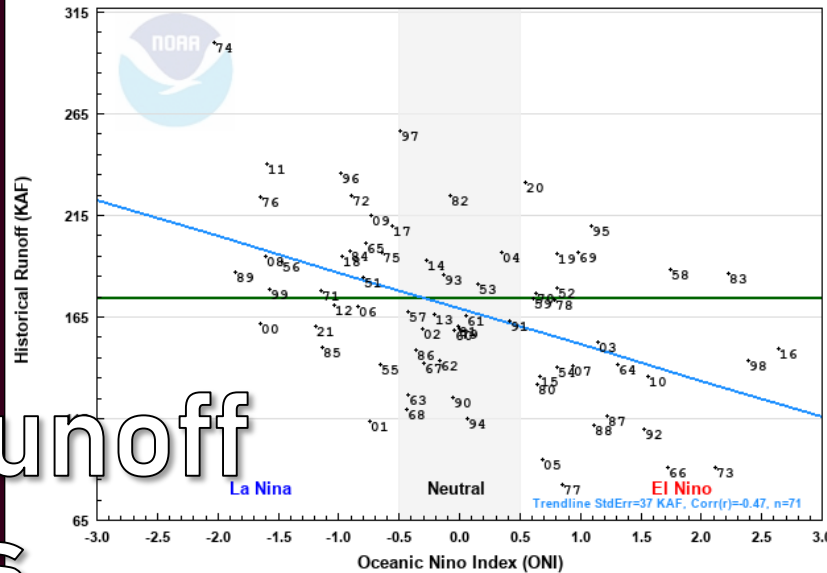


April –
September
2022
Forecast
Volume
Percent of
Normal

NOV-JAN Oceanic Nino Index vs OCT-SEP Historical Natural Runoff
(SLM03) WILLAMETTE - AT SALEM (1951-2021)

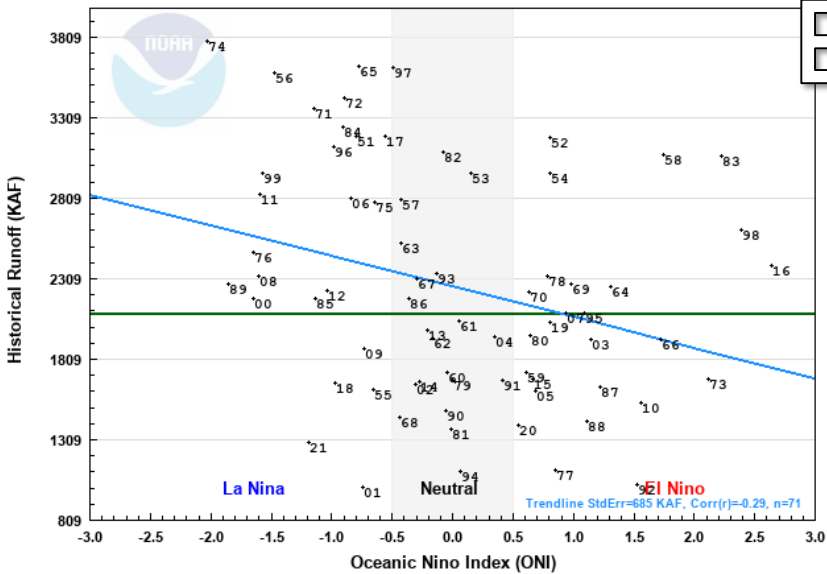


NOV-JAN Oceanic Nino Index vs OCT-SEP Historical Natural Runoff
(GIB03) UMATILLA - NEAR GIBBON (1951-2021)

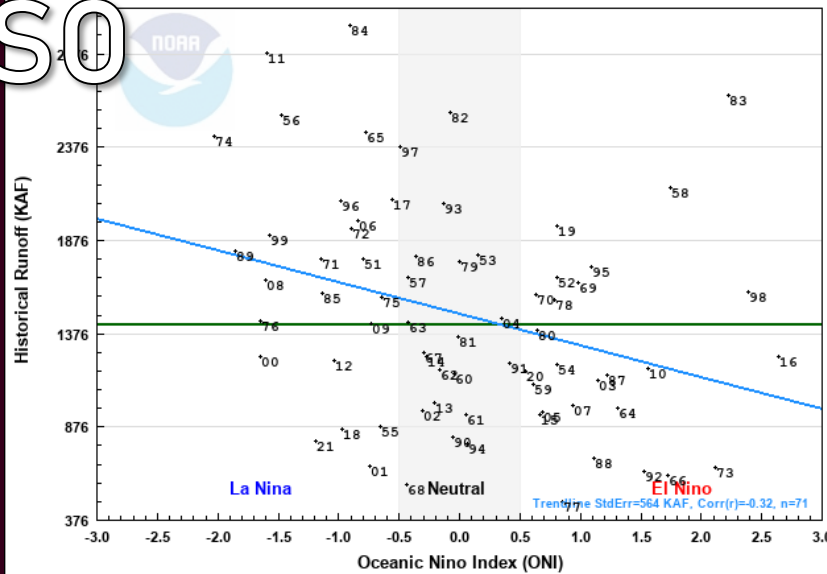


WY Runoff vs. ENSO

NOV-JAN Oceanic Nino Index vs OCT-SEP Historical Natural Runoff
(RYG03) ROGUE - AT RAYGOLD (1951-2021)



NOV-JAN Oceanic Nino Index vs OCT-SEP Historical Natural Runoff
(SERO3) JOHN DAY - AT SERVICE CK (1951-2021)



+ Runoff for Given Water Year - ONI vs Runoff Trendline - 30 Year Normal (1981-2010)

+ Runoff for Given Water Year - ONI vs Runoff Trendline - 30 Year Normal (1981-2010)

Latest Available ONI Index for NDJ:12/01/2020

Created: 11/09/2021 01:57 PST

Latest Available ONI Index for NDJ:12/01/2020

Created: 11/09/2021 02:00 PST



Oregon Water Supply Availability Meeting

November 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

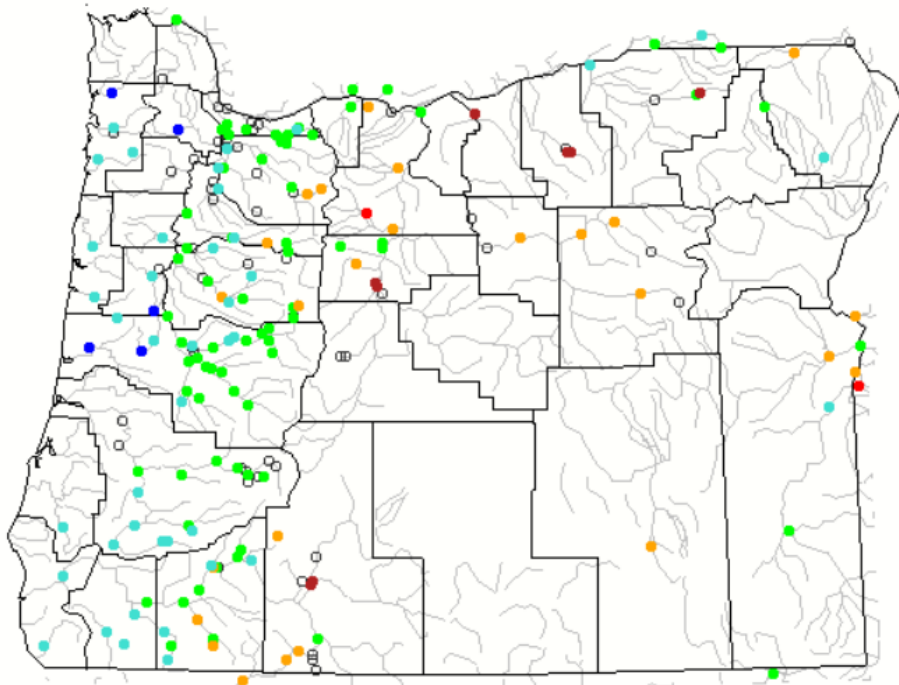
Streamflow Conditions

Oregon Streamflow Maps (as compared to Historical Record)

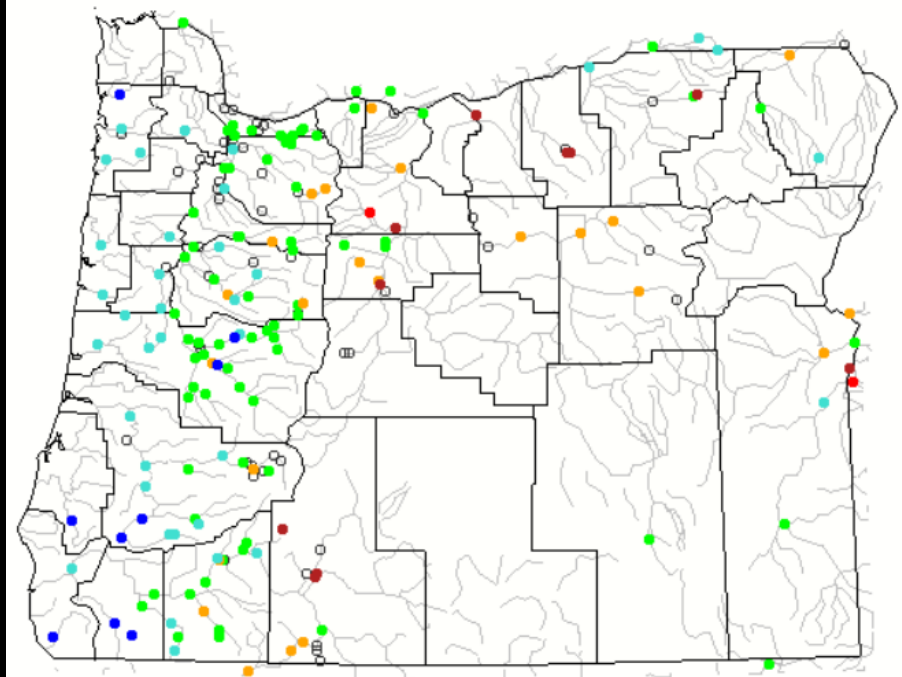
Daily

7-day Average

Monday, November 08, 2021



Monday, November 08, 2021

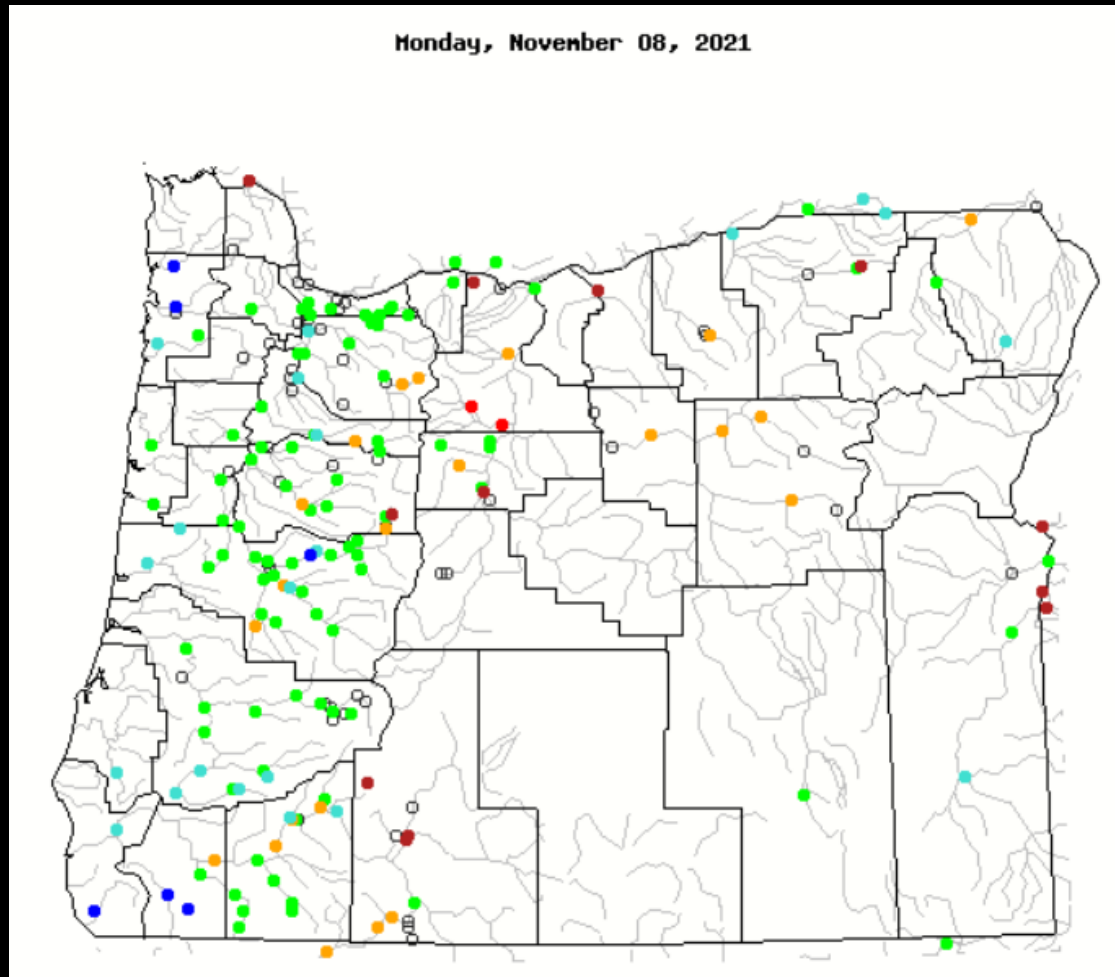


Explanation - Percentile classes

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

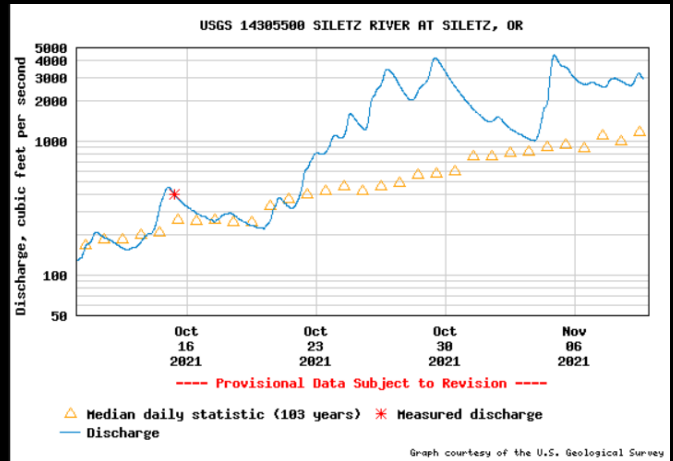
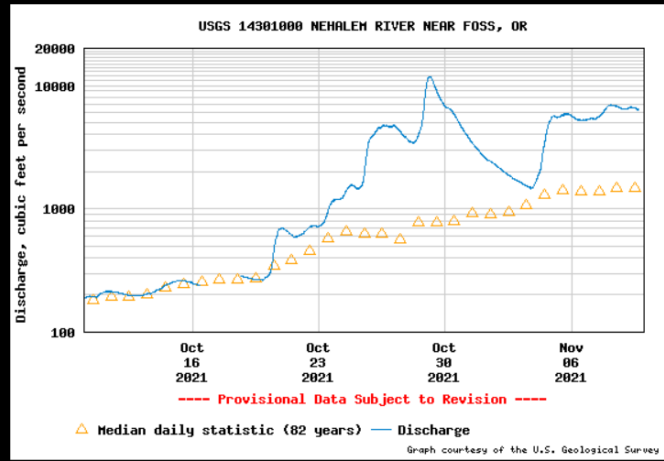
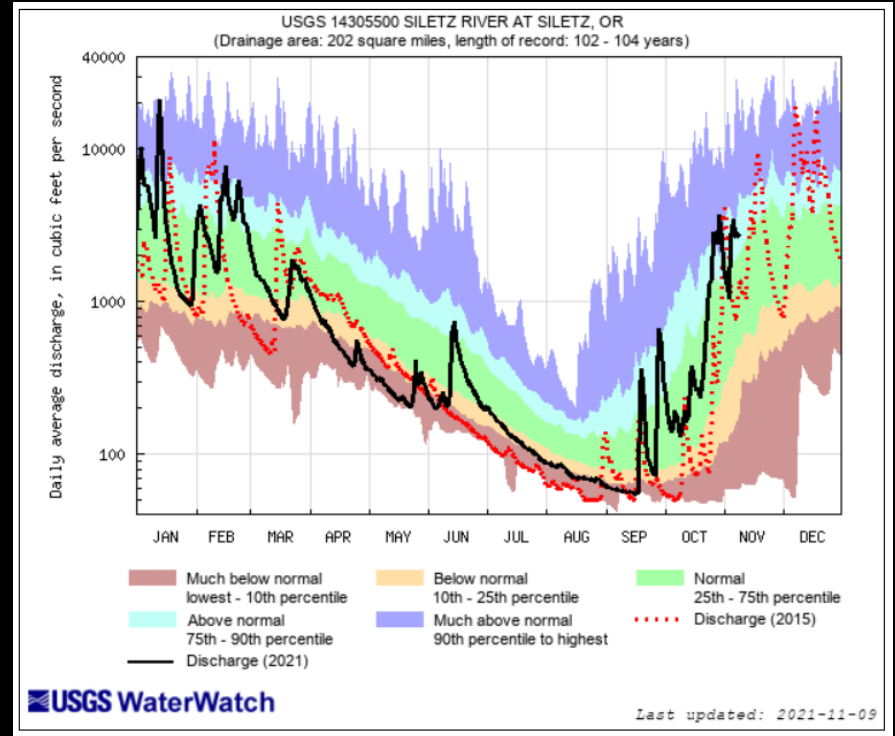
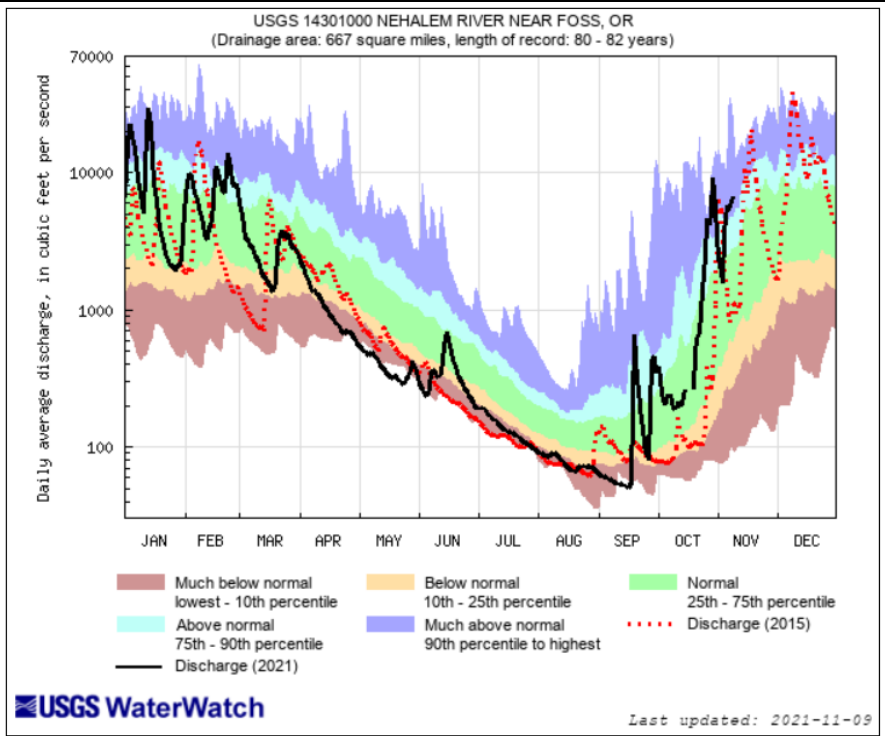
Streamflow Conditions

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

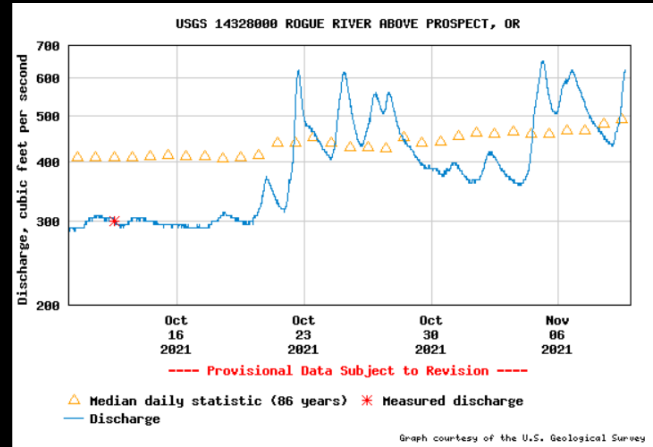
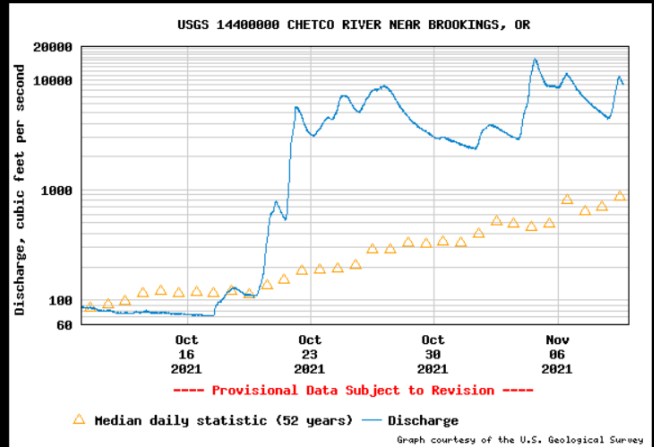
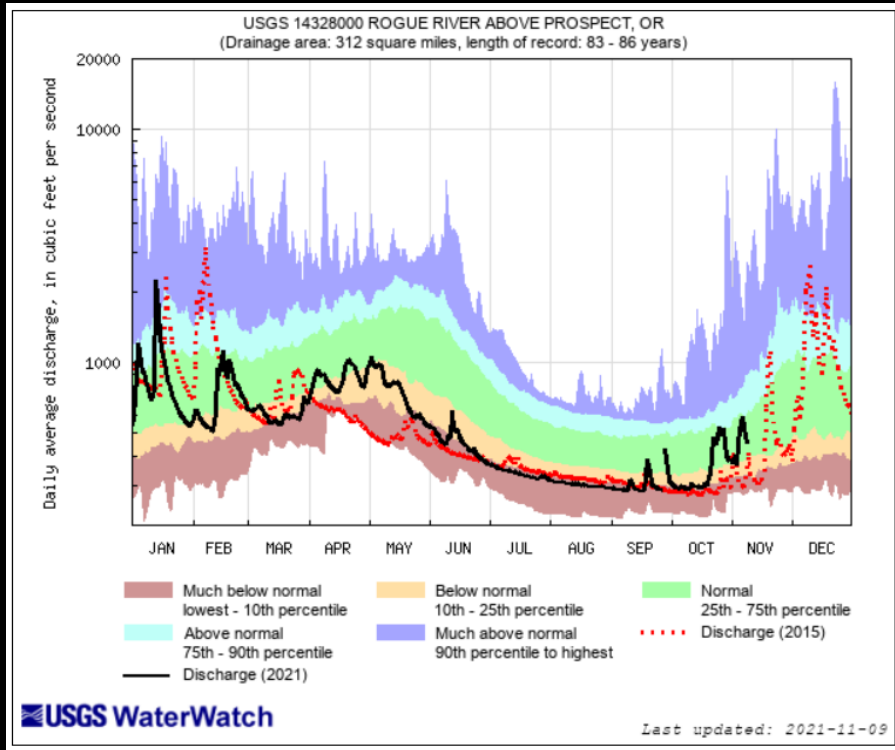
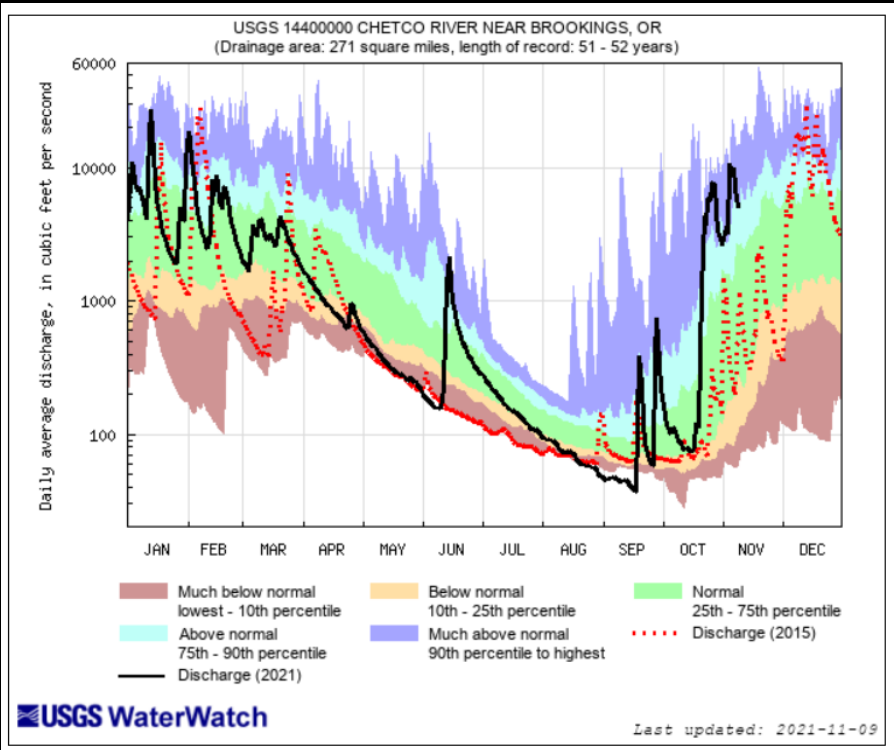


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

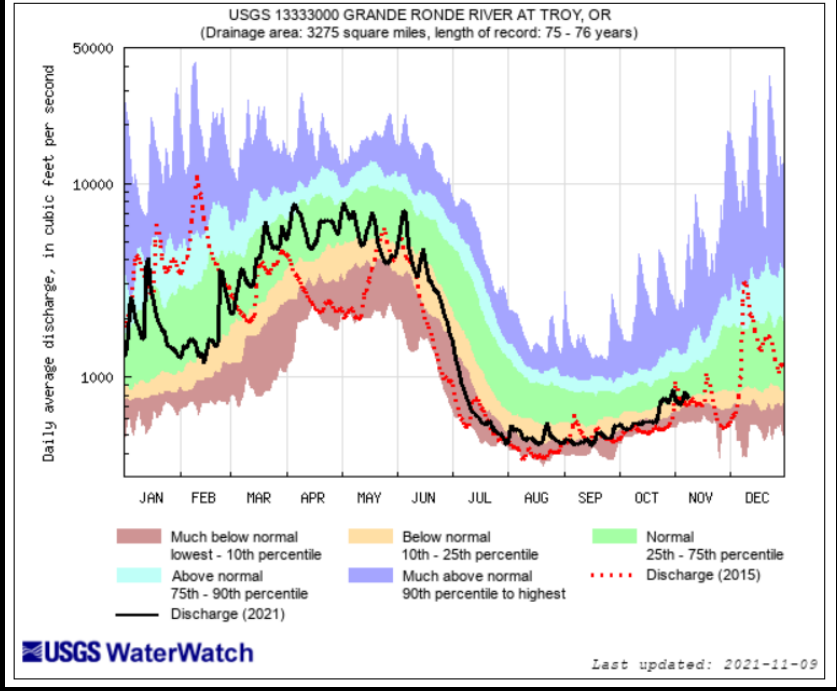
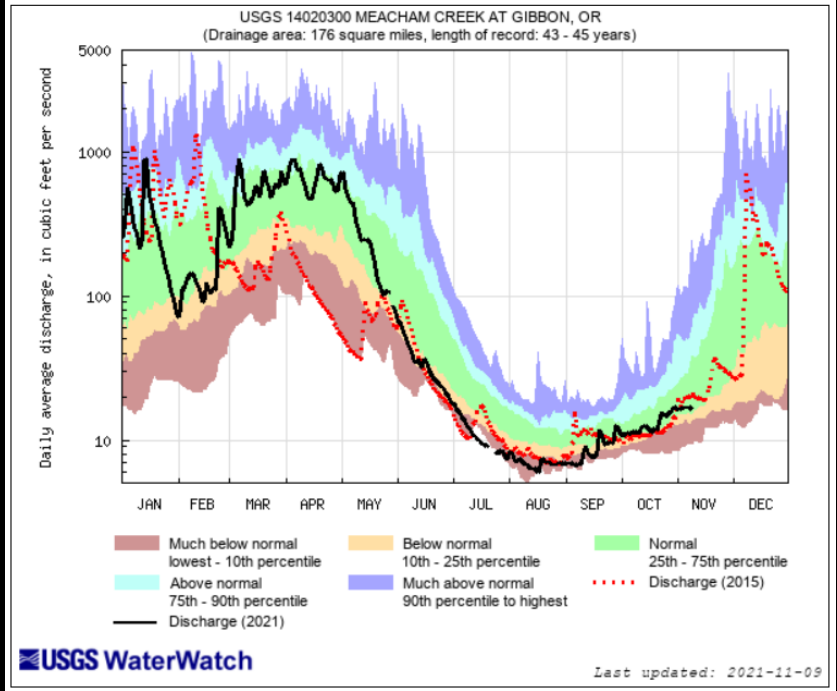
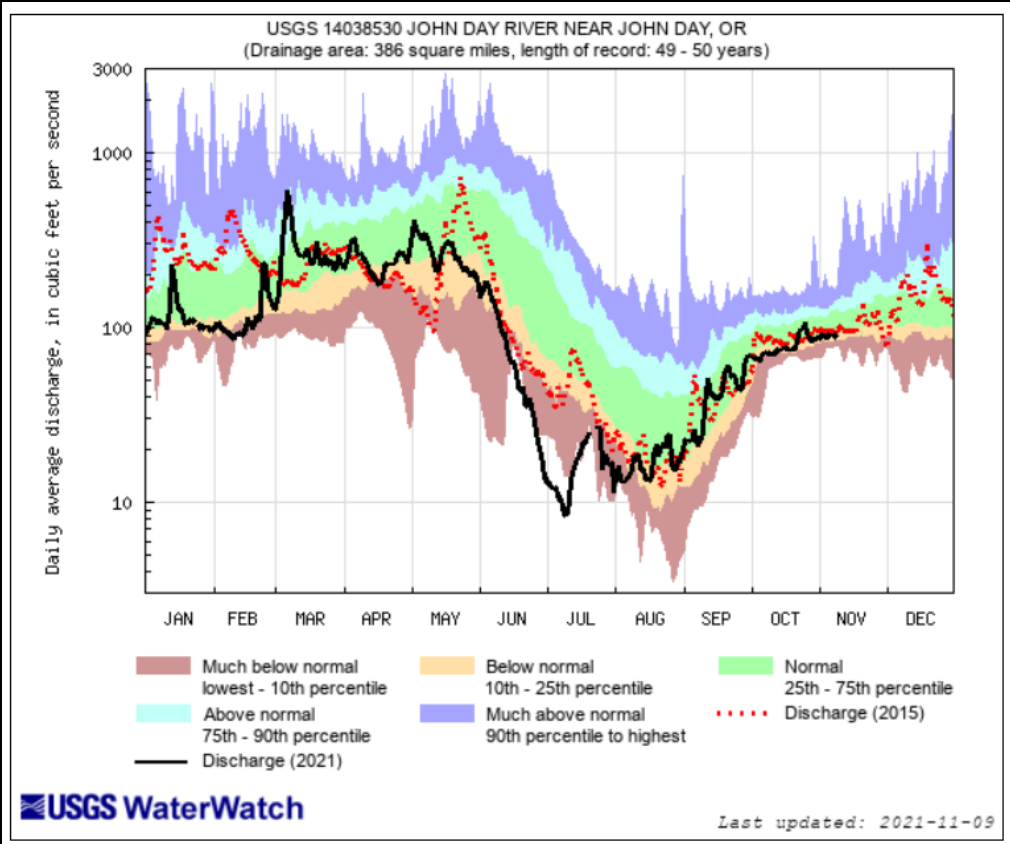
Northwestern OR



Southwestern OR



Northeastern OR

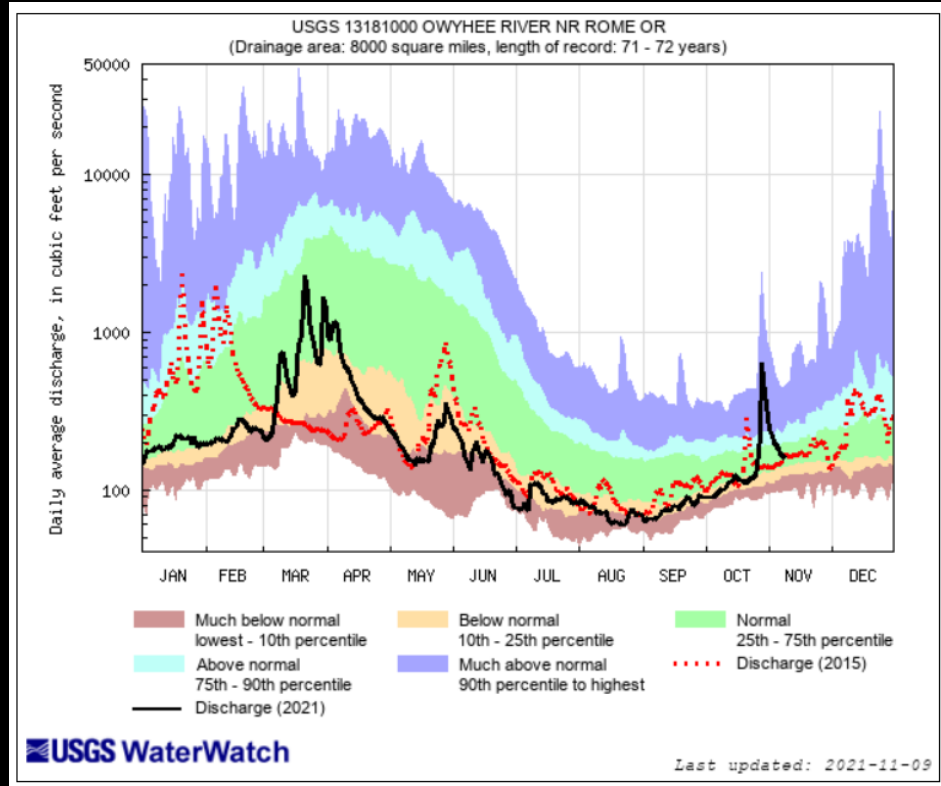
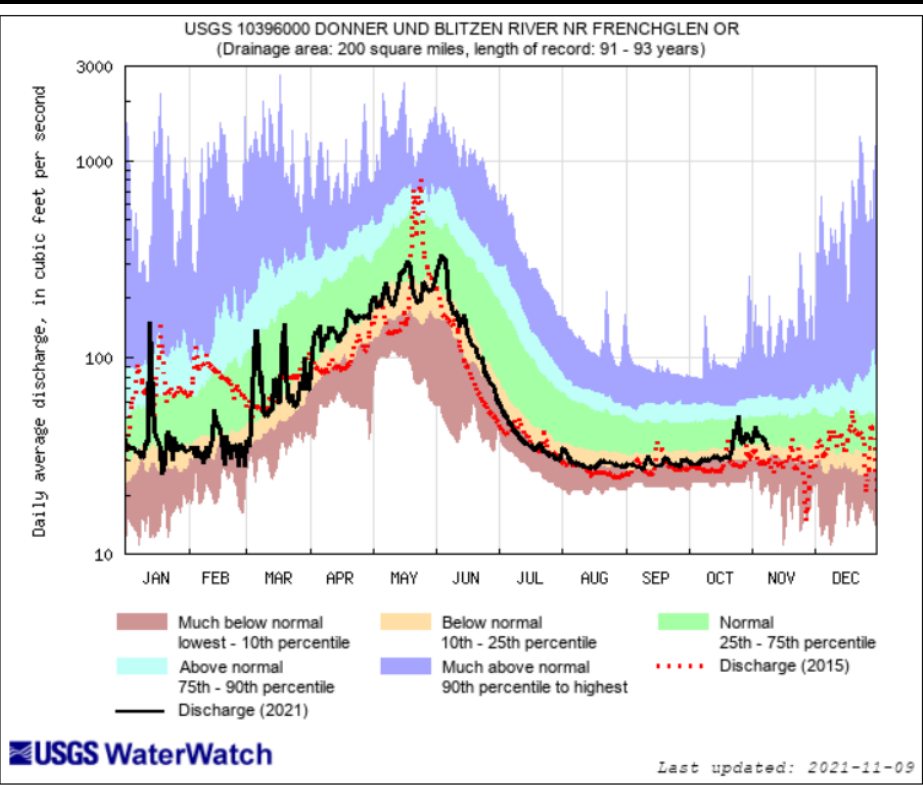
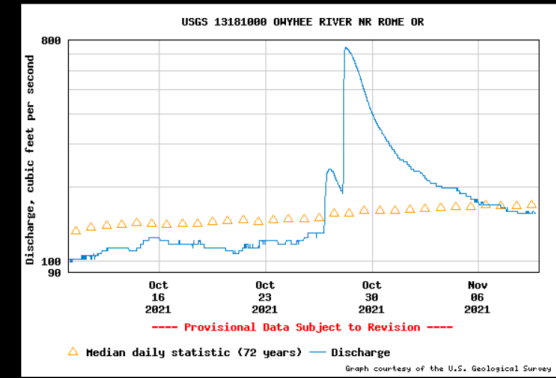


Explanation - Percentile classes

lowest-10th percentile	10-24	25-75	76-90	90th percentile -highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	



Southeastern OR

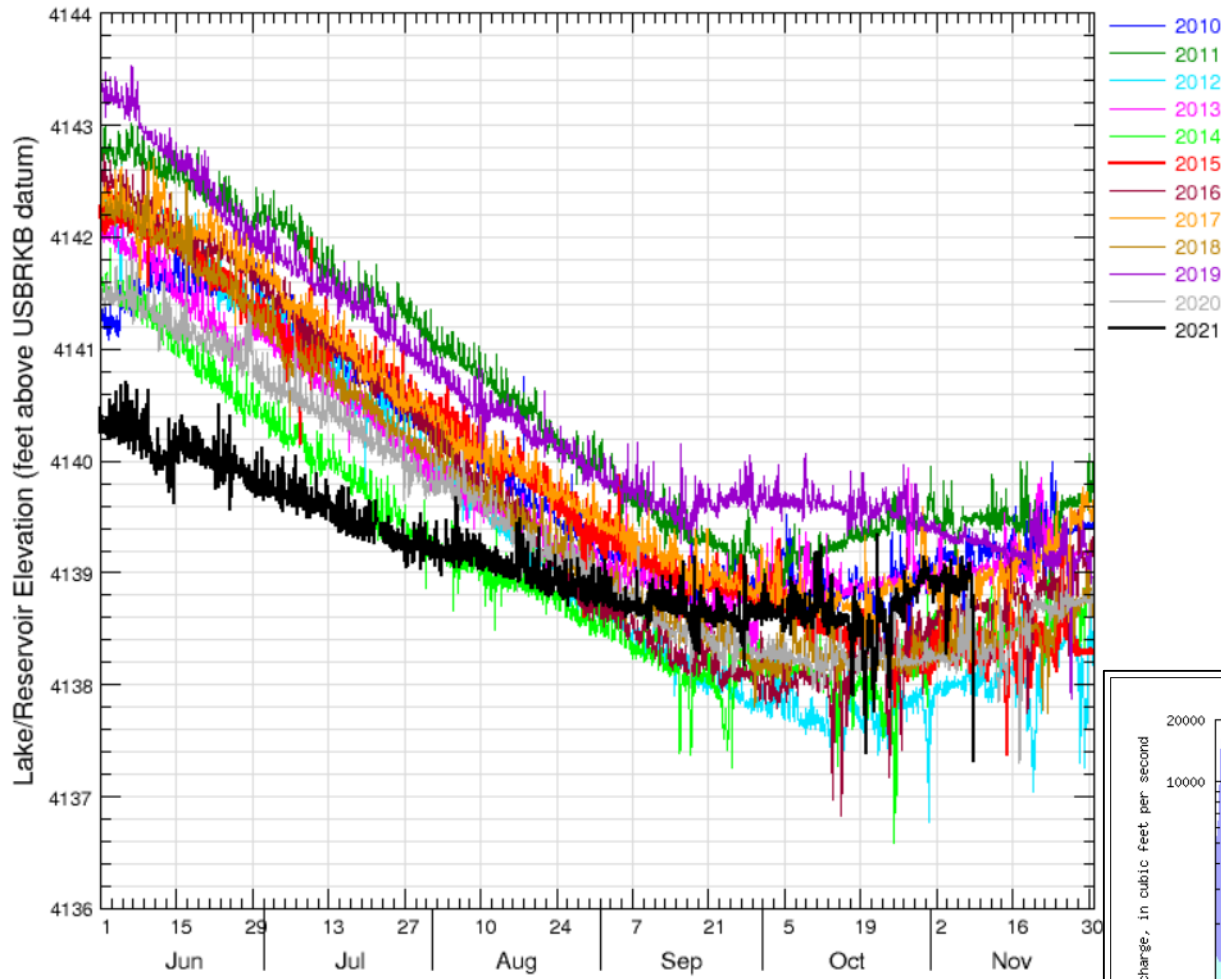


Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

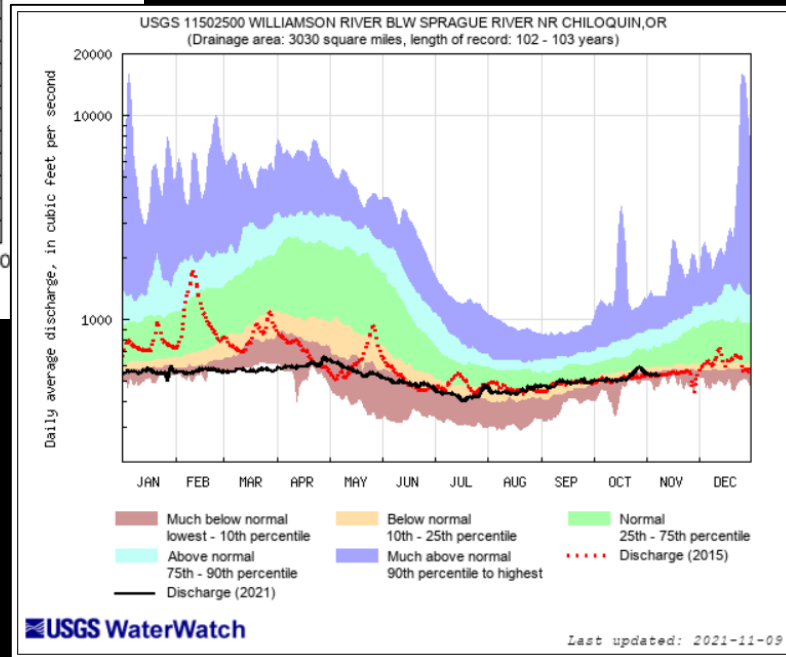


Upper Klamath Lake near Klamath Falls, OR (11507000)

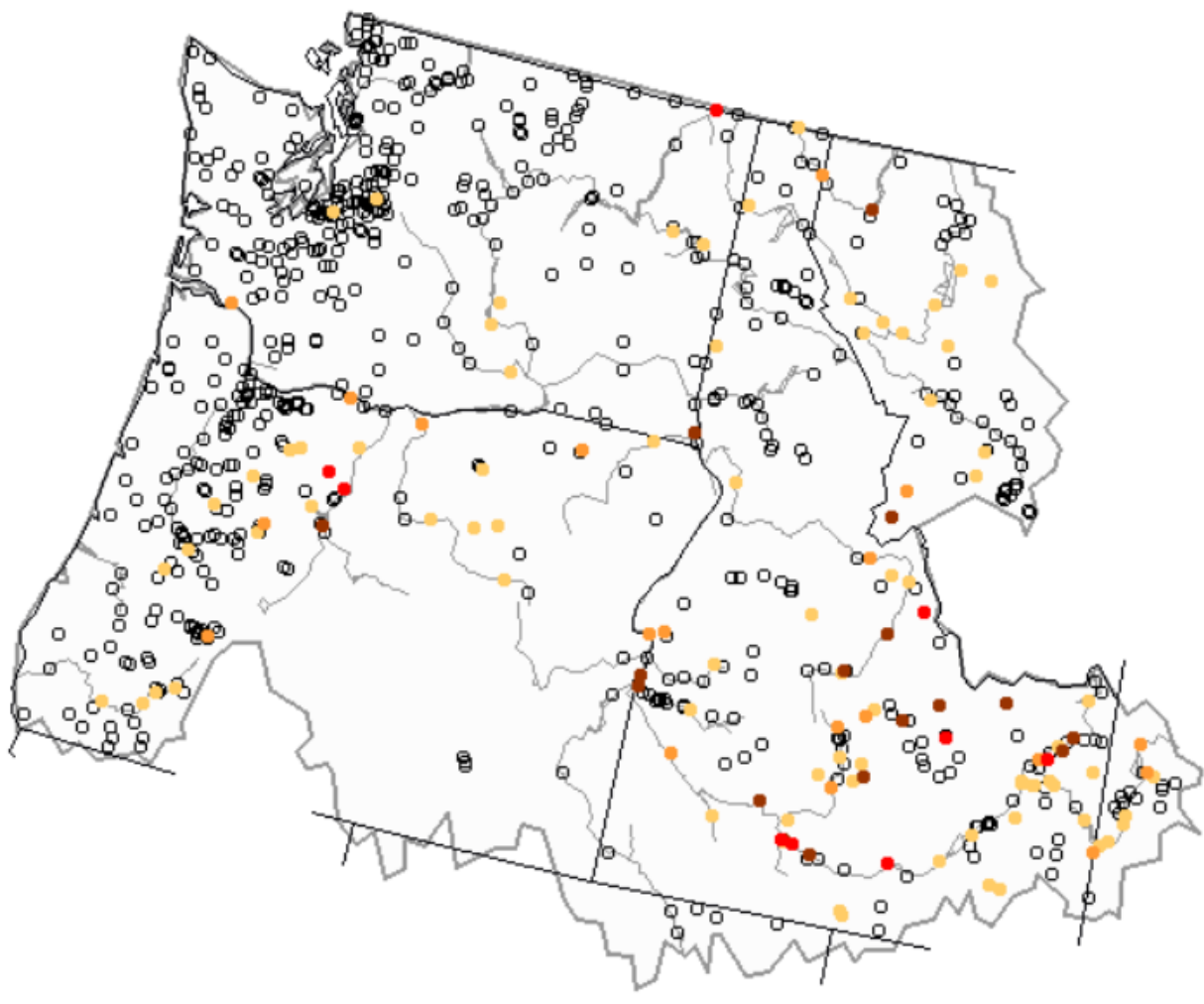
Data from U.S. Geological Survey



Klamath Lake

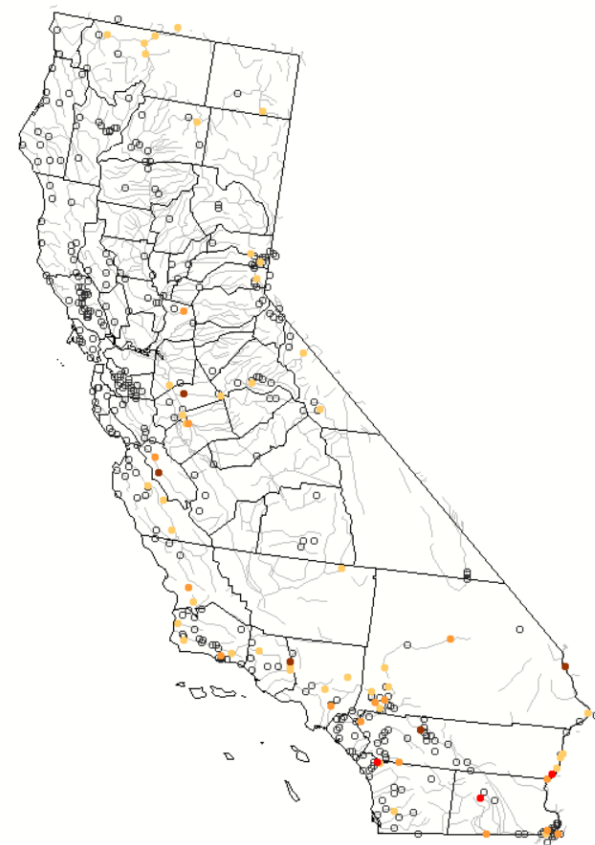







Monday, November 08, 2021



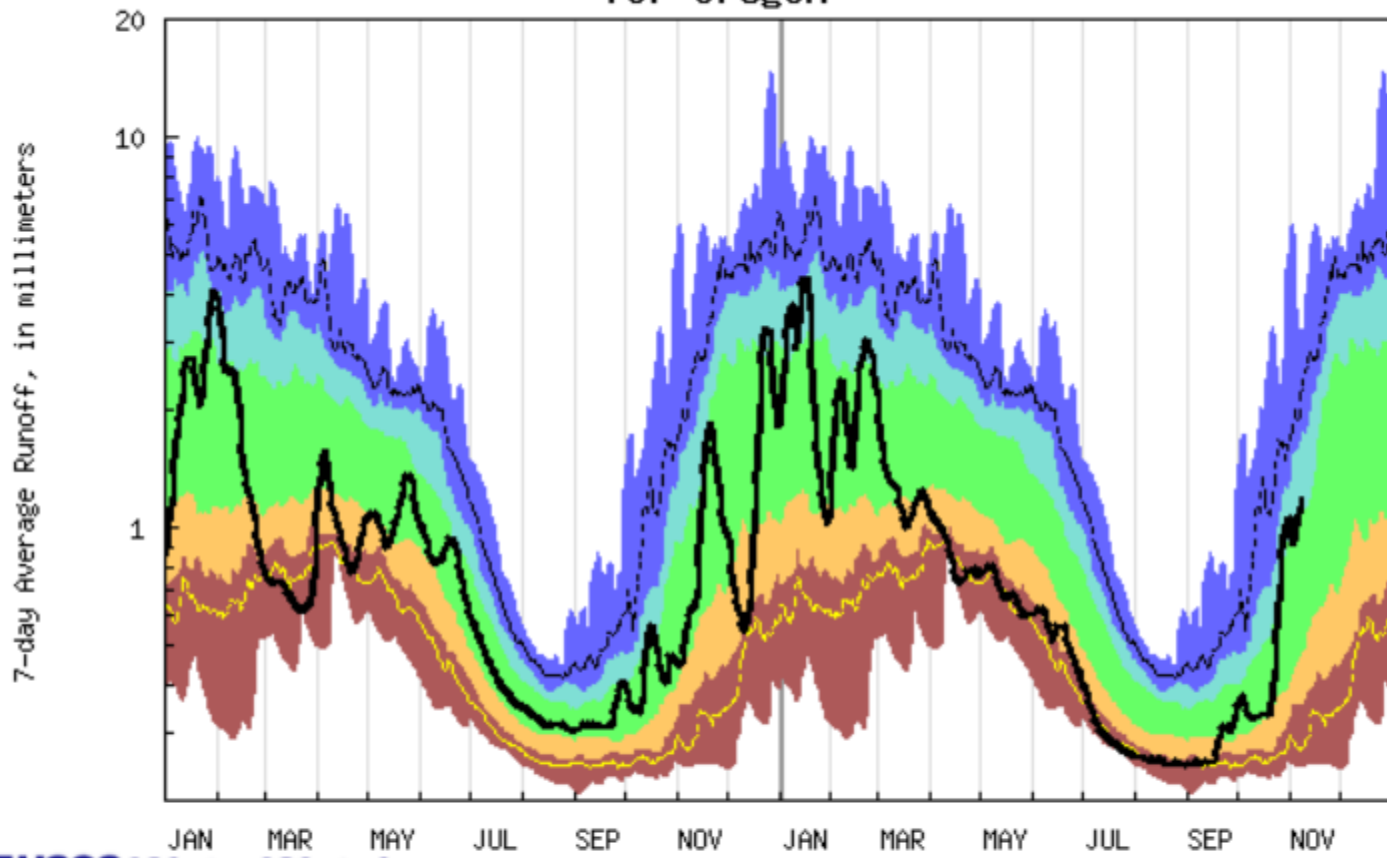
Map of below normal 28-day average streamflow compared to historical streamflow for the day of year (Pacific Northwest & CA)

Monday, November 08, 2021



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

Duration hydrograph of 7-day average runoff for Oregon



USGS WaterWatch

2020

2021

Last updated: 2021-11-09

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

November 10th, 2021



October % of Average Streamflow - WY 2022

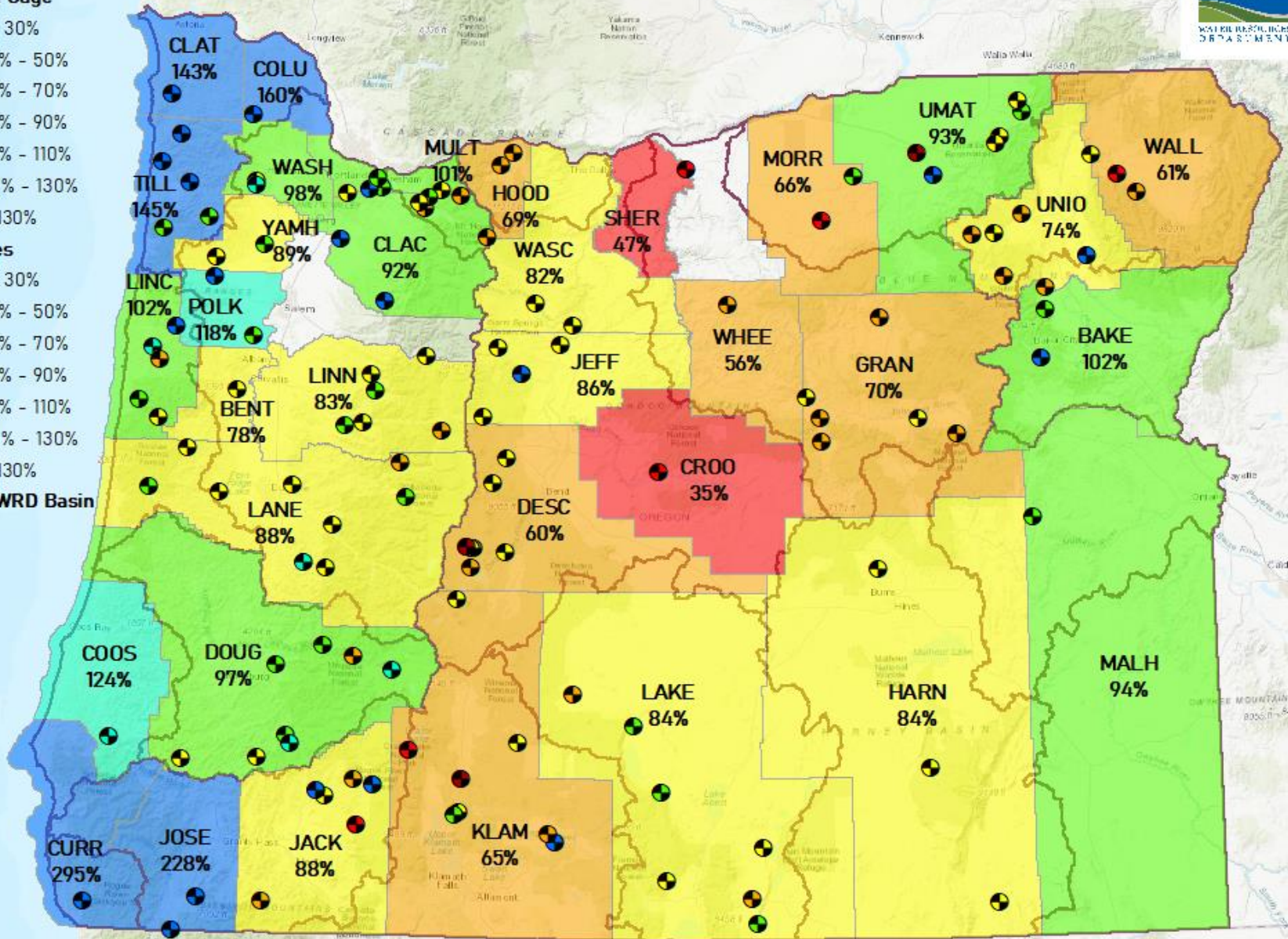


Stream Gage

- ≤ 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



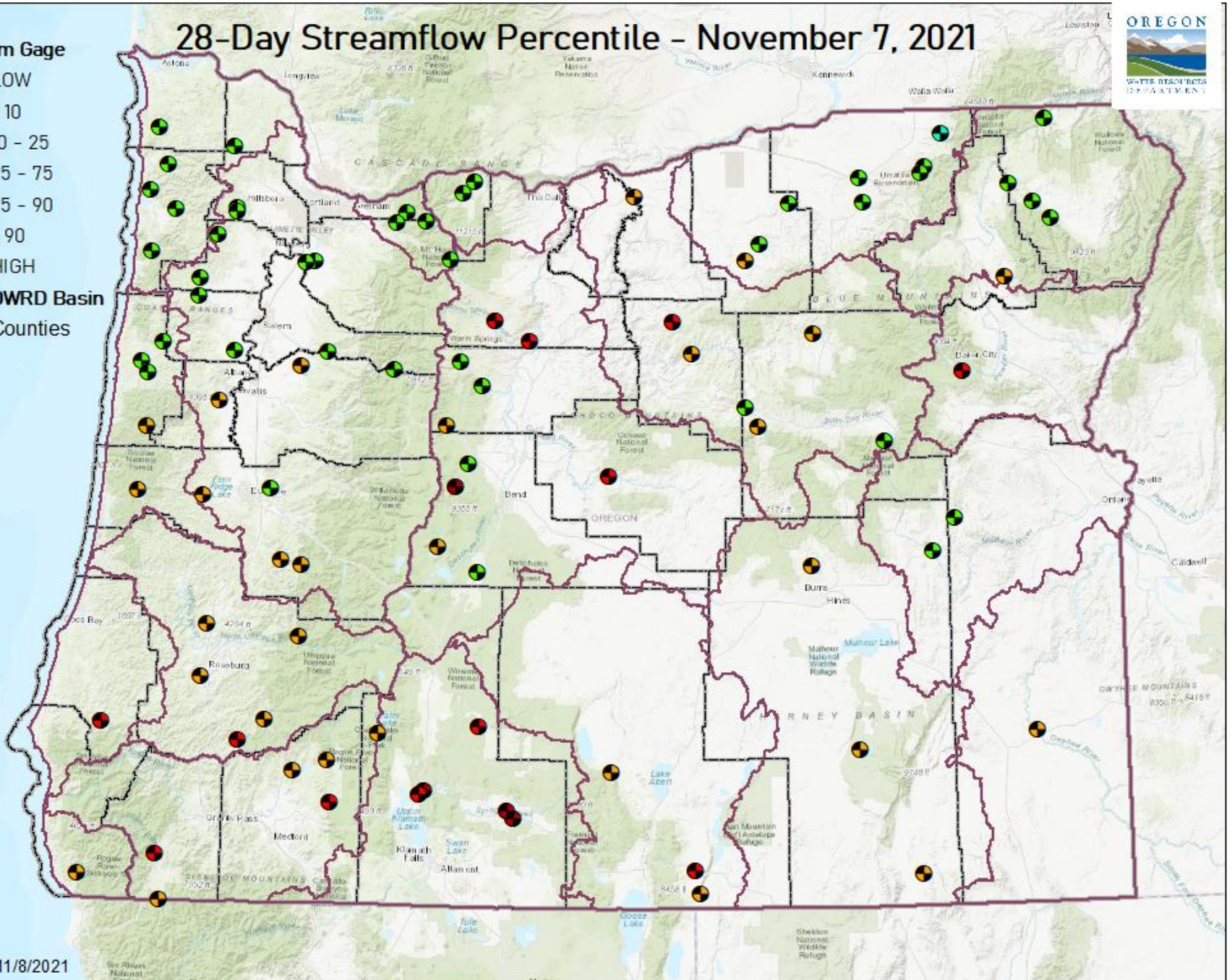
Date: 11/2/2021

28-Day Streamflow Percentile - November 7, 2021



Stream Gauge

- LOW
- < 10
- 10 - 25
- 25 - 75
- 75 - 90
- > 90
- HIGH
- 🗺️ OWRD Basin
- 🗺️ Counties



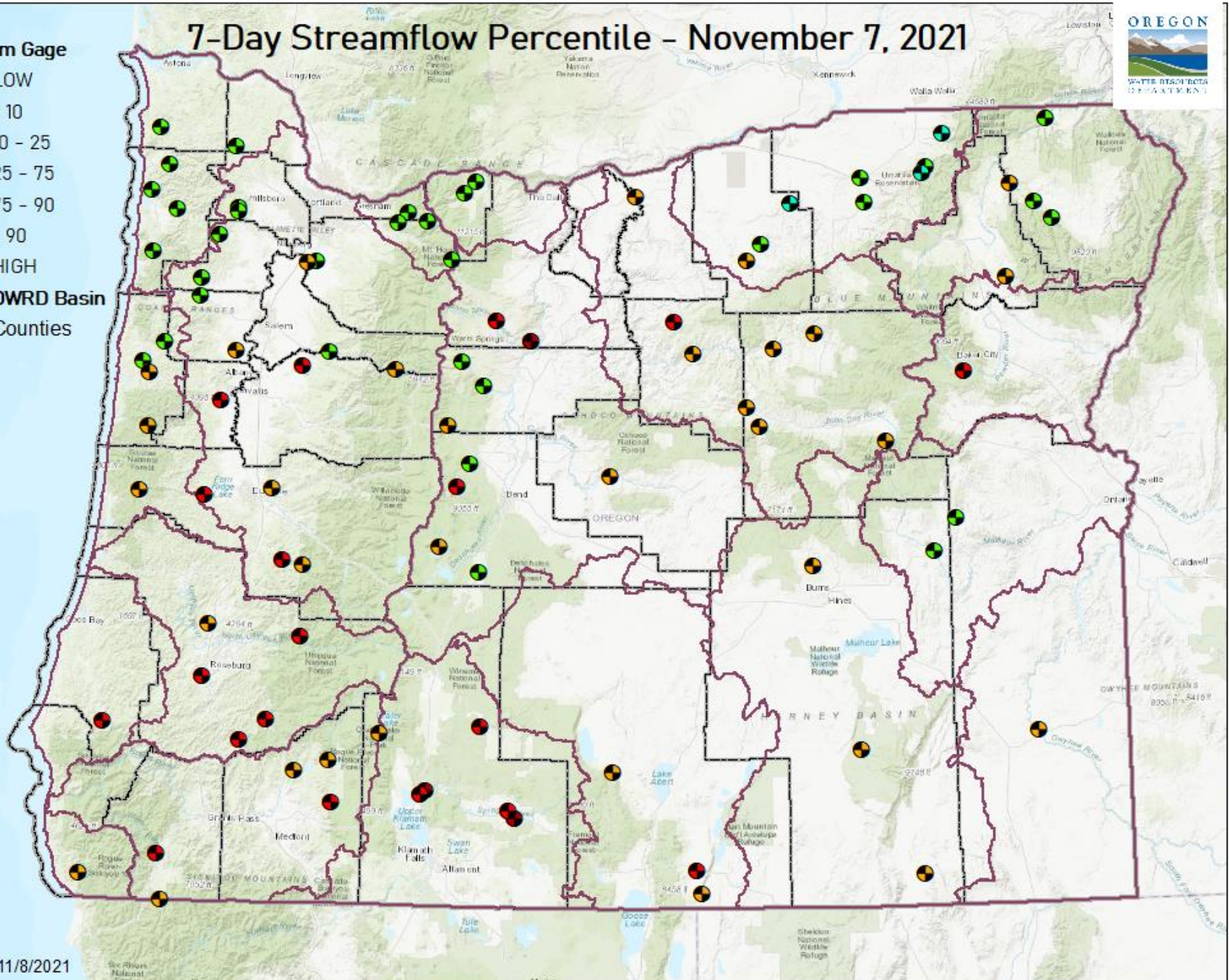
Date: 11/8/2021

7-Day Streamflow Percentile - November 7, 2021



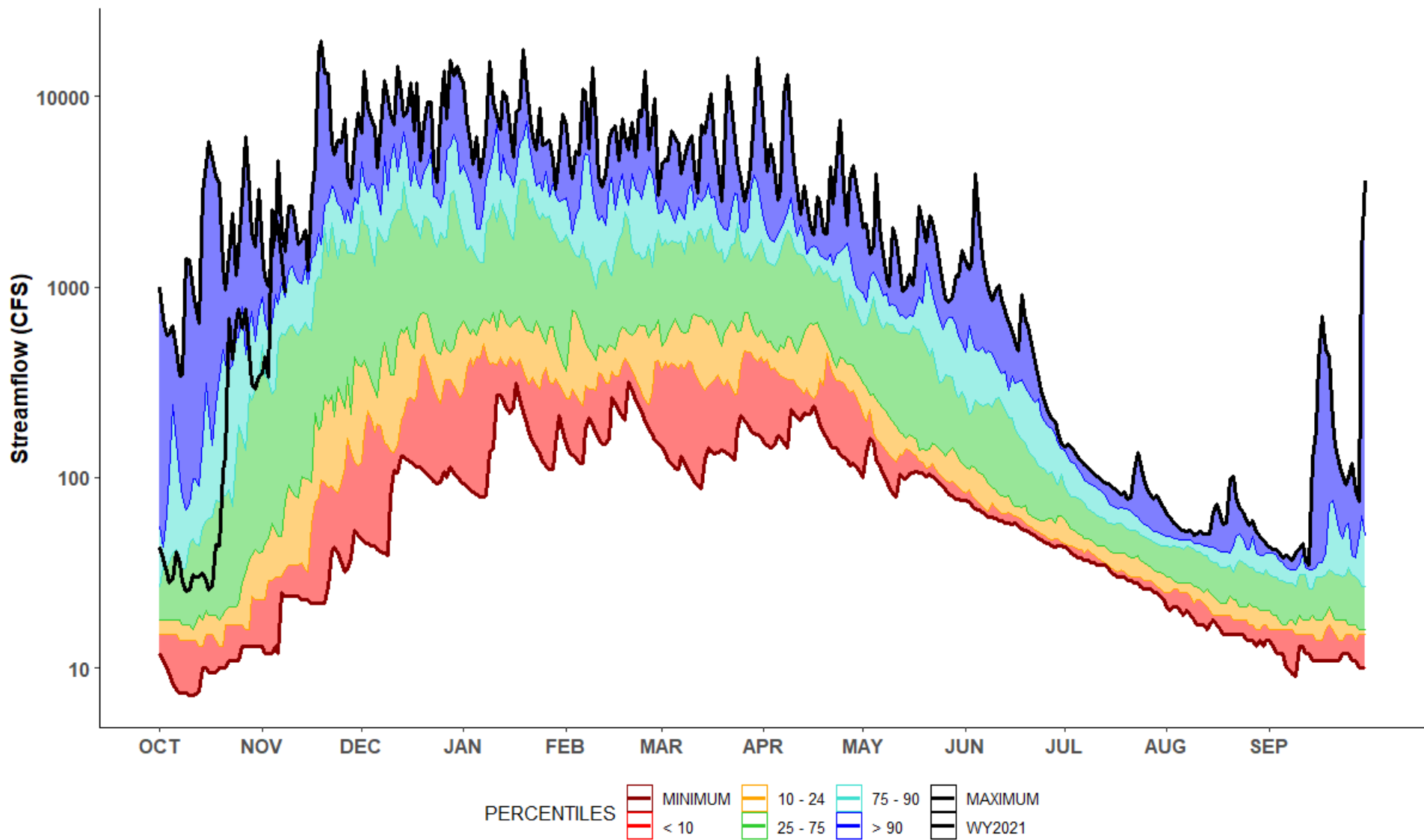
Stream Gage

- LOW
- < 10
- 10 - 25
- 25 - 75
- 75 - 90
- > 90
- HIGH
- 👉 OWRD Basin
- 👉 Counties

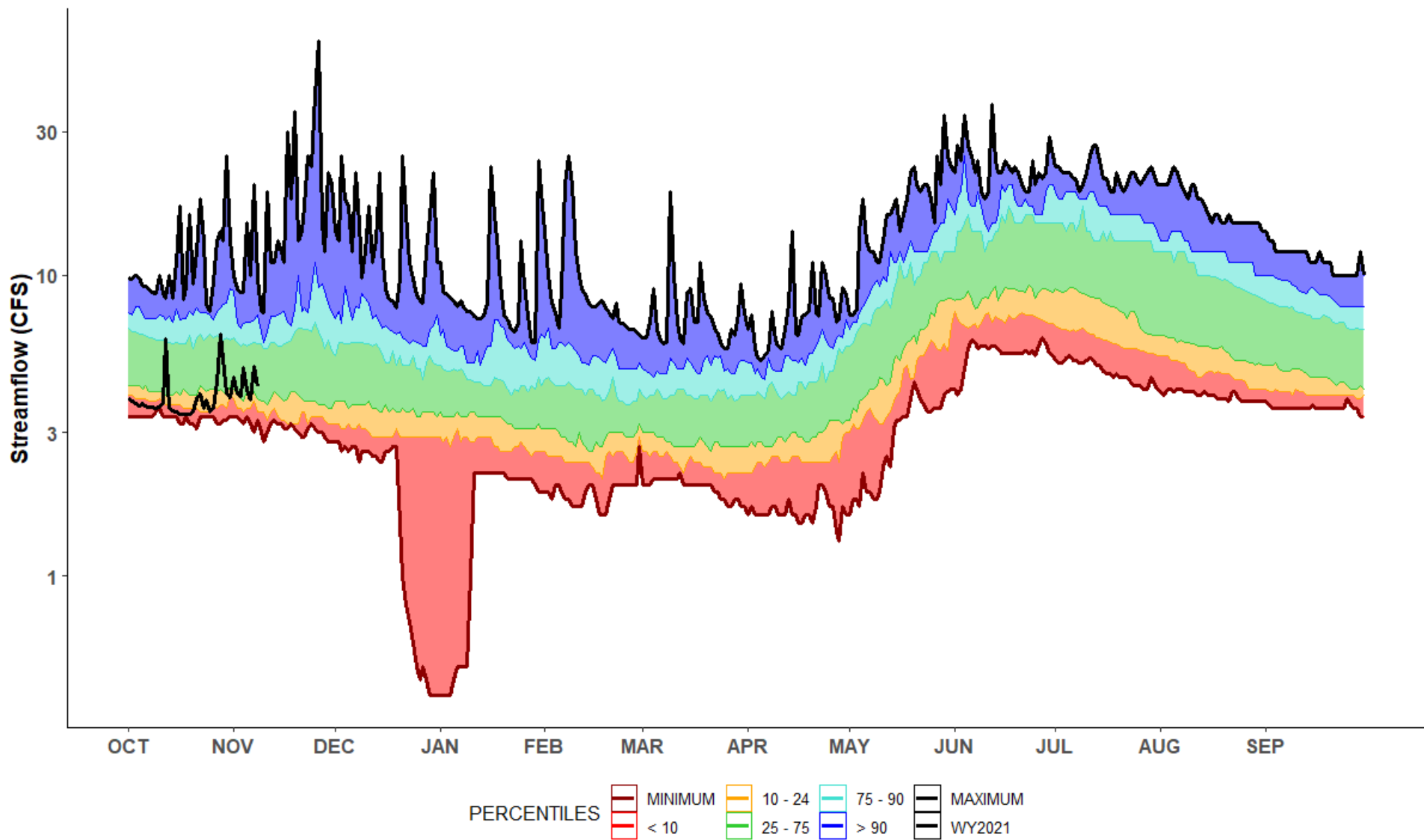


Date: 11/8/2021

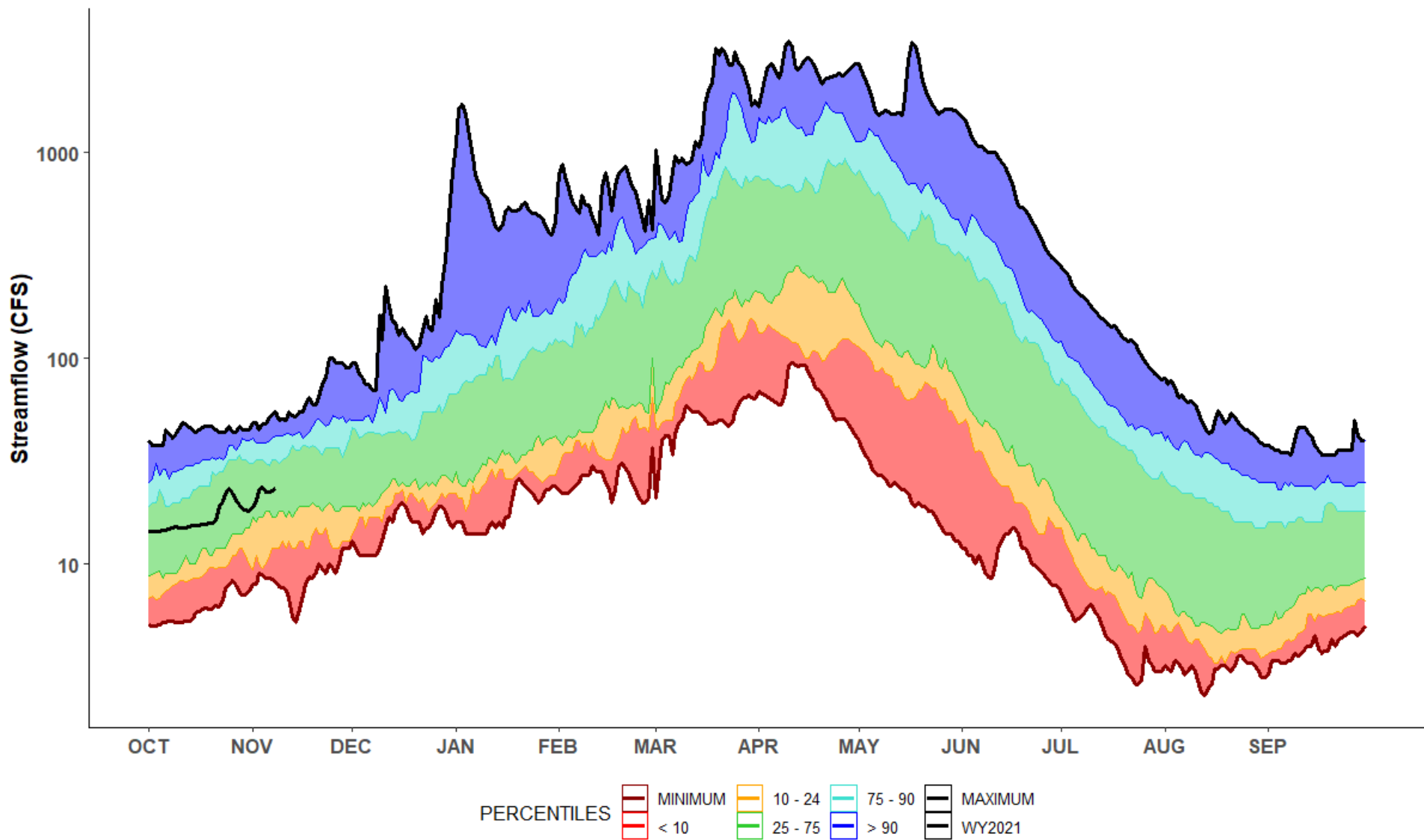
14325000 - S FK COQUILLE R AT POWERS, OR
SOUTH COAST BASIN
POR: 1991-2020



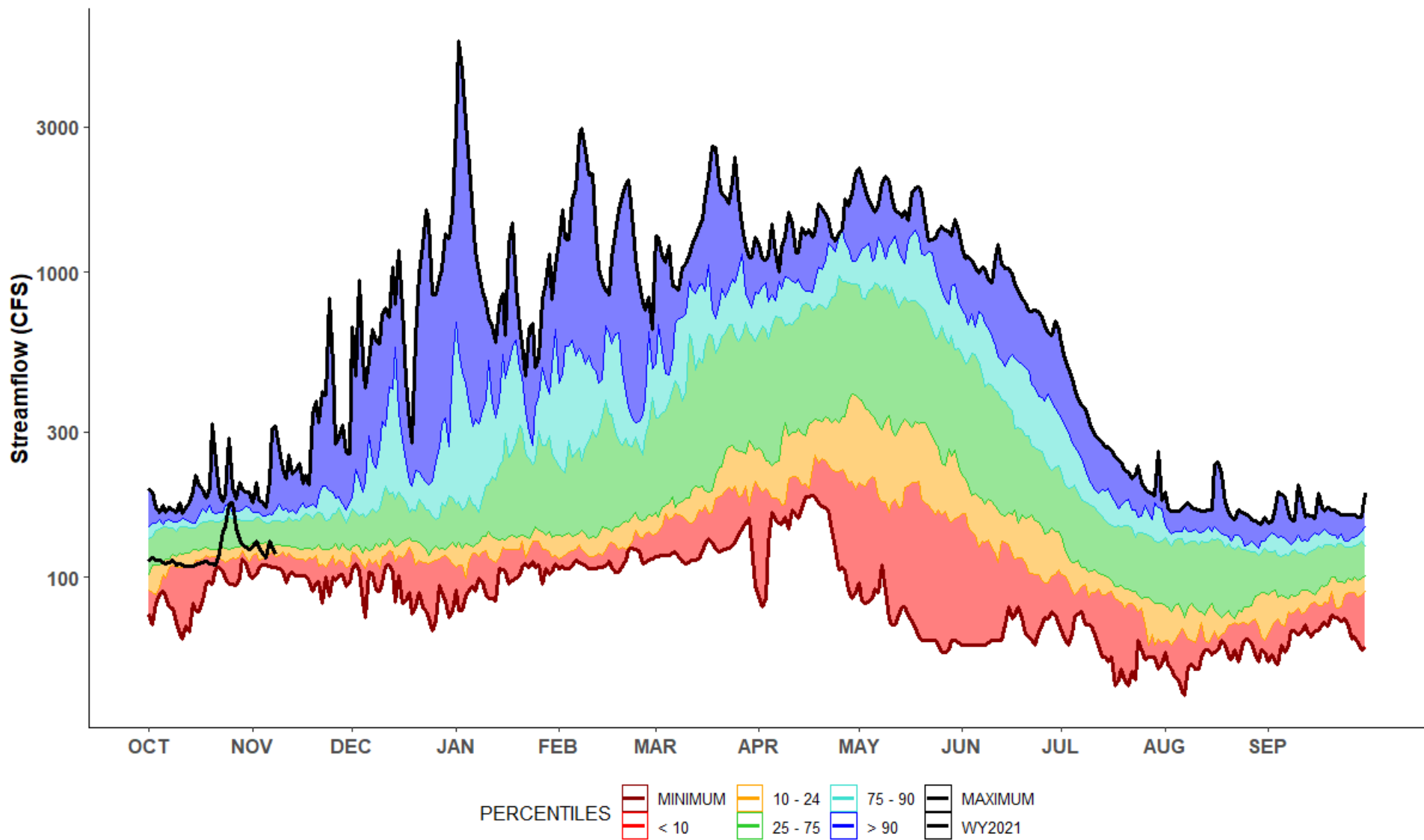
14074900 - SNOW CR NR SISTERS, OR
DESCHUTES BASIN
POR: 1991-2020



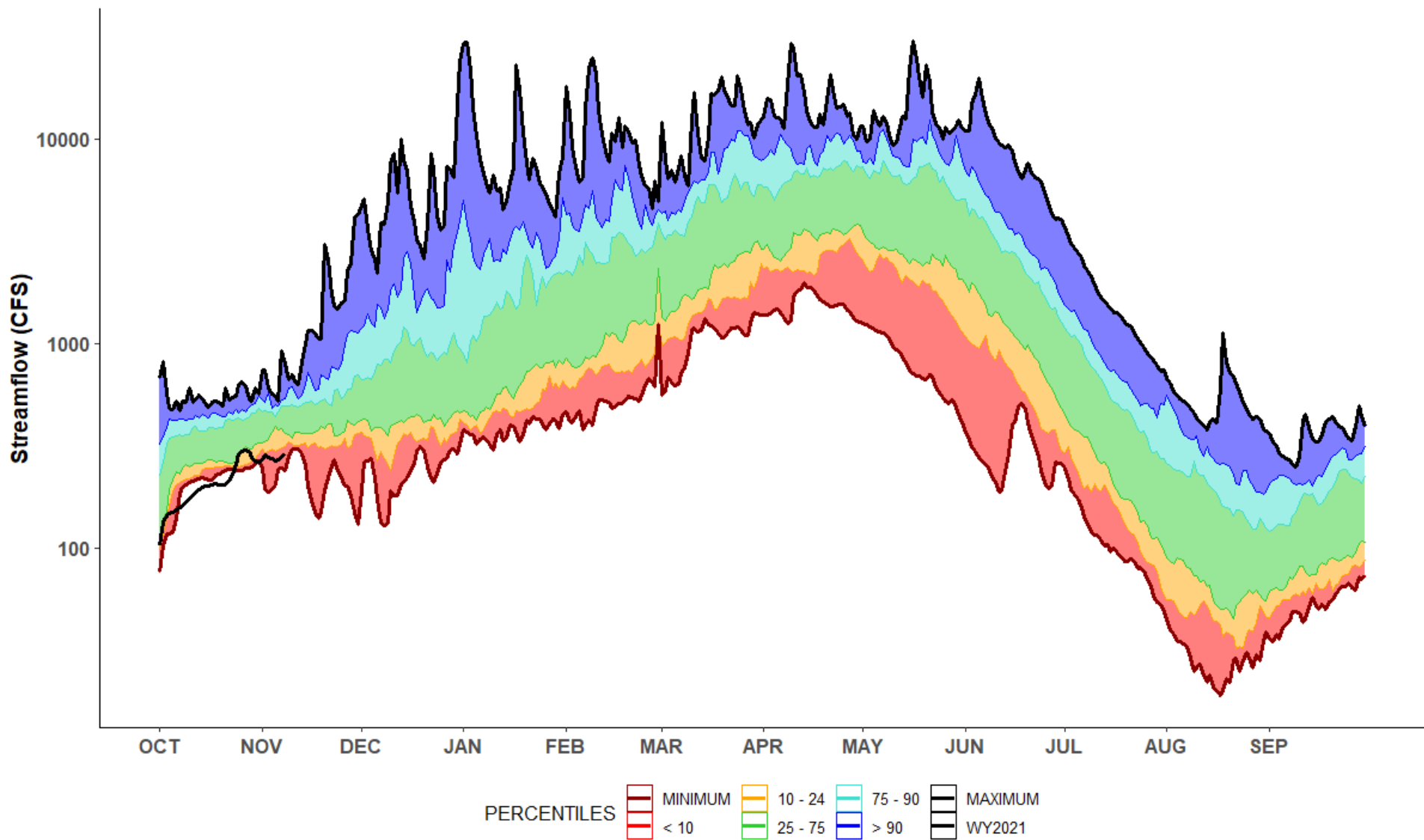
10393500 - SILVIES R NR BURNS, OR
MALHEUR LAKES BASIN
POR: 1991-2020



11497500 - SPRAGUE R NR BEATTY, OR
KLAMATH BASIN
POR: 1991-2020



14046500 - JOHN DAY R AT SERVICE CR, OR
JOHN DAY BASIN
POR: 1991-2020



OREGON



WATER RESOURCES
DEPARTMENT

QUESTIONS?



— BUREAU OF —
RECLAMATION

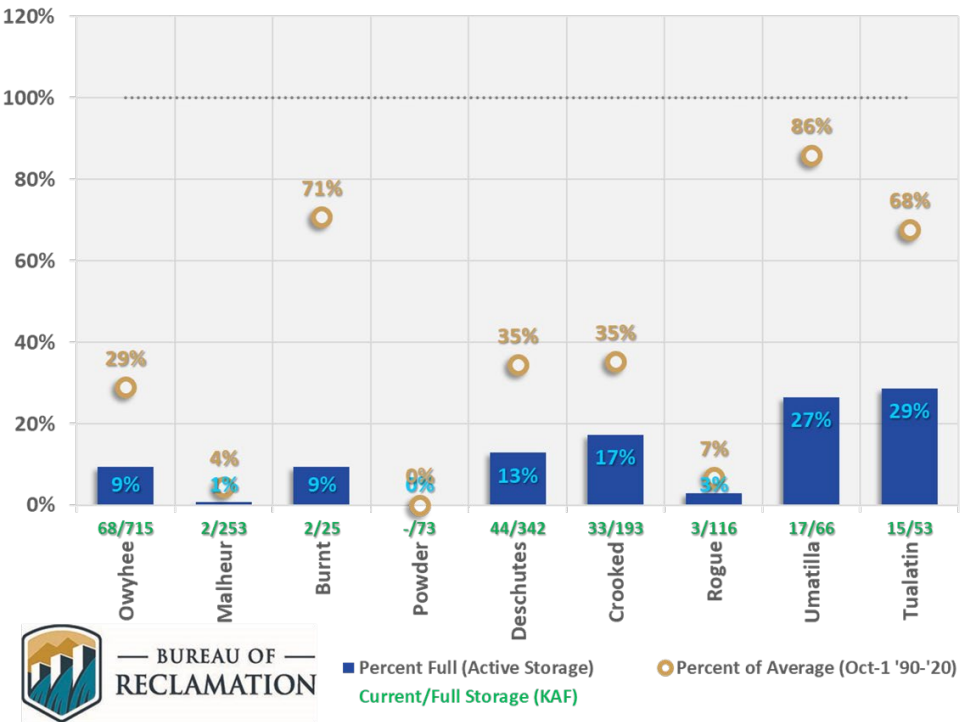
Reclamation Storage Update

Oregon Water Supply Availability Committee
Meeting

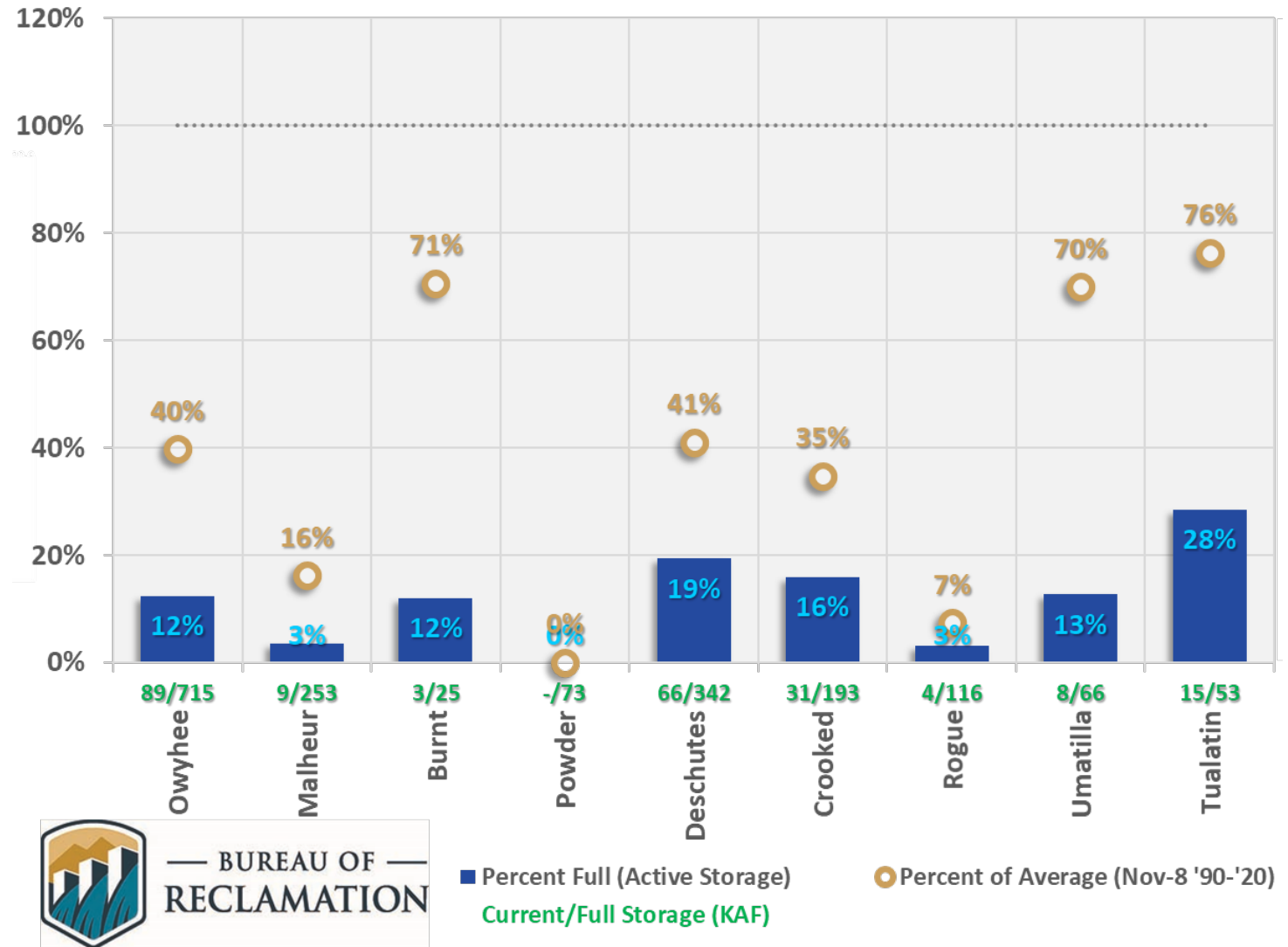
November 10, 2021

Storage Conditions

Oregon Reservoir Storage (Oct 1 2021)



Oregon Reservoir Storage (Nov 8 2021)



Basin Operations Summary

- **Operations Activities:**

- All Oregon projects continue with typical fall/winter operations – Storage Season
- Some Reclamation river basins still delivering water for ecological purposes
 - Tualatin, Umatilla

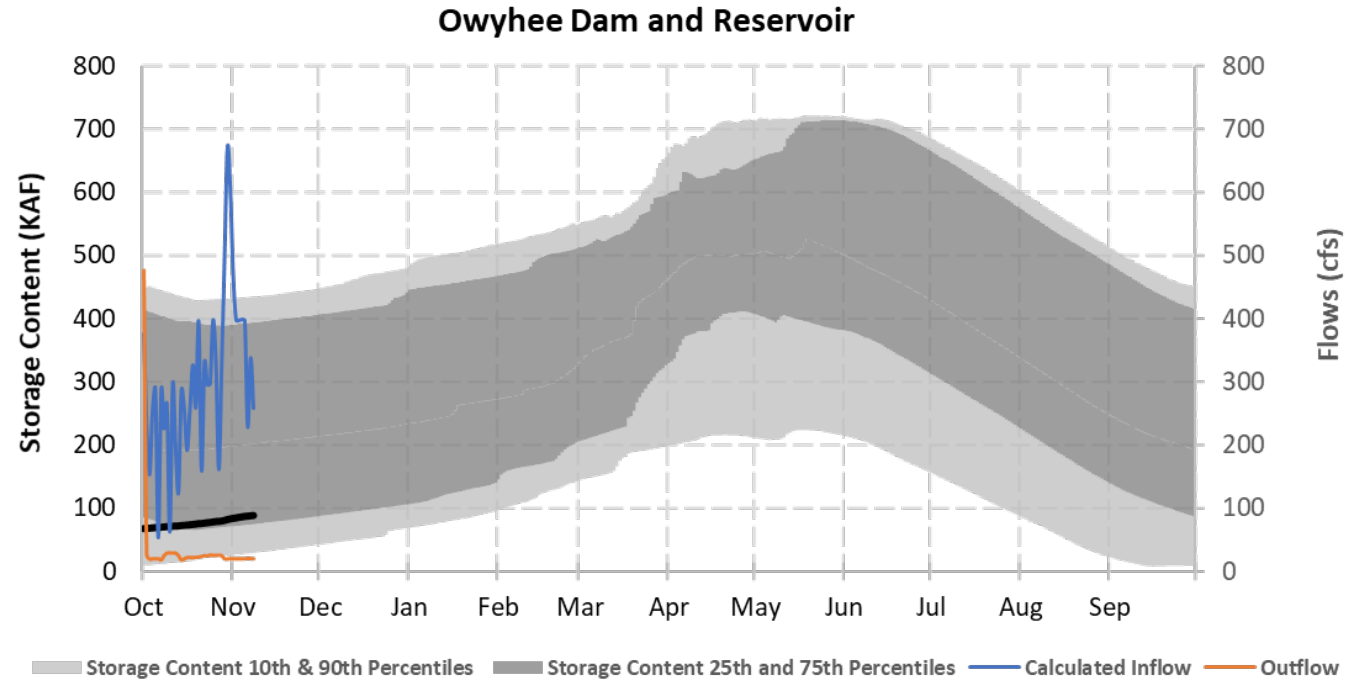
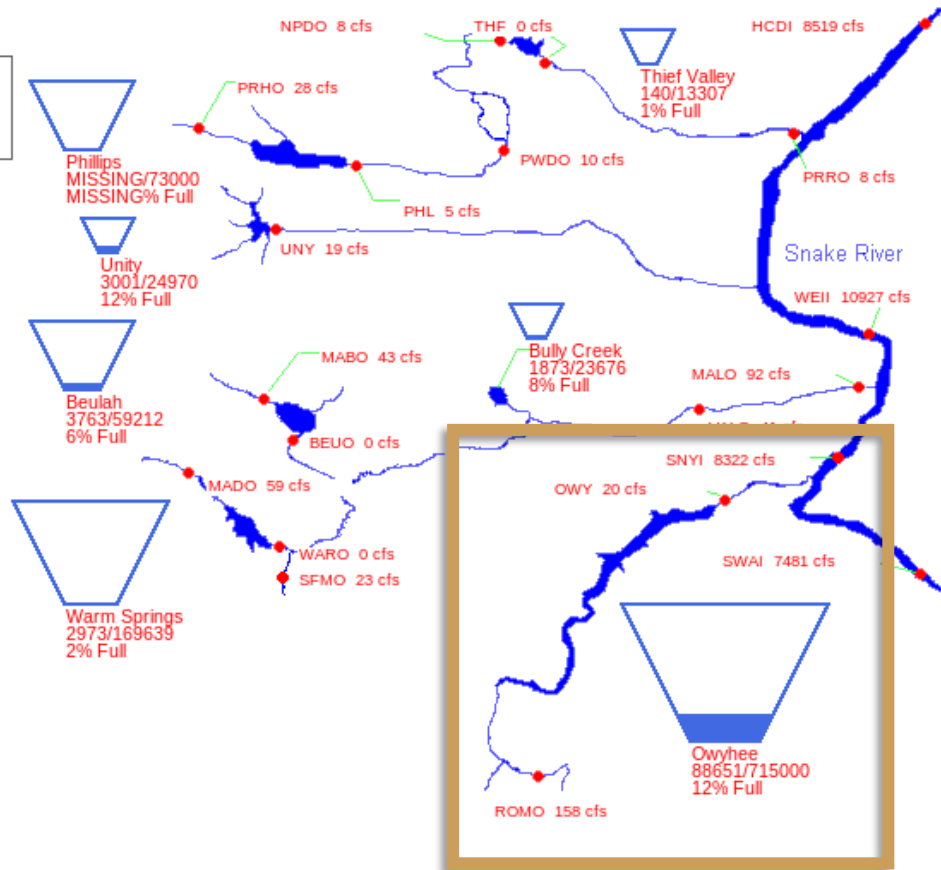
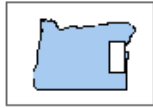
- **Water Supply Notes**

- Very low reservoir content continues at Reclamation Oregon reservoirs
- Good start to the water year => need this trend to continue
- Most river basins will need wet conditions this WY to refill



Owyhee River Basin

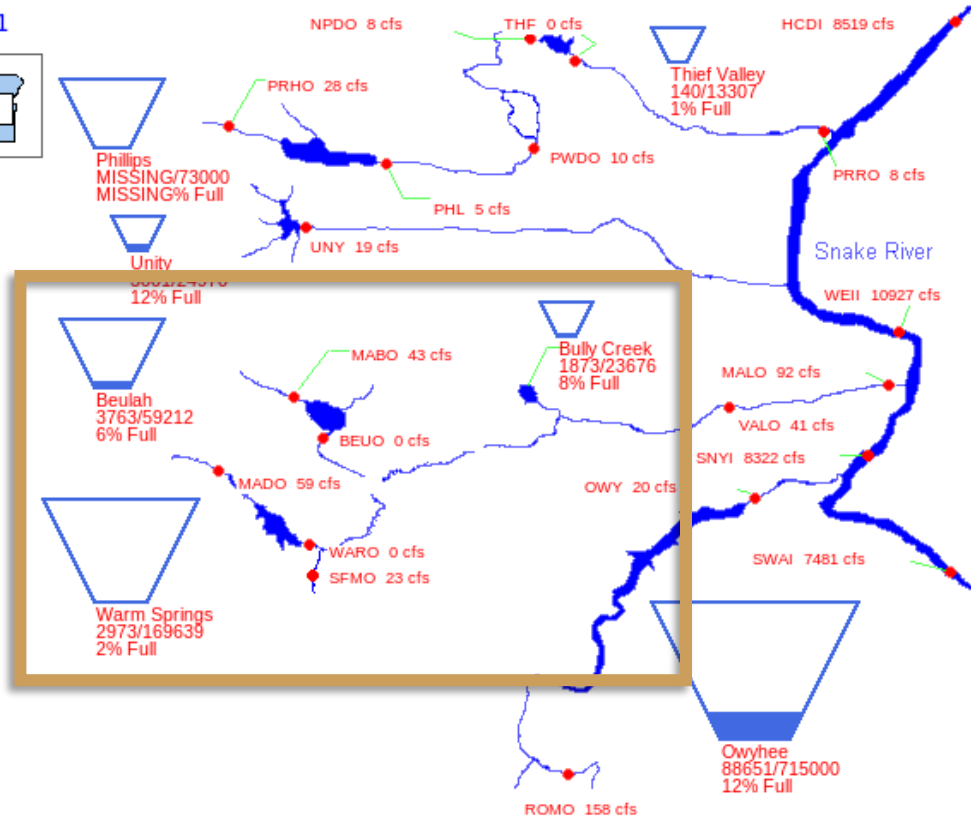
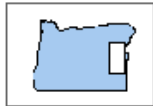
11/08/2021



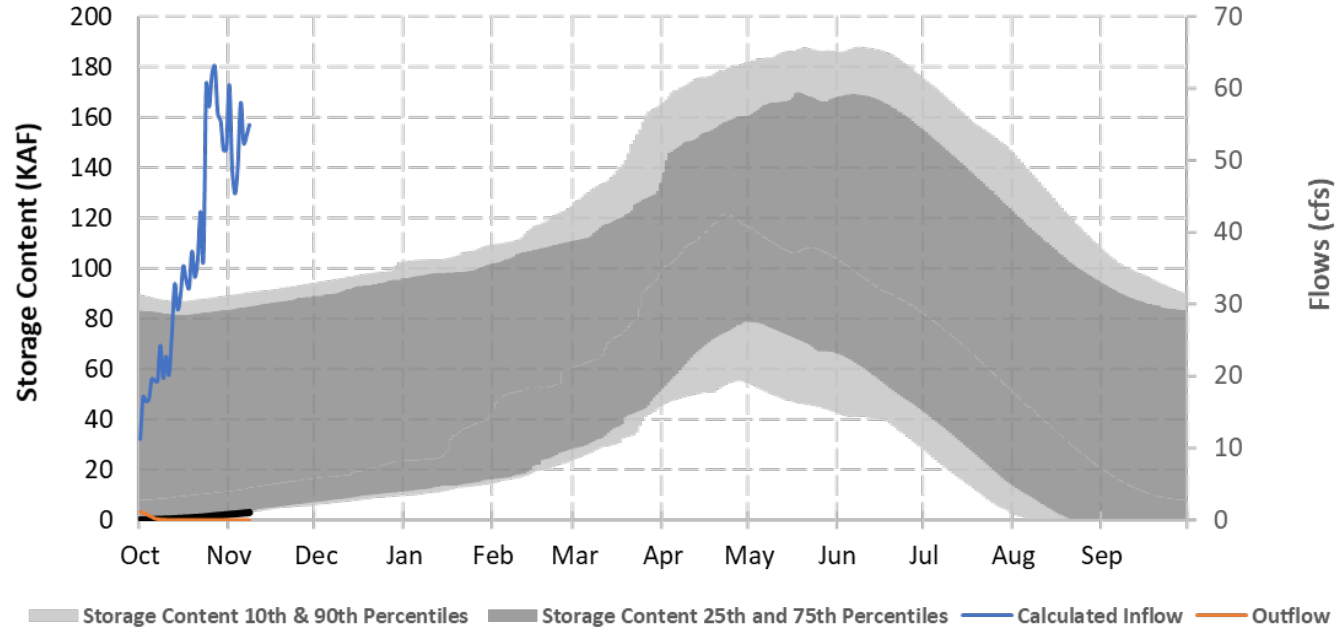
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Malheur River Basin

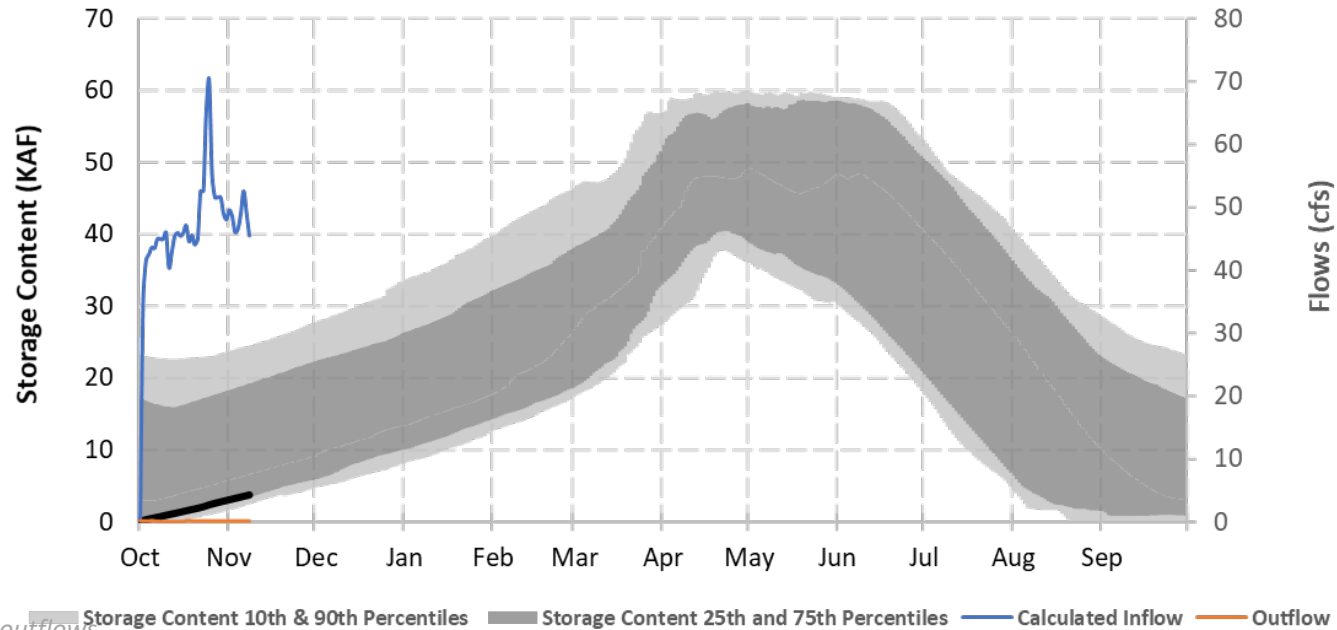
11/08/2021



Warm Springs Dam and Reservoir



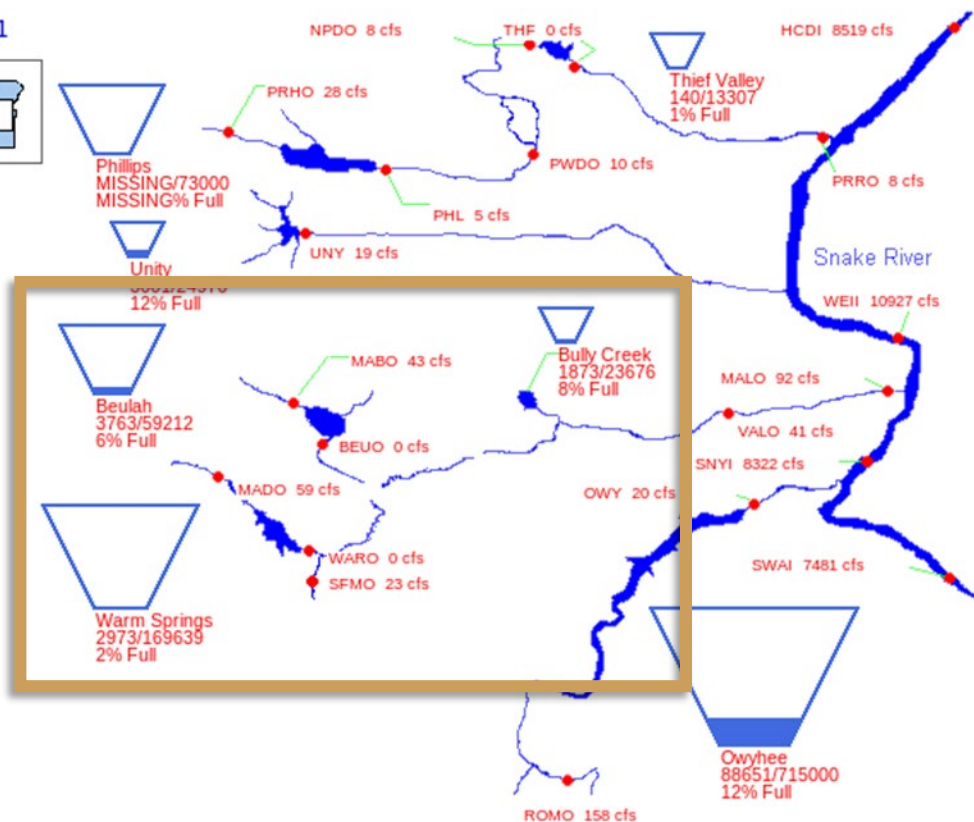
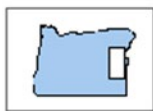
Beulah Dam and Reservoir



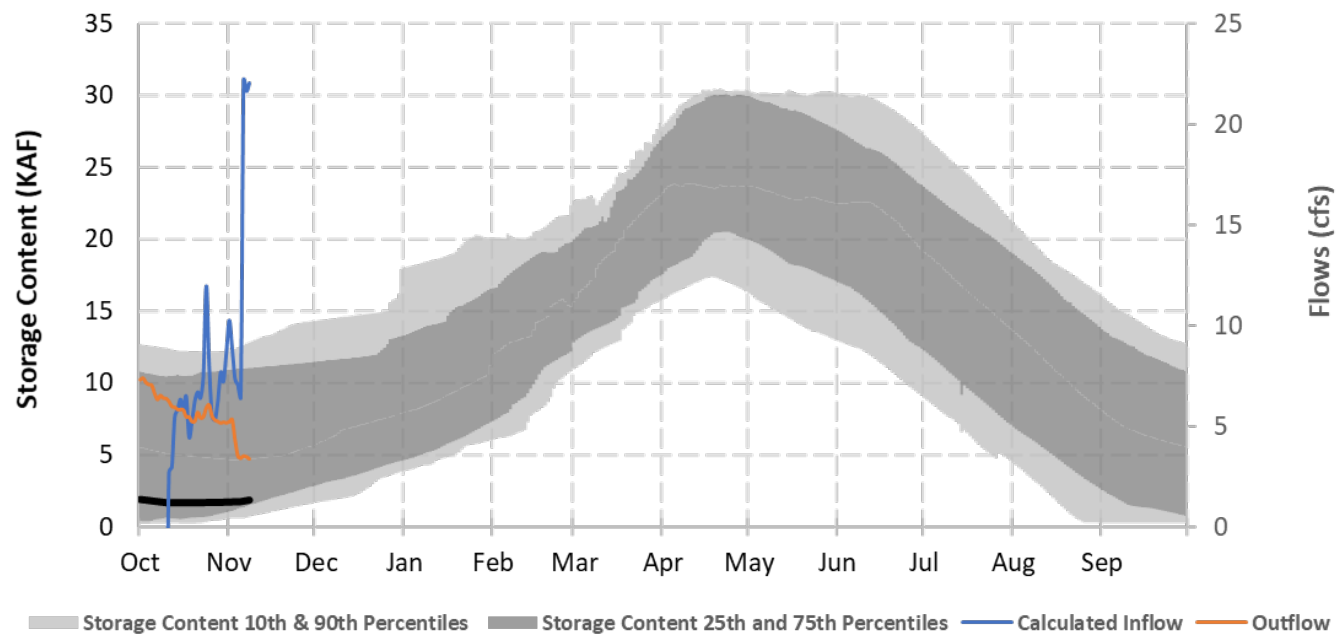
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Malheur River Basin

11/08/2021



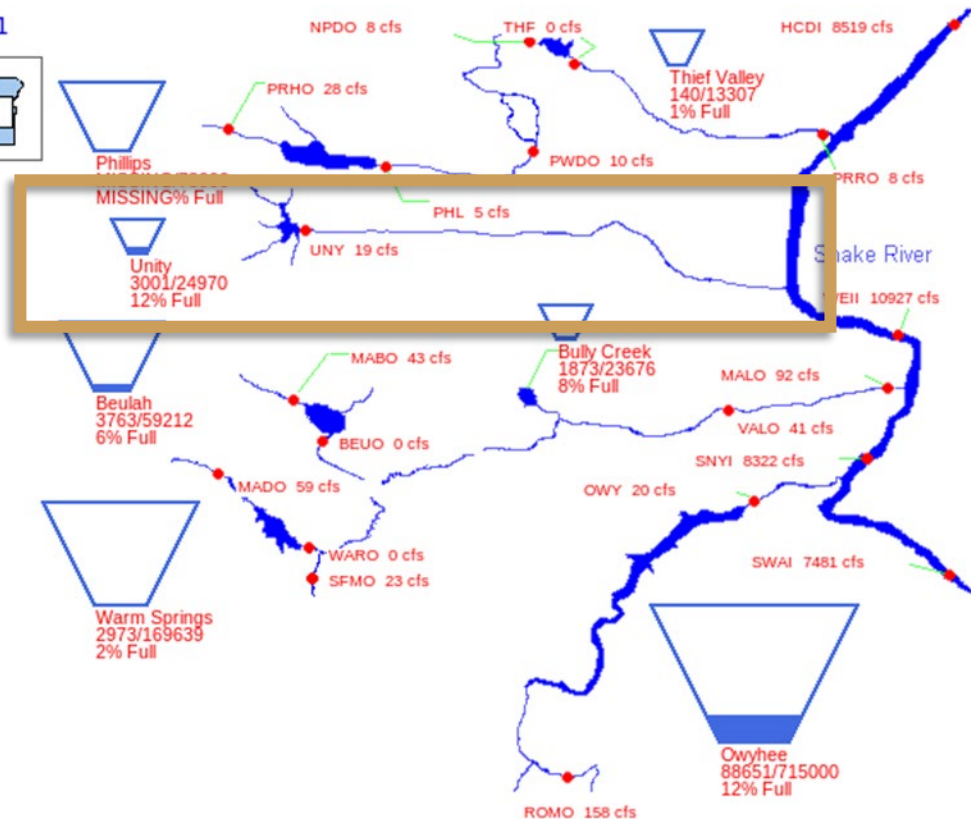
Bully Creek Dam and Reservoir



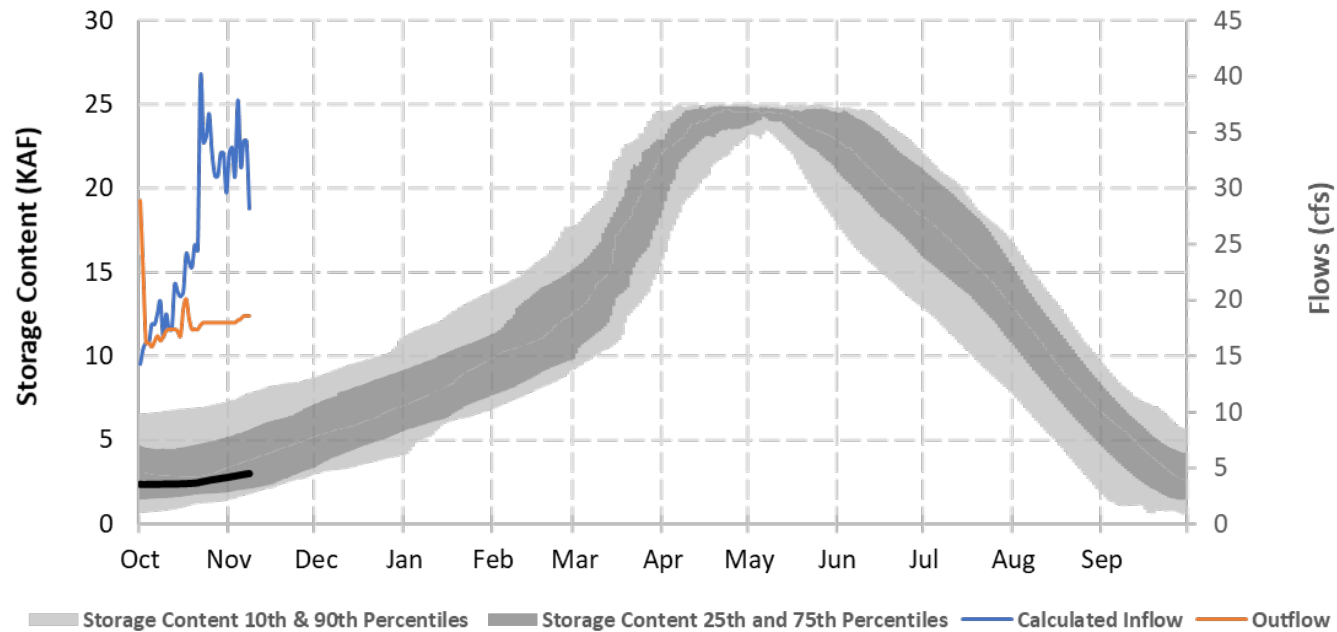
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Burnt River Basin

11/08/2021



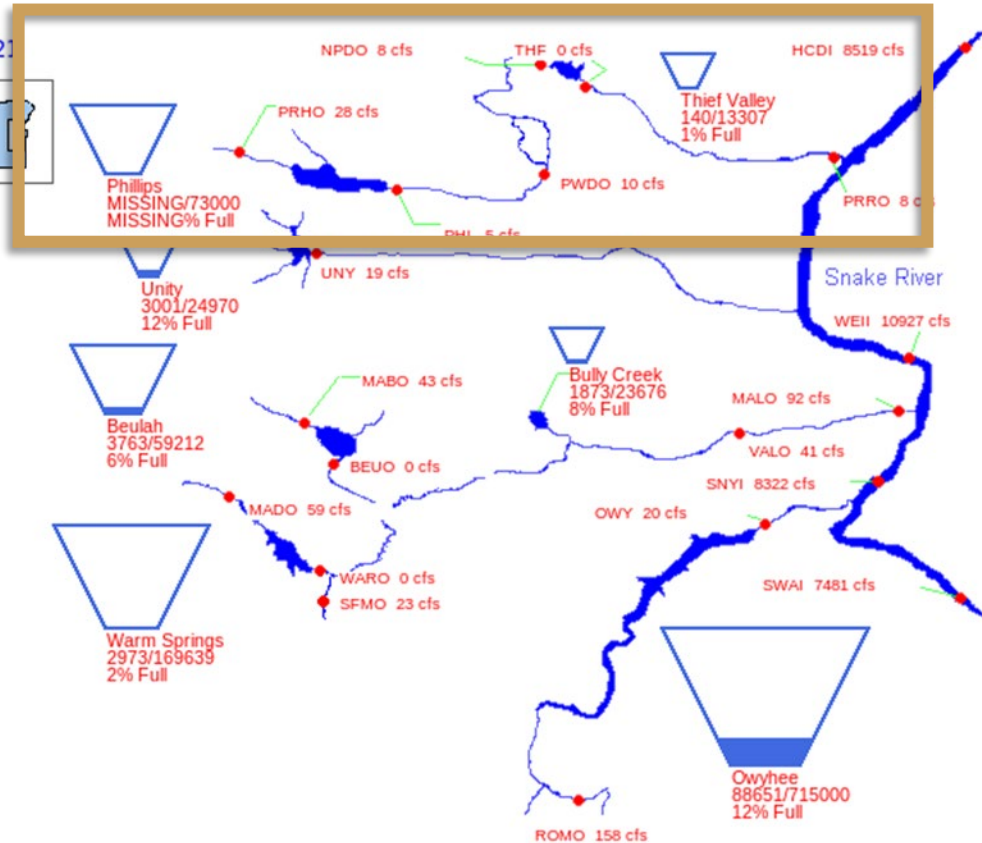
Unity Dam and Reservoir



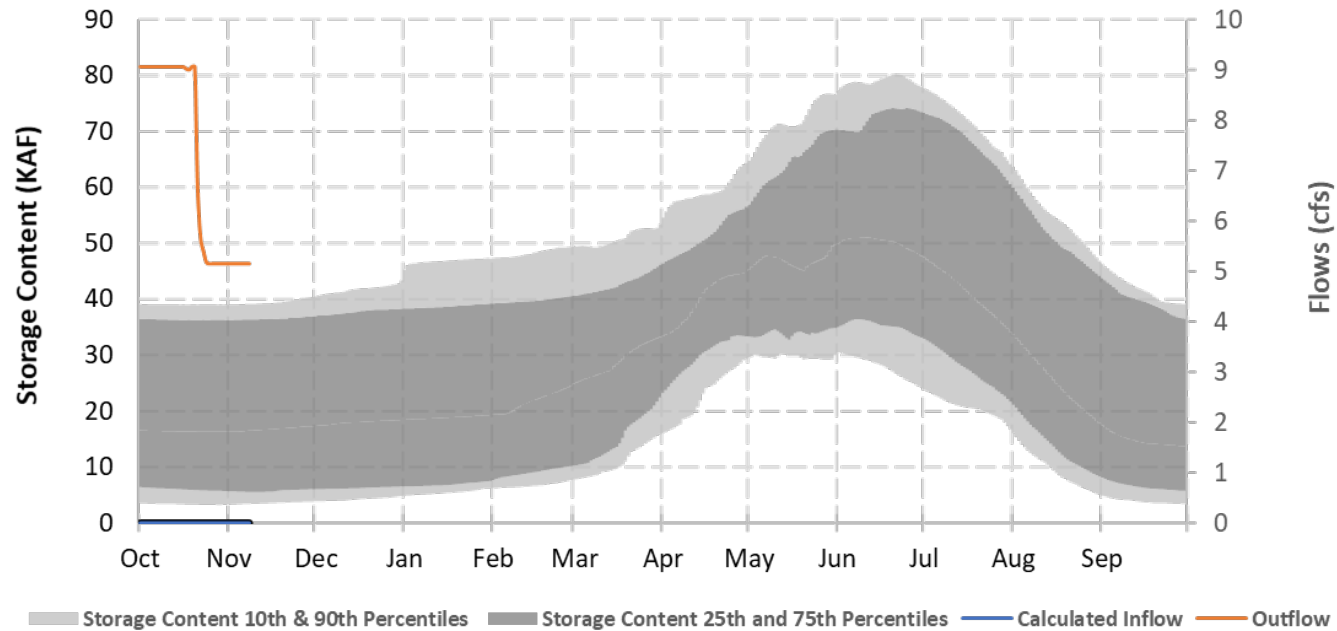
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Powder River Basin

11/08/2021



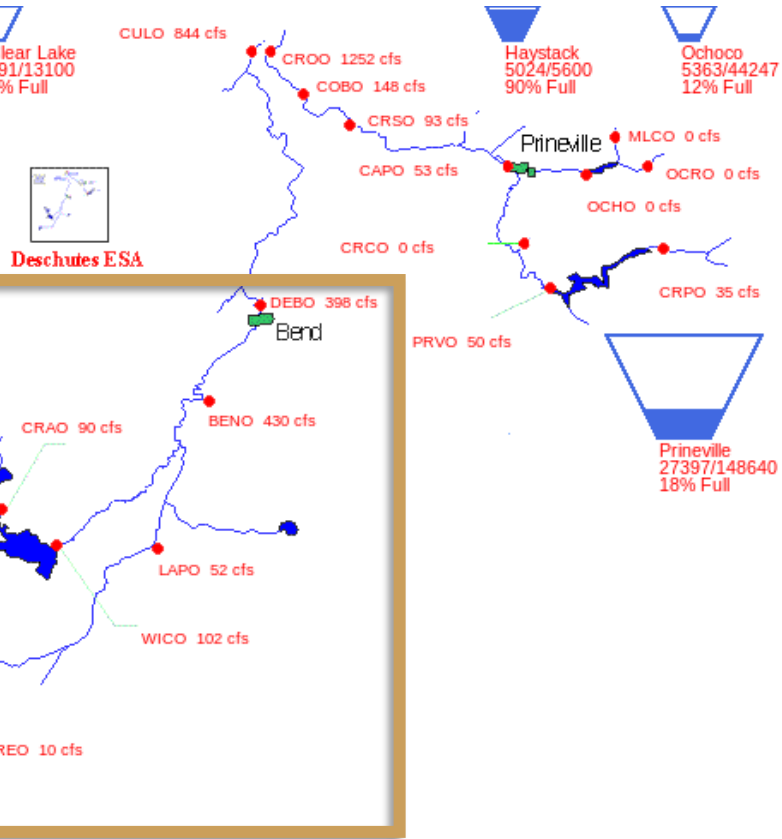
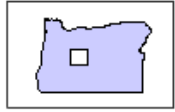
Mason Dam - Phillips Lake



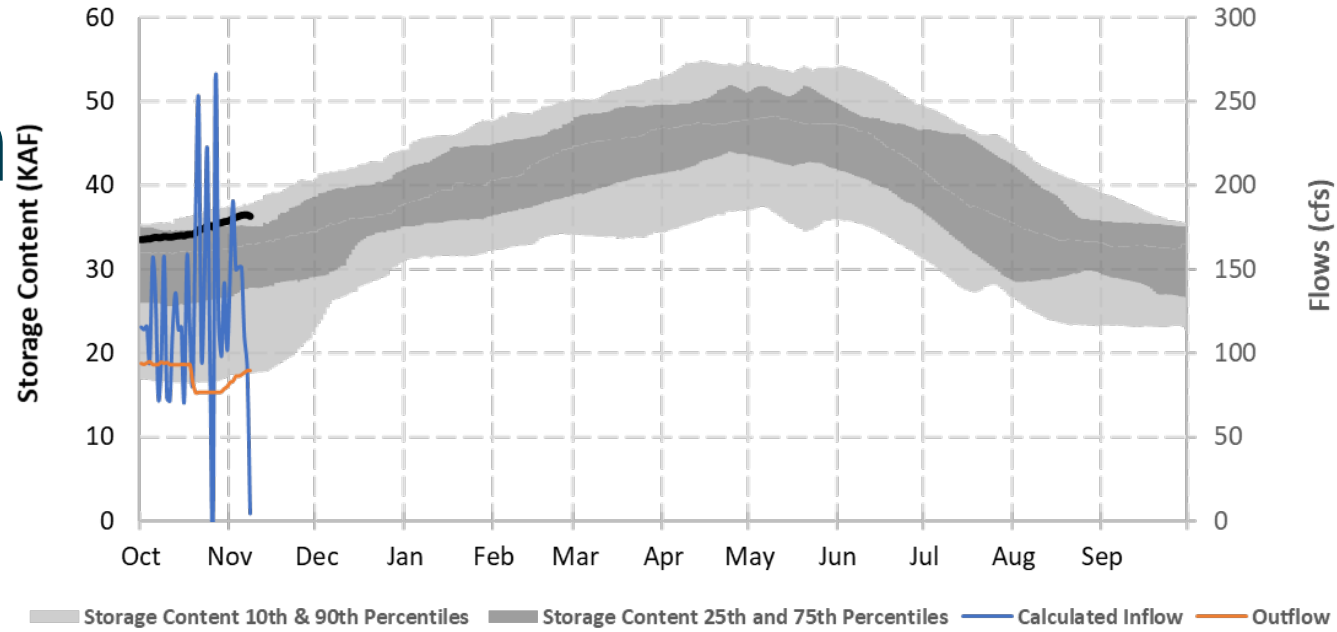
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Deschutes River Basin

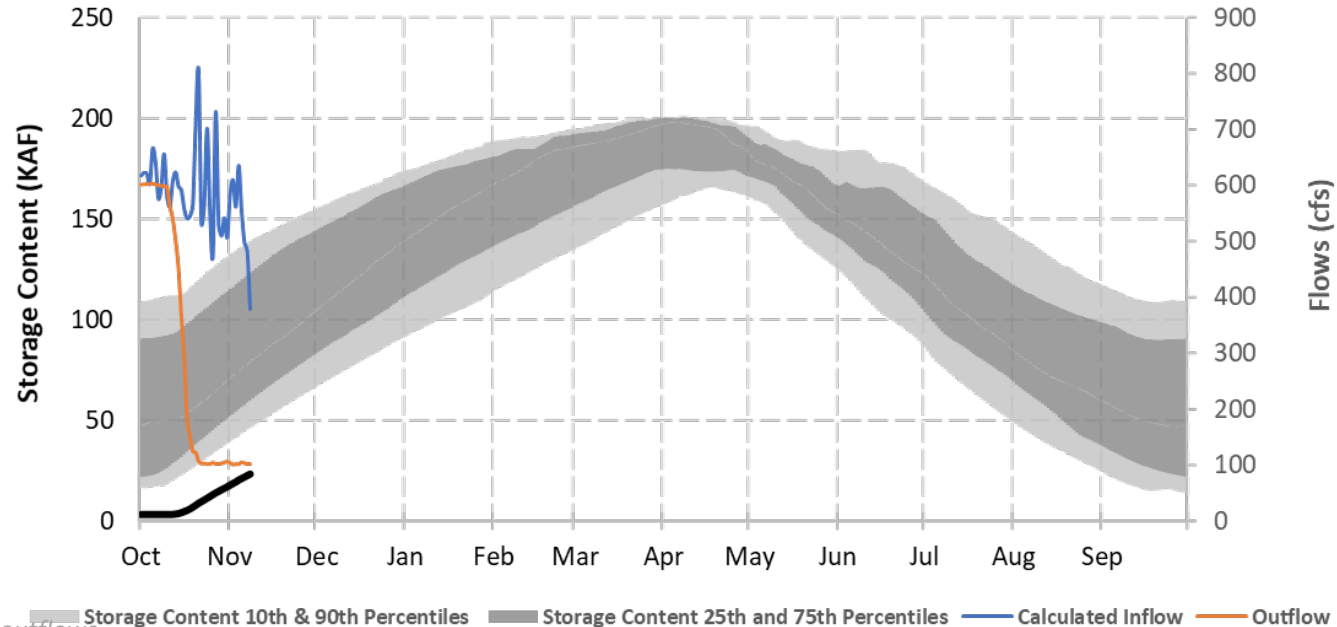
11/08/2021



Crane Prairie Dam and Reservoir



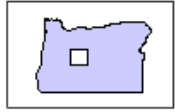
Wickiup Dam and Reservoir



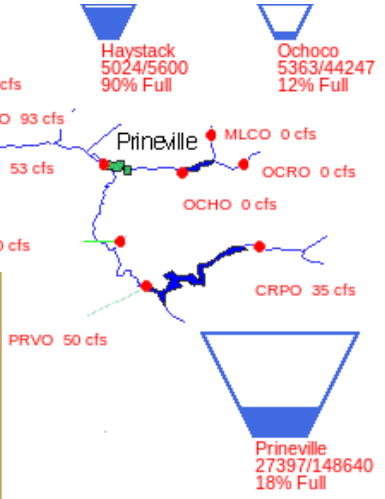
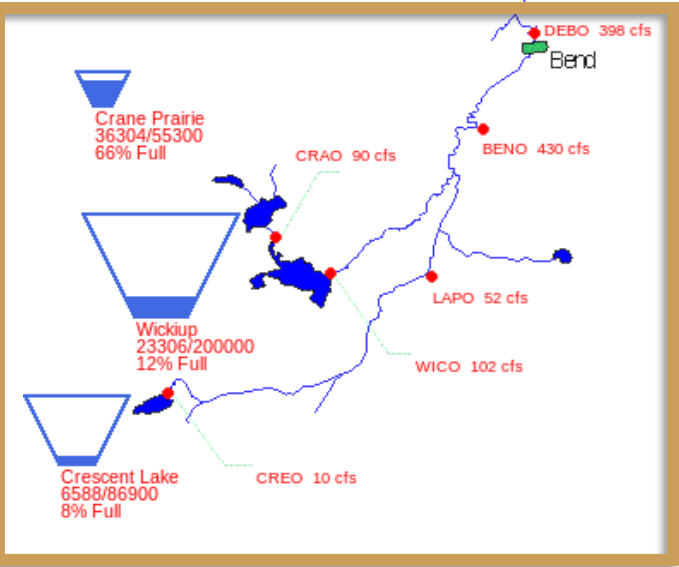
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Deschutes River Basin

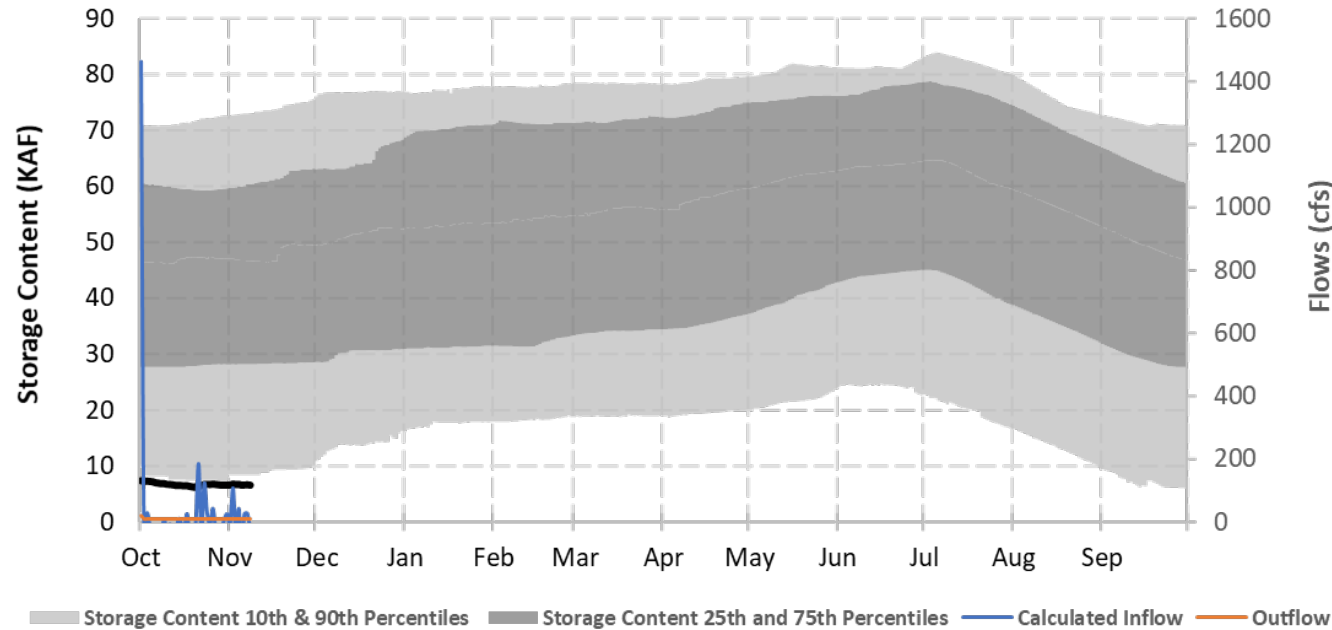
11/08/2021



Deschutes ESA



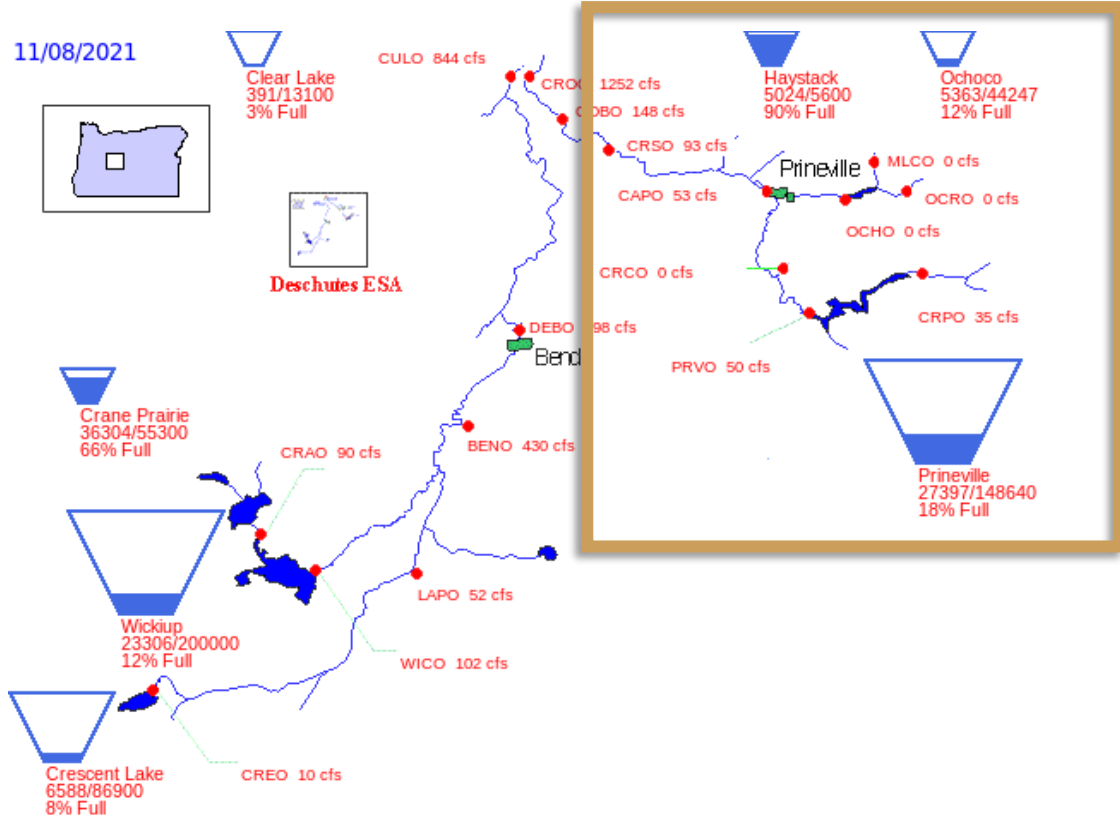
Crescent Lake Dam



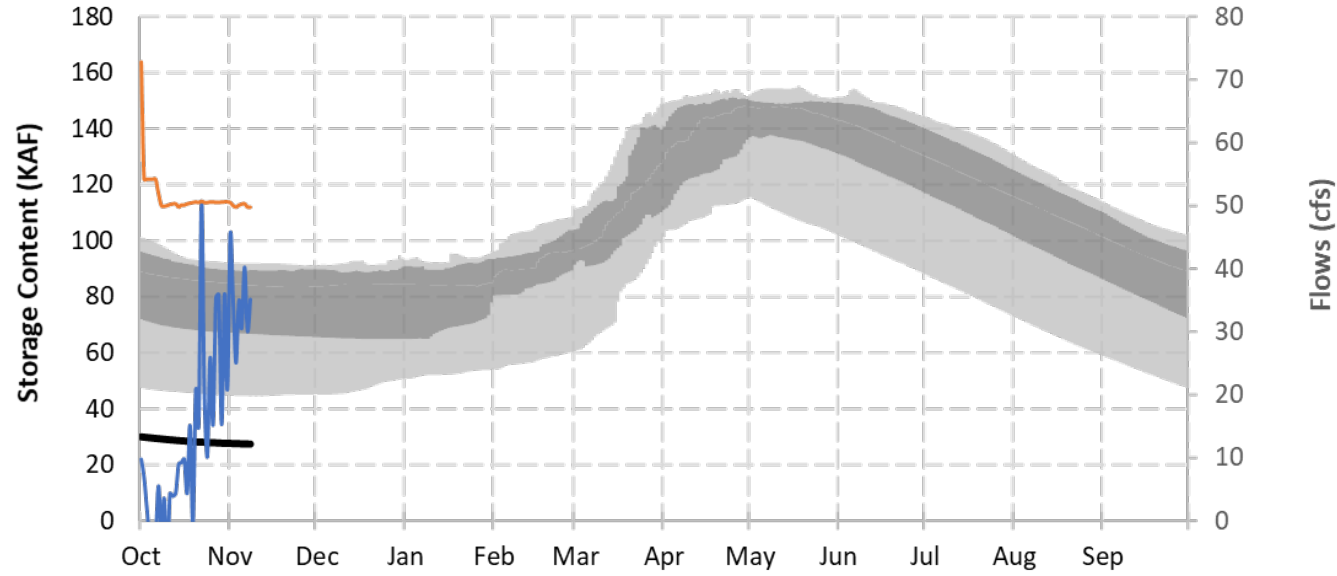
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Crooked River Basin

11/08/2021

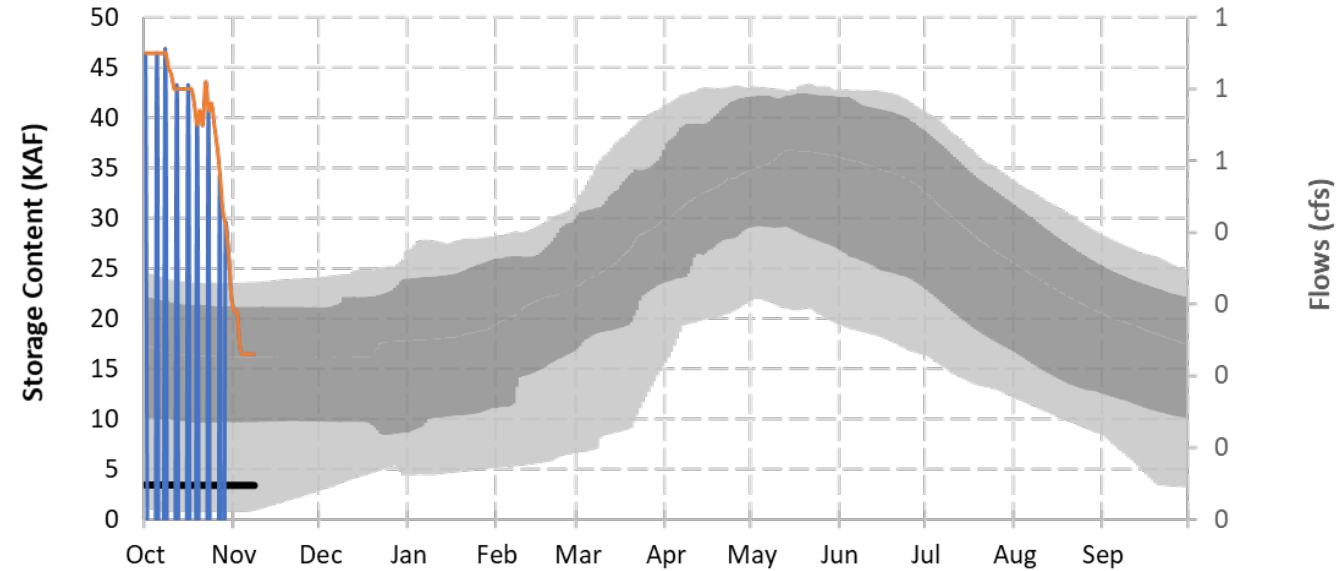


Bowman Dam - Prineville Reservoir



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

Ochoco Dam and Reservoir

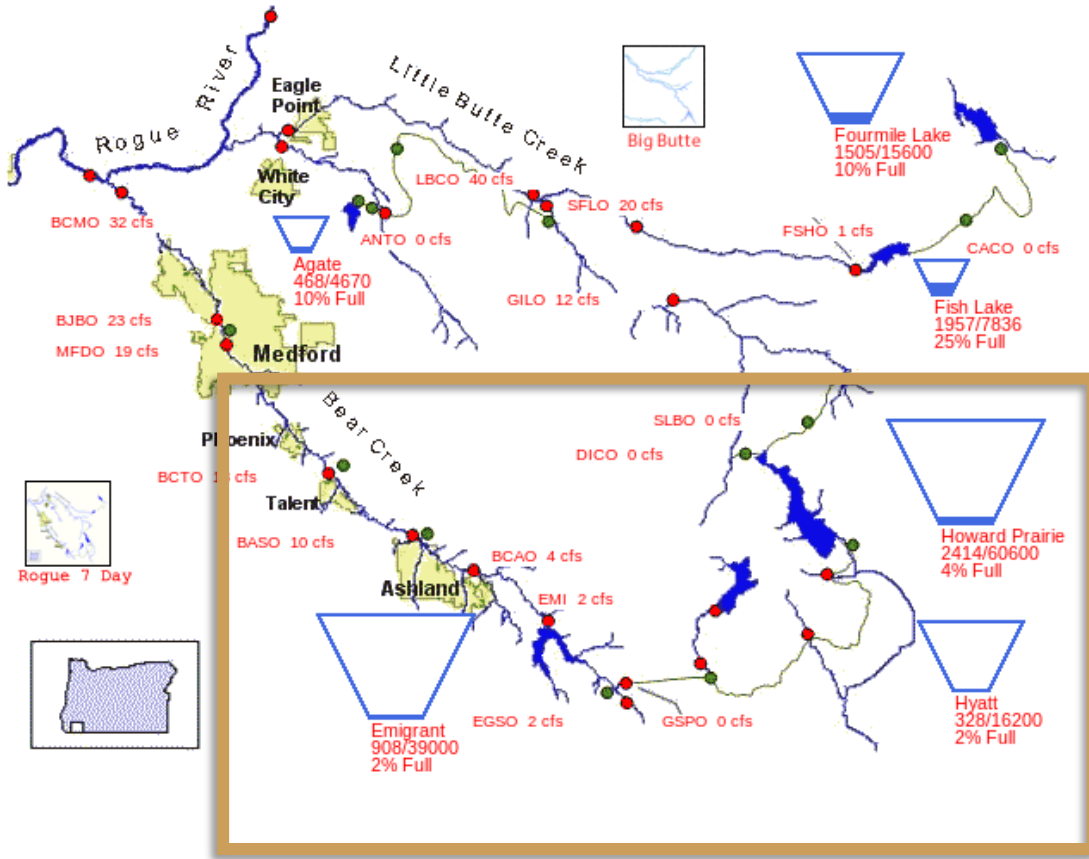


Storage Content 10th & 90th Percentiles Storage Content 25th and 75th Percentiles Calculated Inflow Outflow

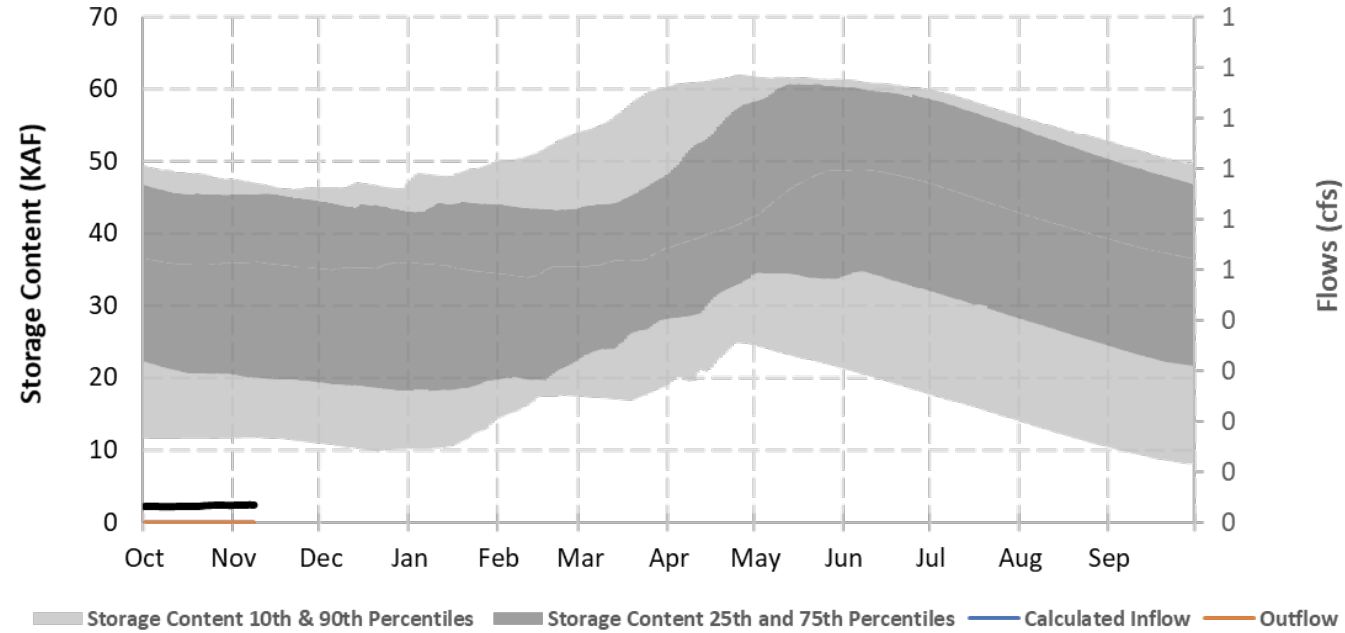
*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin

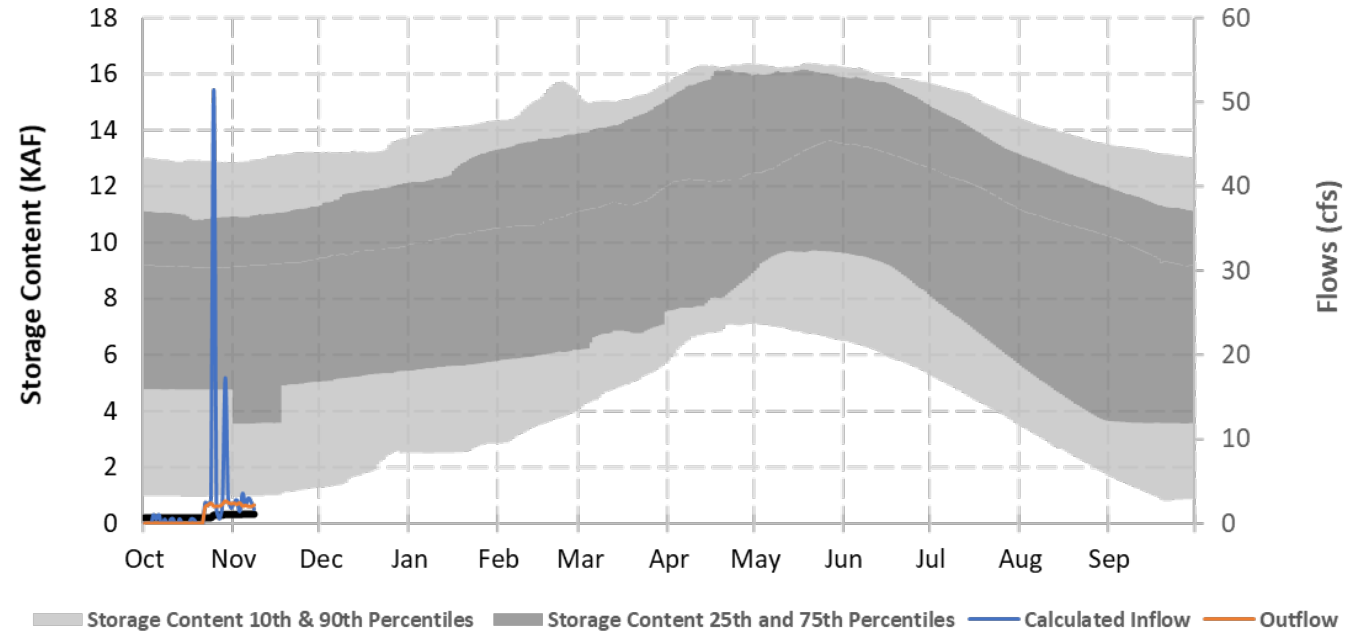
11/08/2021



Howard Prairie Dam and Lake



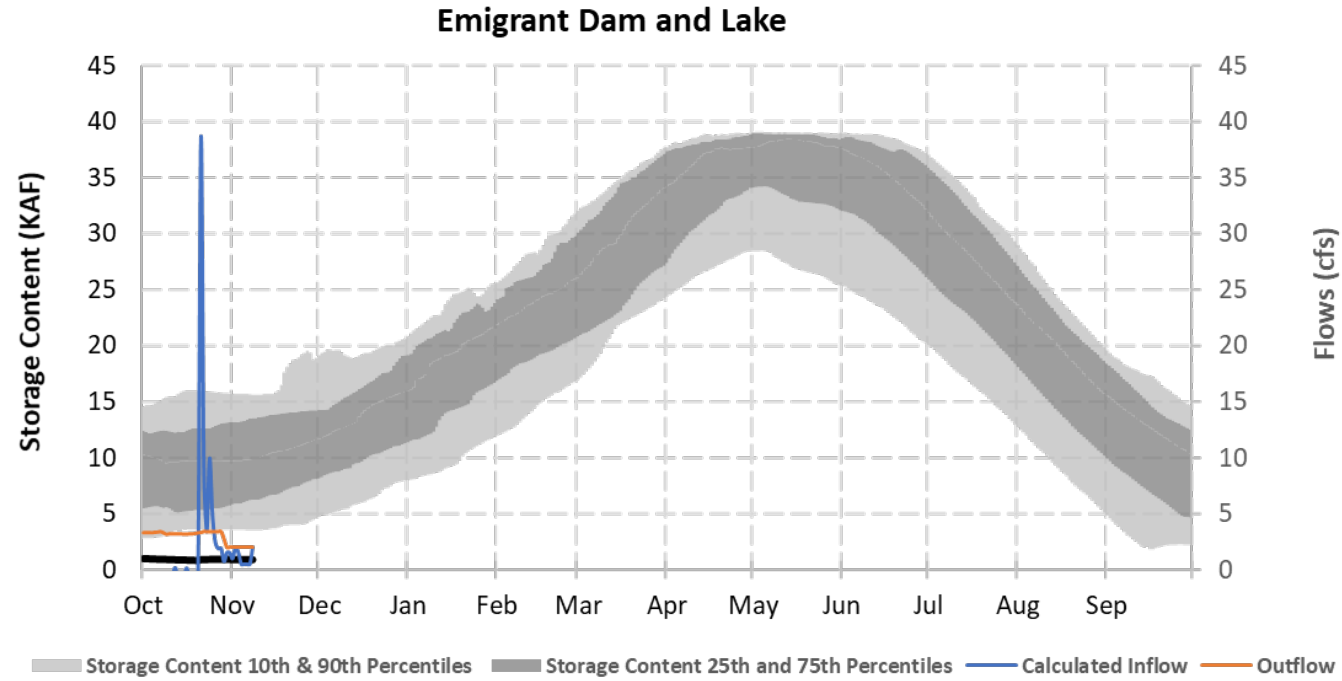
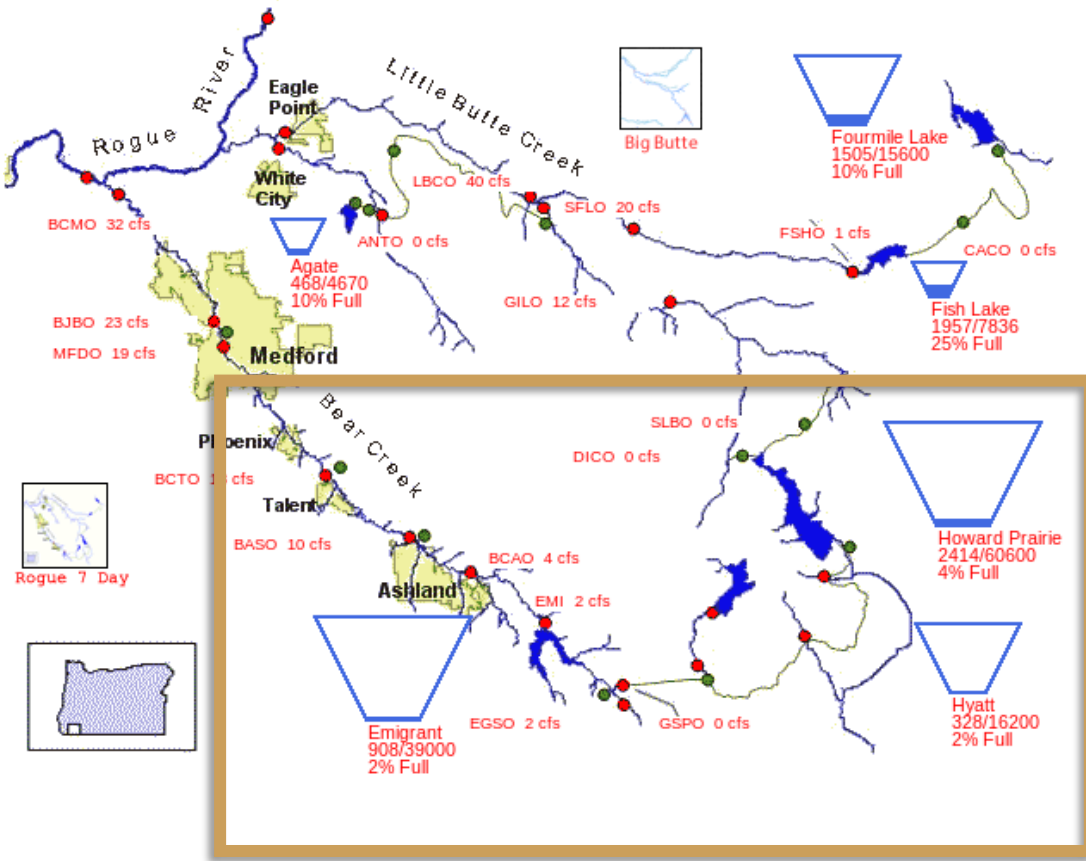
Hyatt Dam and Reservoir



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

Rogue River Basin

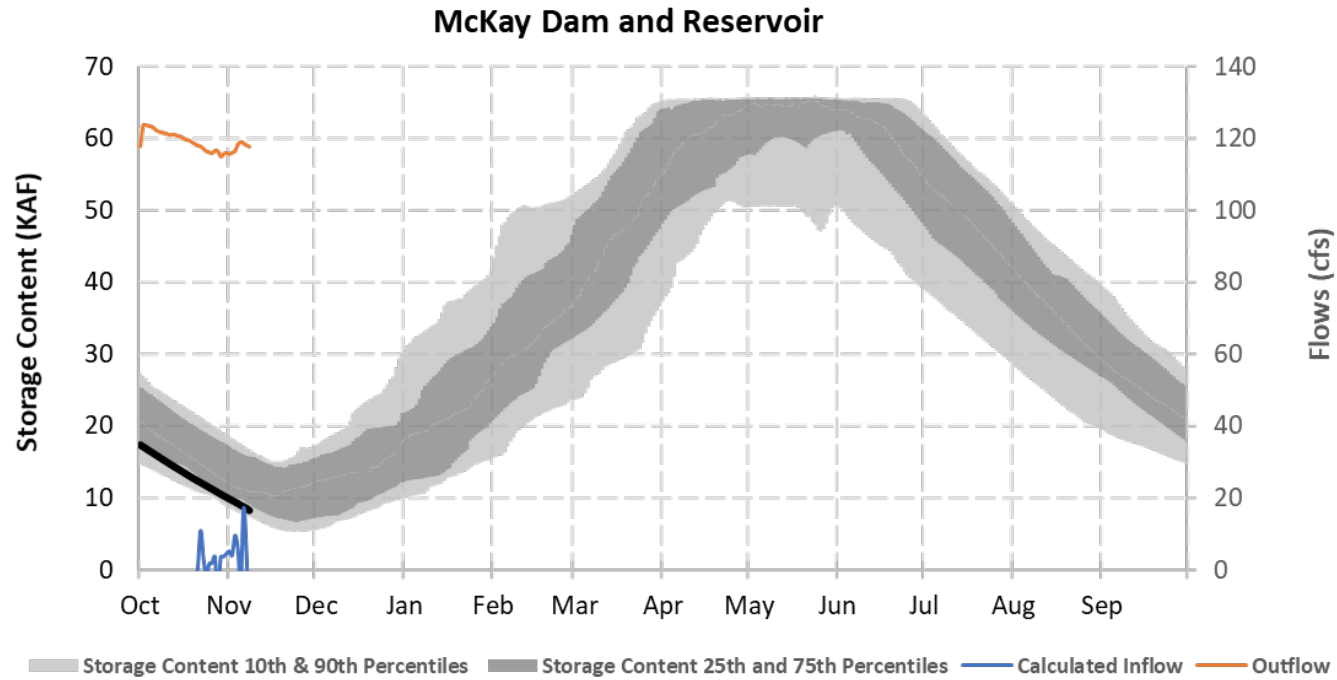
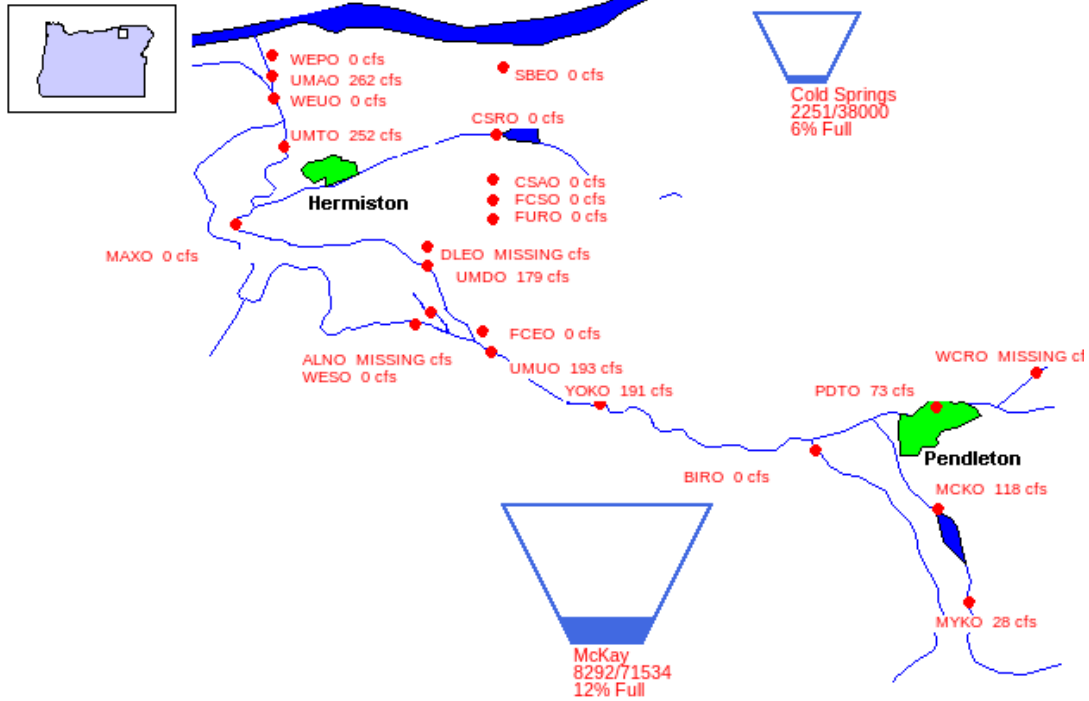
11/08/2021



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

Umatilla River Basin

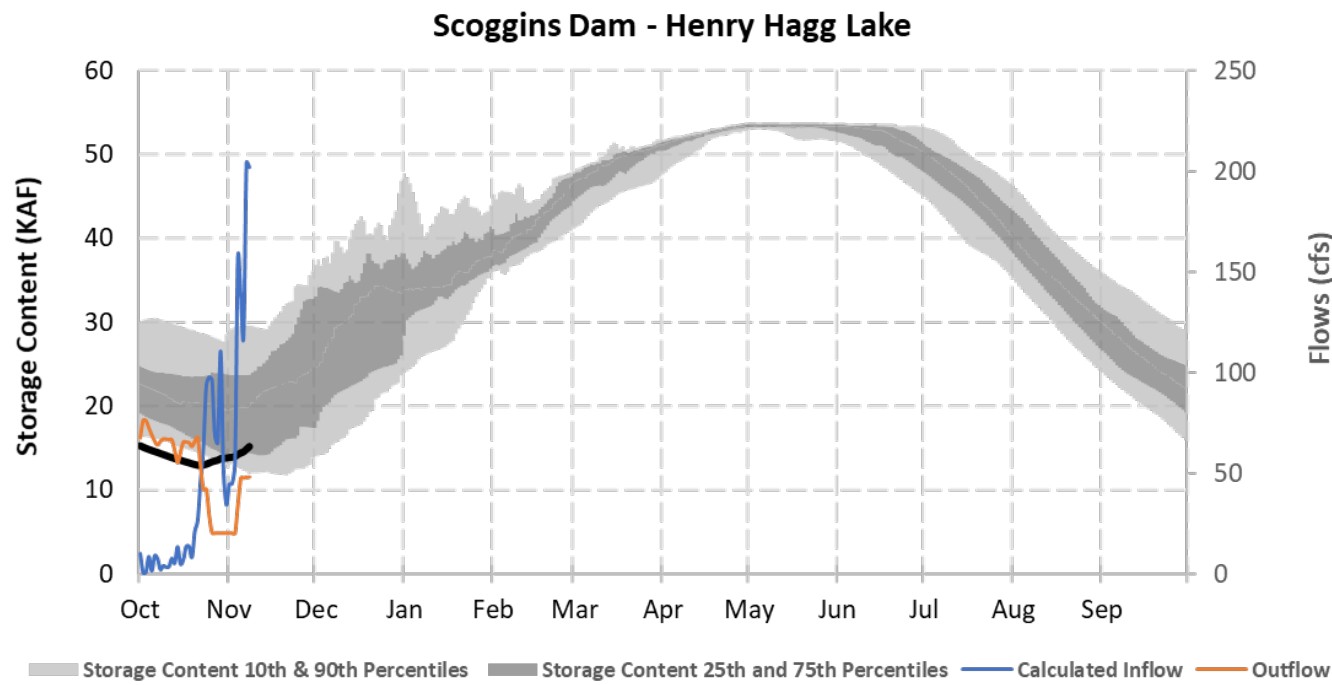
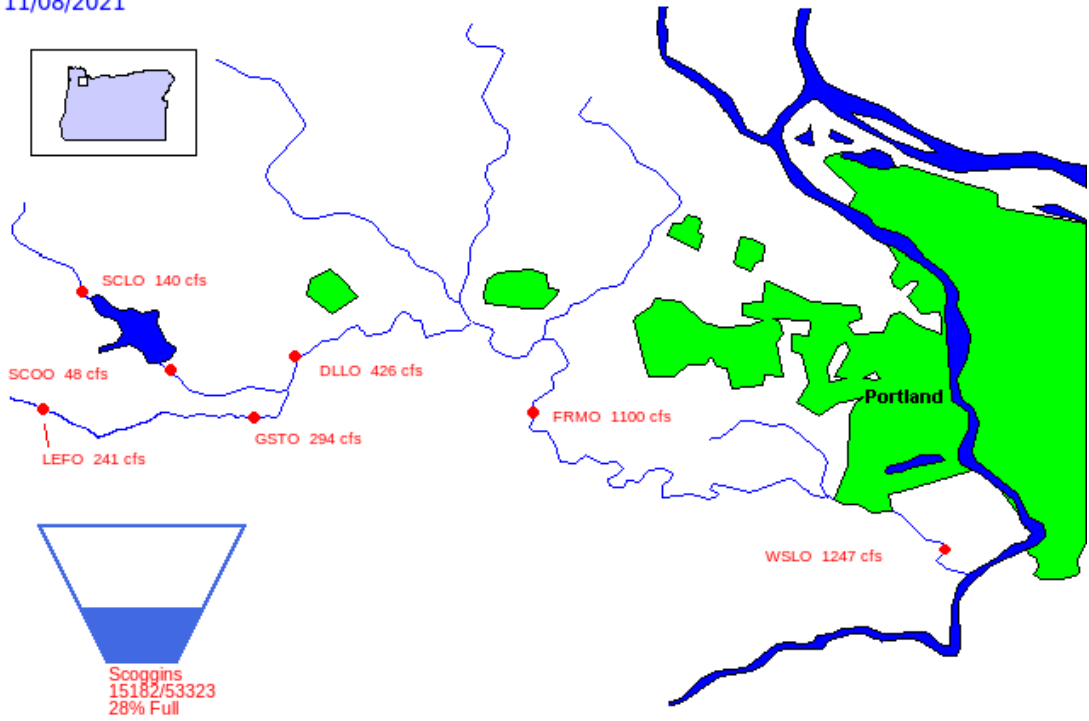
11/08/2021



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

Tualatin River Basin

11/08/2021



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

Peter Cooper – Columbia Pacific Northwest Regional Office

pcooper@usbr.gov

208.378.5037



— BUREAU OF —
RECLAMATION