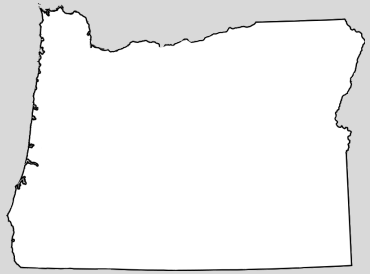
USDA United States Department of Agriculture

Natural Resources Conservation Service

Oregon Snow Survey

Snow Survey and Water Supply Forecasting Program



Oregon
Water Supply Availability Committee

January 17, 2022

Matt Warbritton
Lead Hydrologist
USDA NRCS Oregon Snow Survey
matt.warbritton@usda.gov
503-307-2829

United States Department of Agriculture

Natural Resources Conservation Service

USDA United States Department of Agriculture

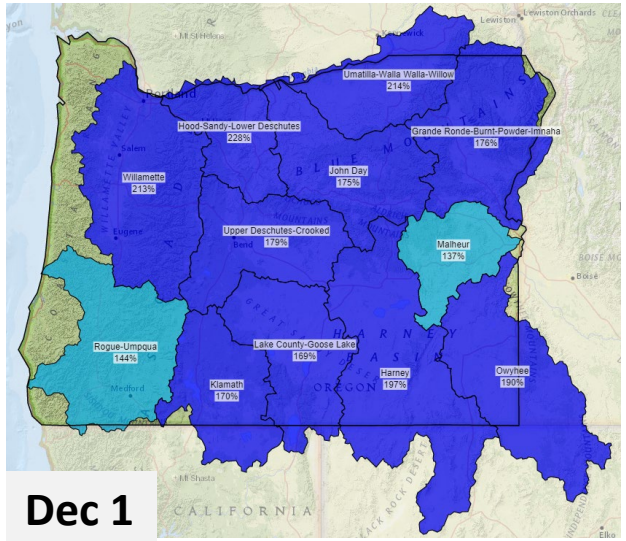
Natural Resources Conservation Service

Snowpack Conditions

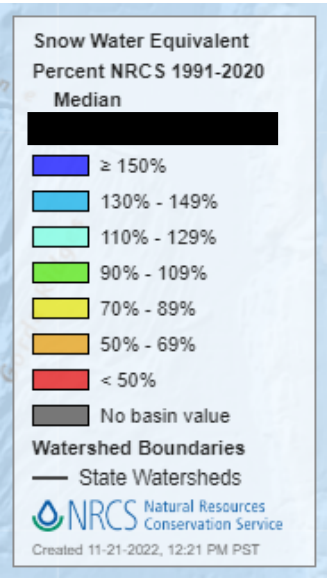
Snow Water Equivalent

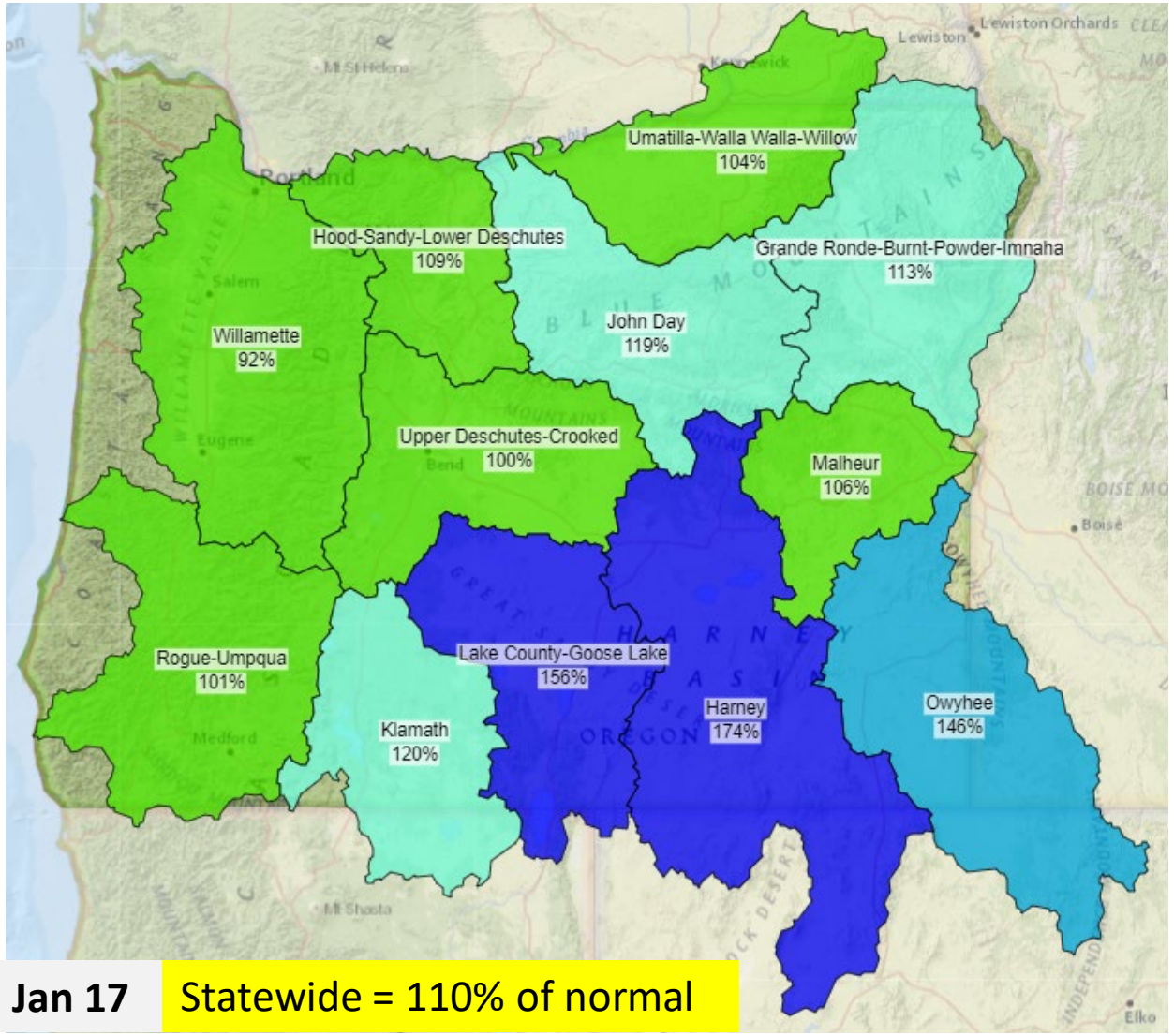
Basin Map

United States Department of Agriculture
Natural Resources Conservation Service



Dec 1



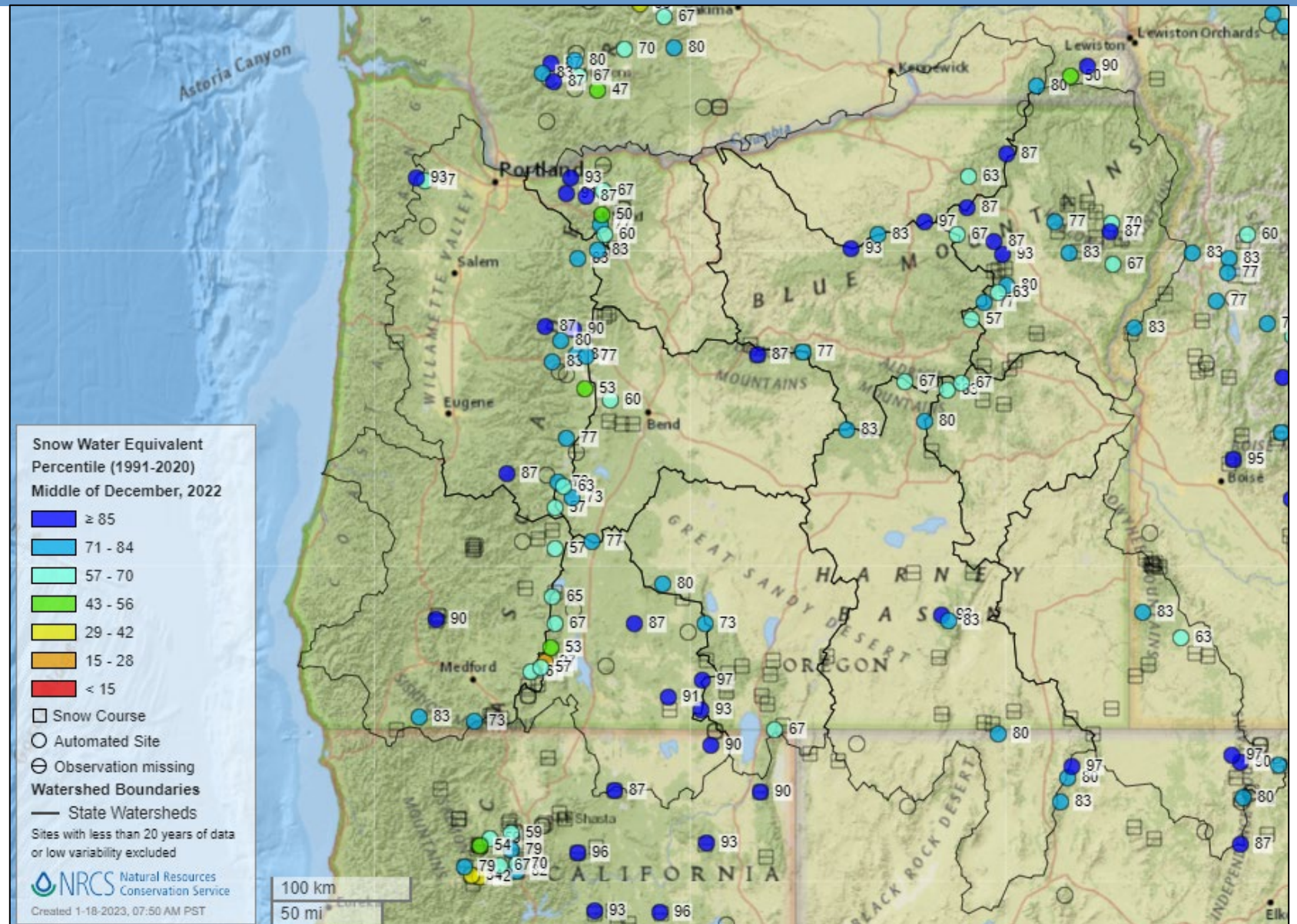


Jan 17 Statewide = 110% of normal

Snow Water Equivalent

Site Percentile – mid to end Dec

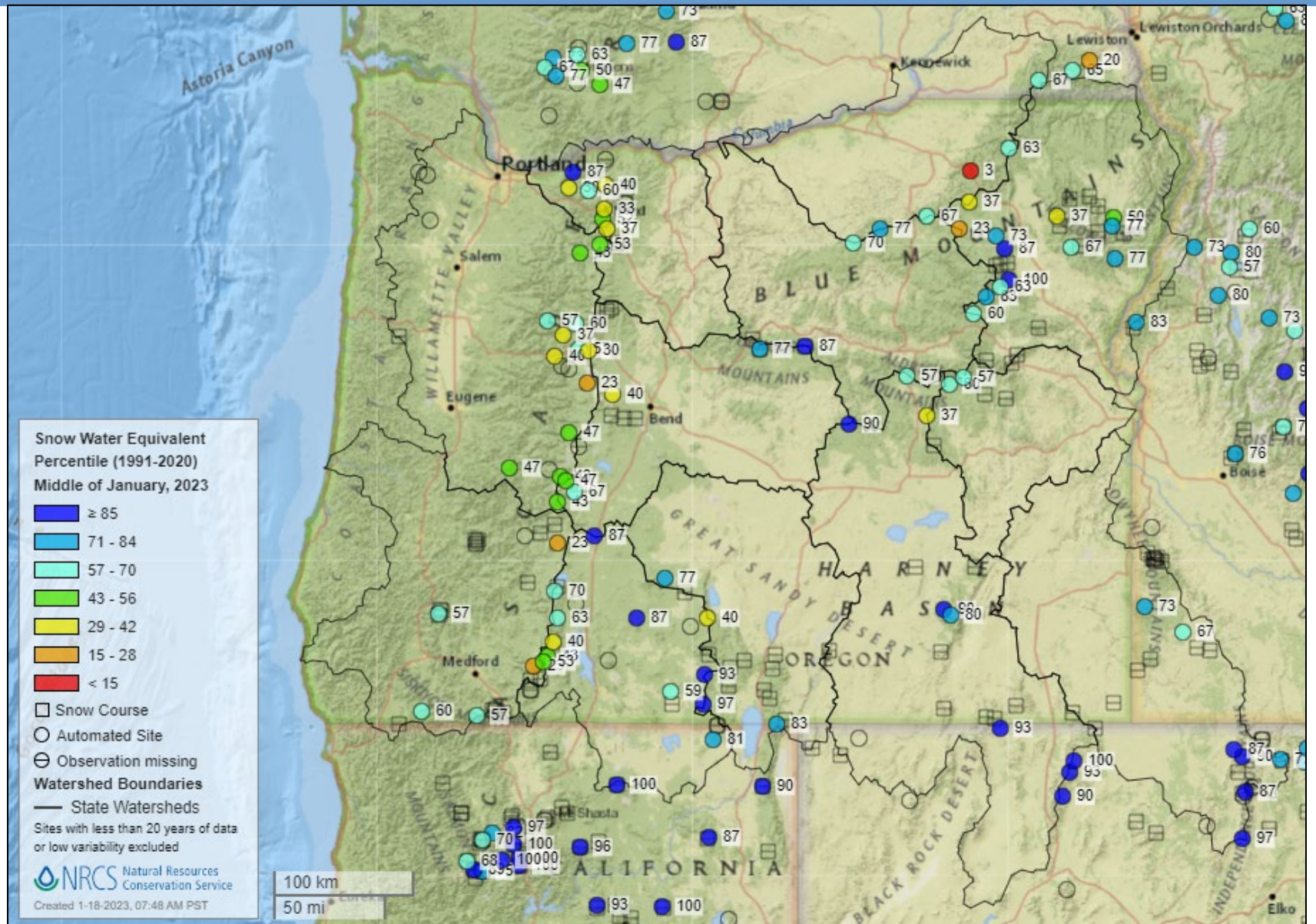
USDA United States Department of Agriculture
Natural Resources Conservation Service



Snow Water Equivalent

Site Percentile - start to mid January

USDA United States Department of Agriculture
Natural Resources Conservation Service

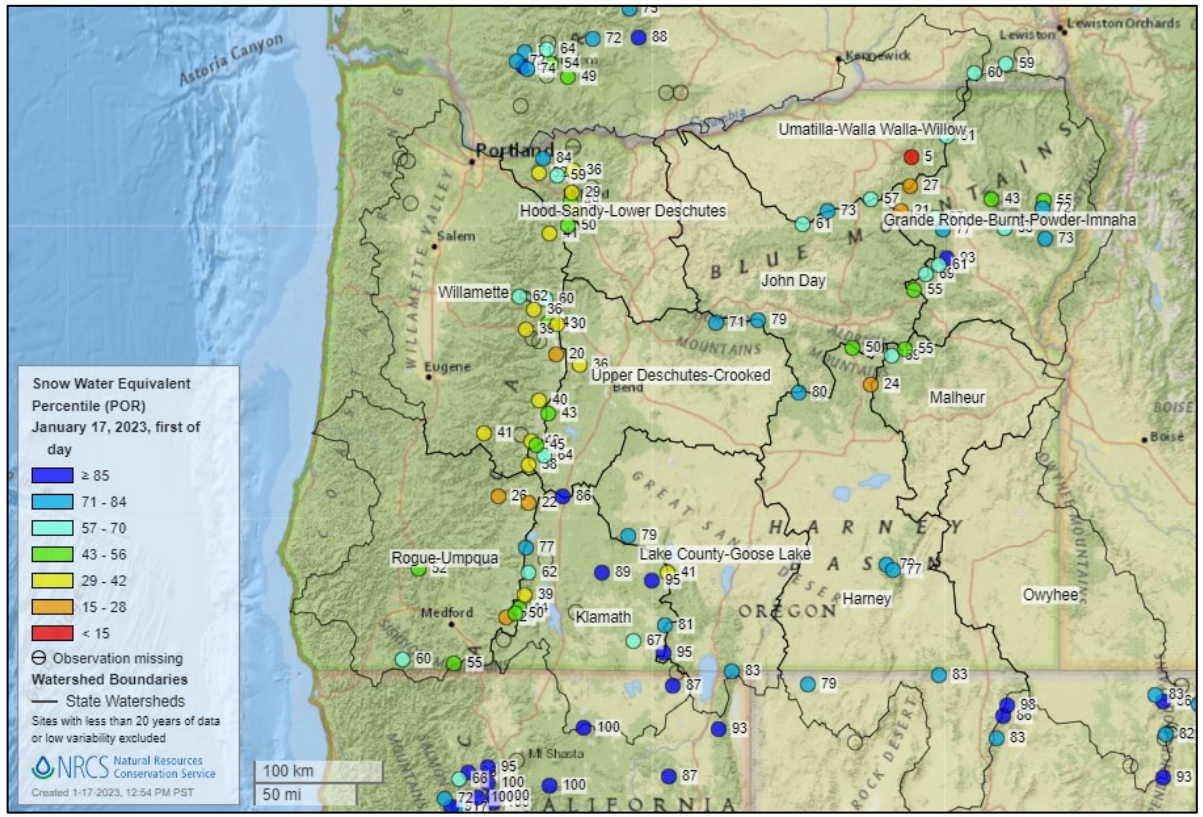


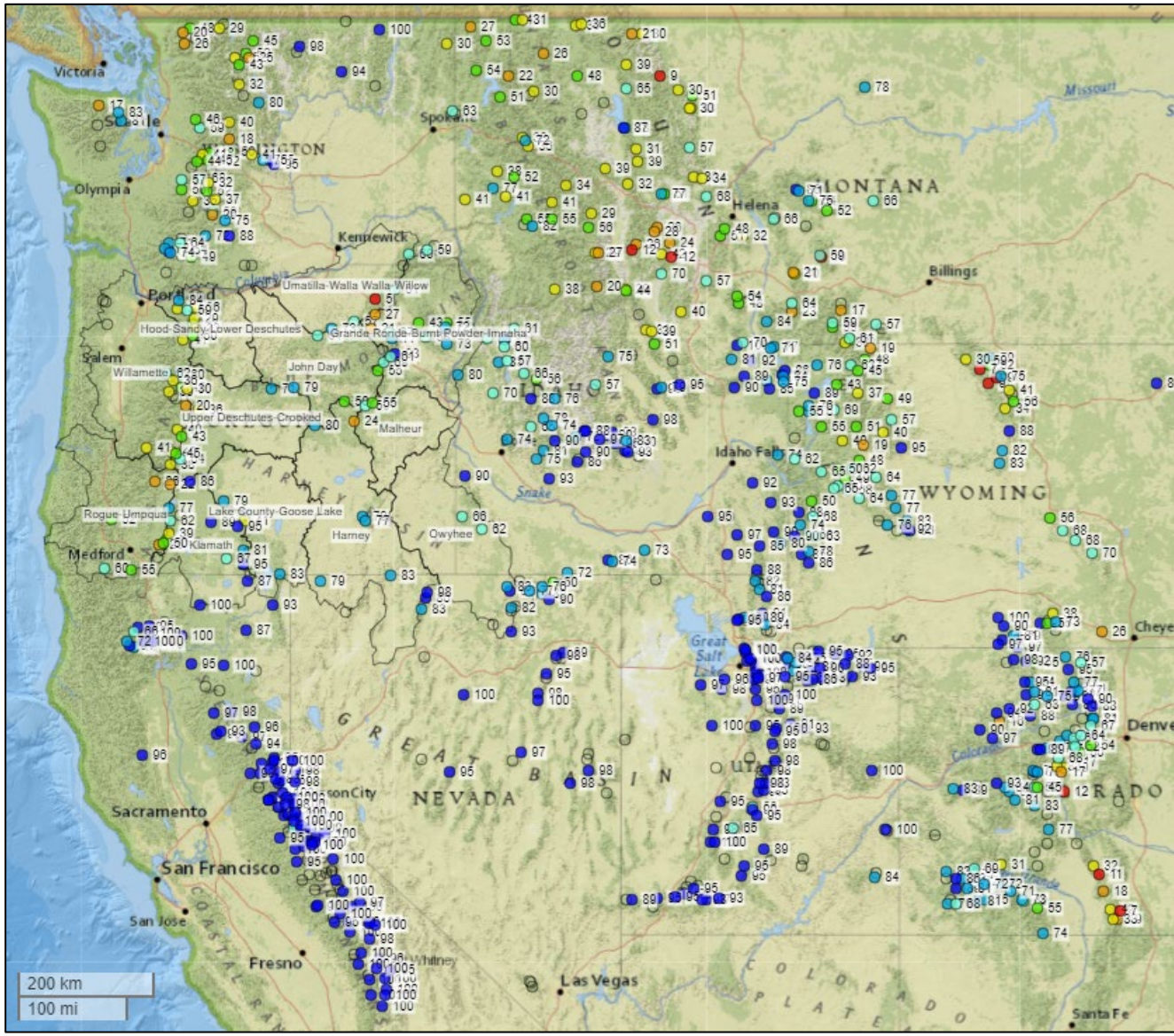
SWE Percentile (POR)

WY 2023

United States Department of Agriculture

Natural Resources Conservation Service

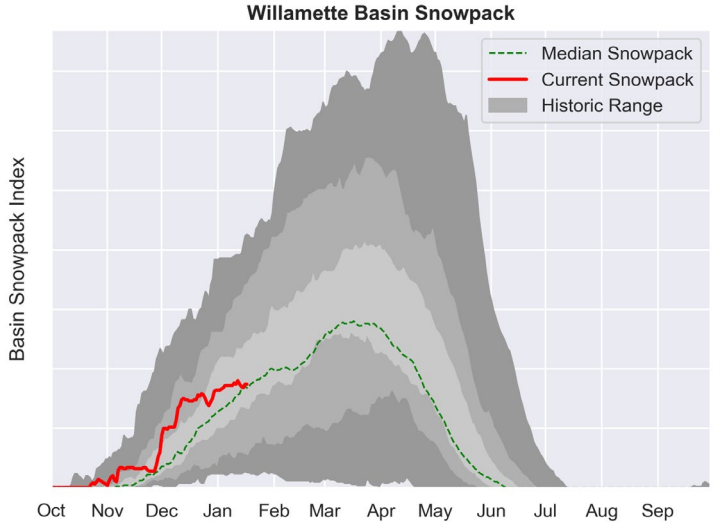


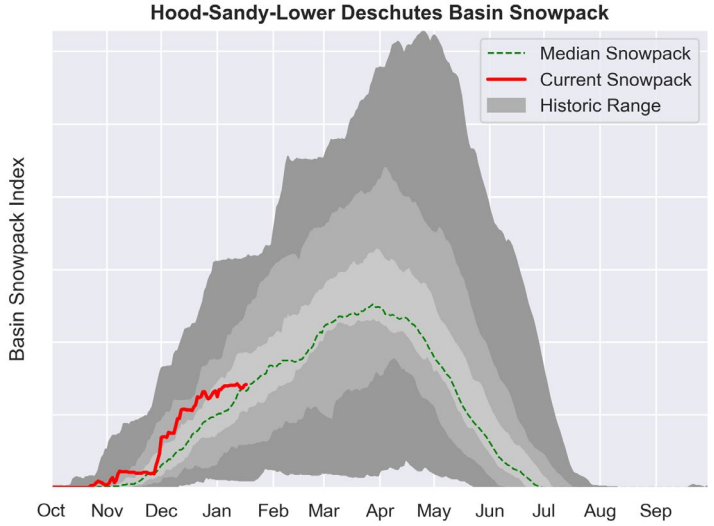


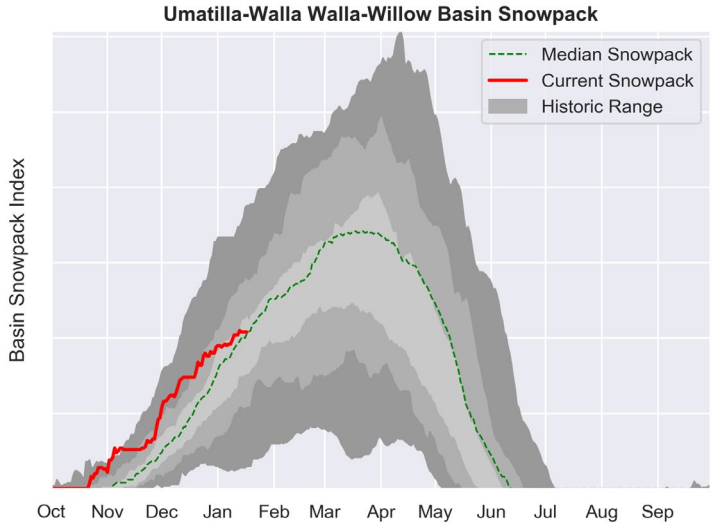
Snow Water Equivalent

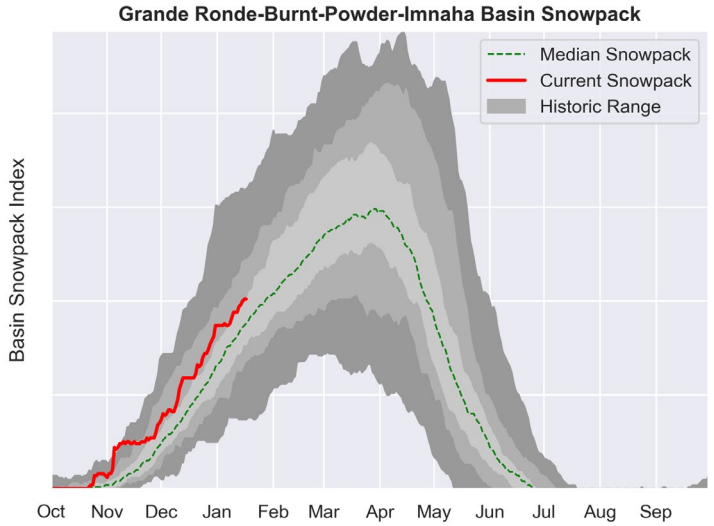
WY 2023 Basin Charts

United States Department of Agriculture
Natural Resources Conservation Service







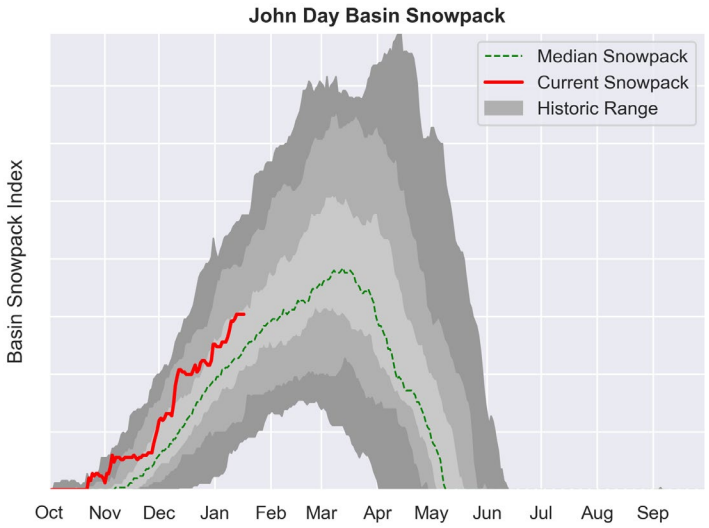


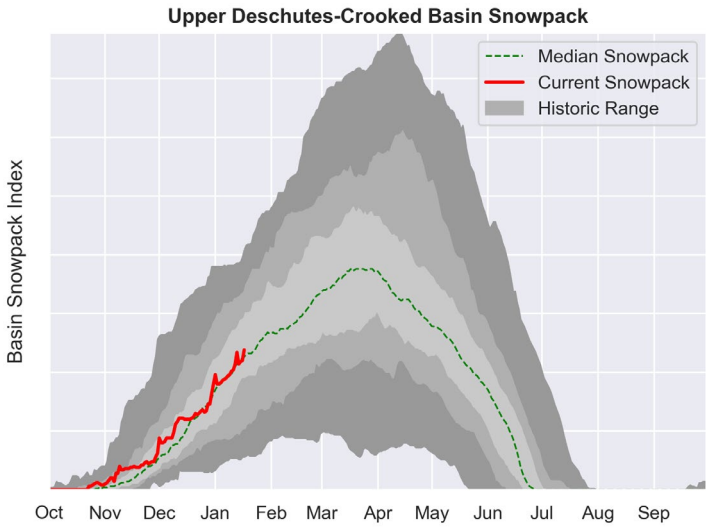
Snow Water Equivalent

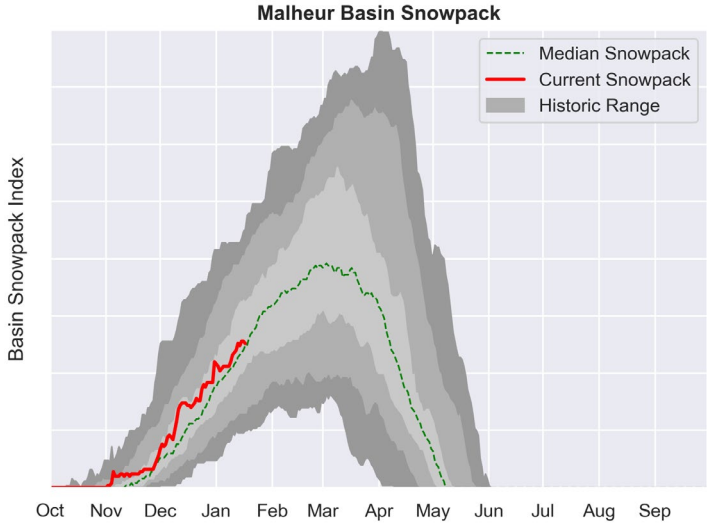
WY 2023 Basin Charts

United States Department of Agriculture

Natural Resources Conservation Service



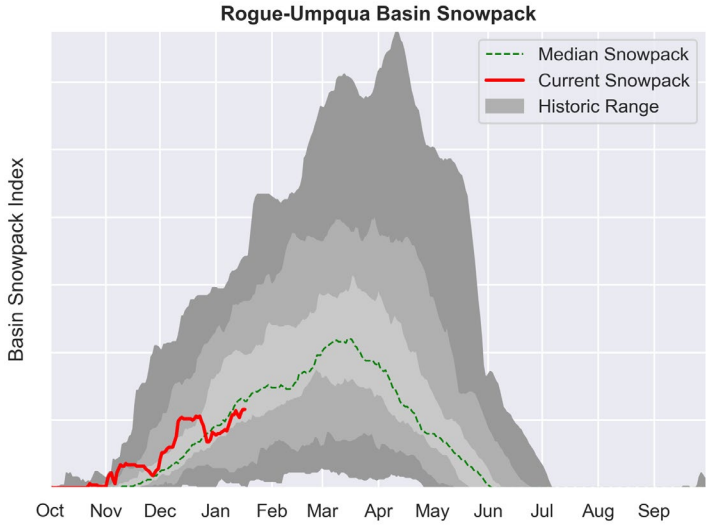


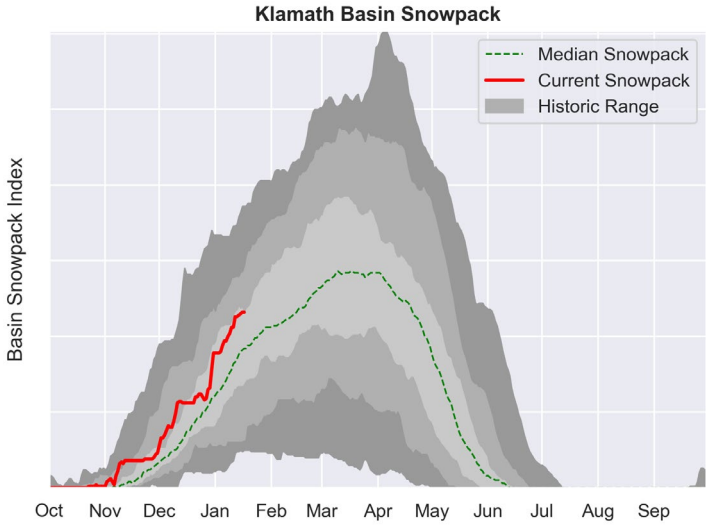


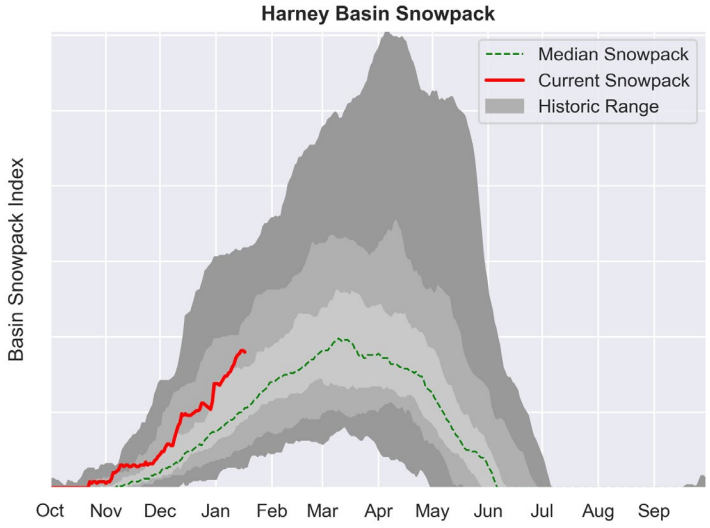
Snow Water Equivalent

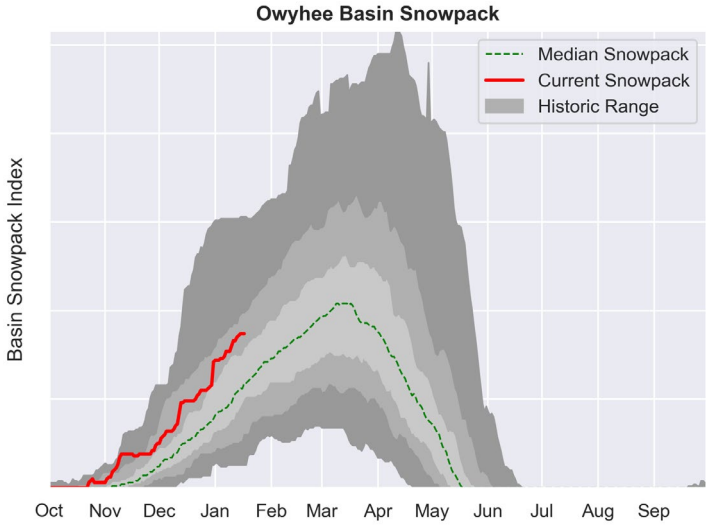
WY 2023 Basin Charts

United States Department of Agriculture
Natural Resources Conservation Service









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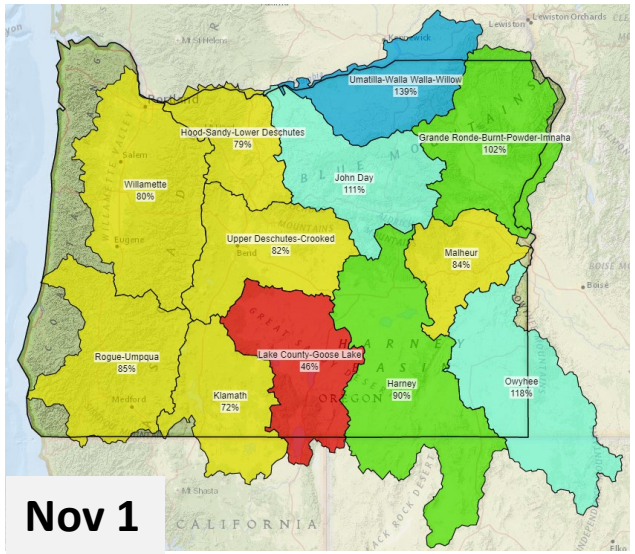
Precipitation Conditions

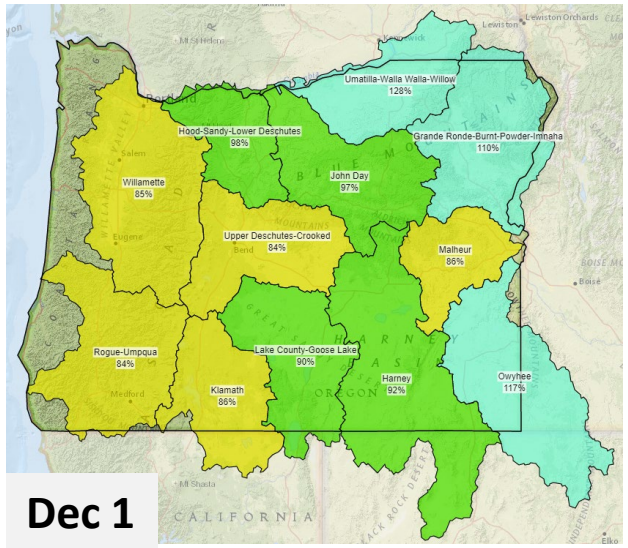
Water Year Precipitation

Basin Maps

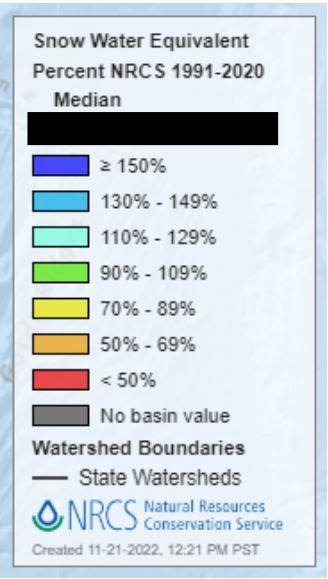
United States Department of Agriculture
Natural Resources Conservation Service

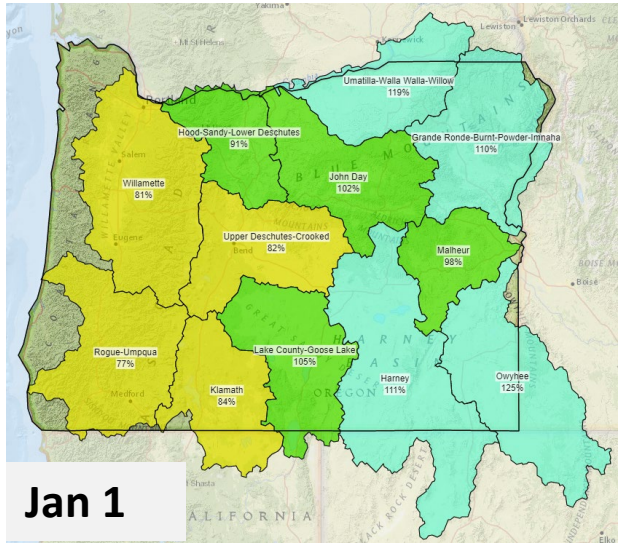


Nov 1

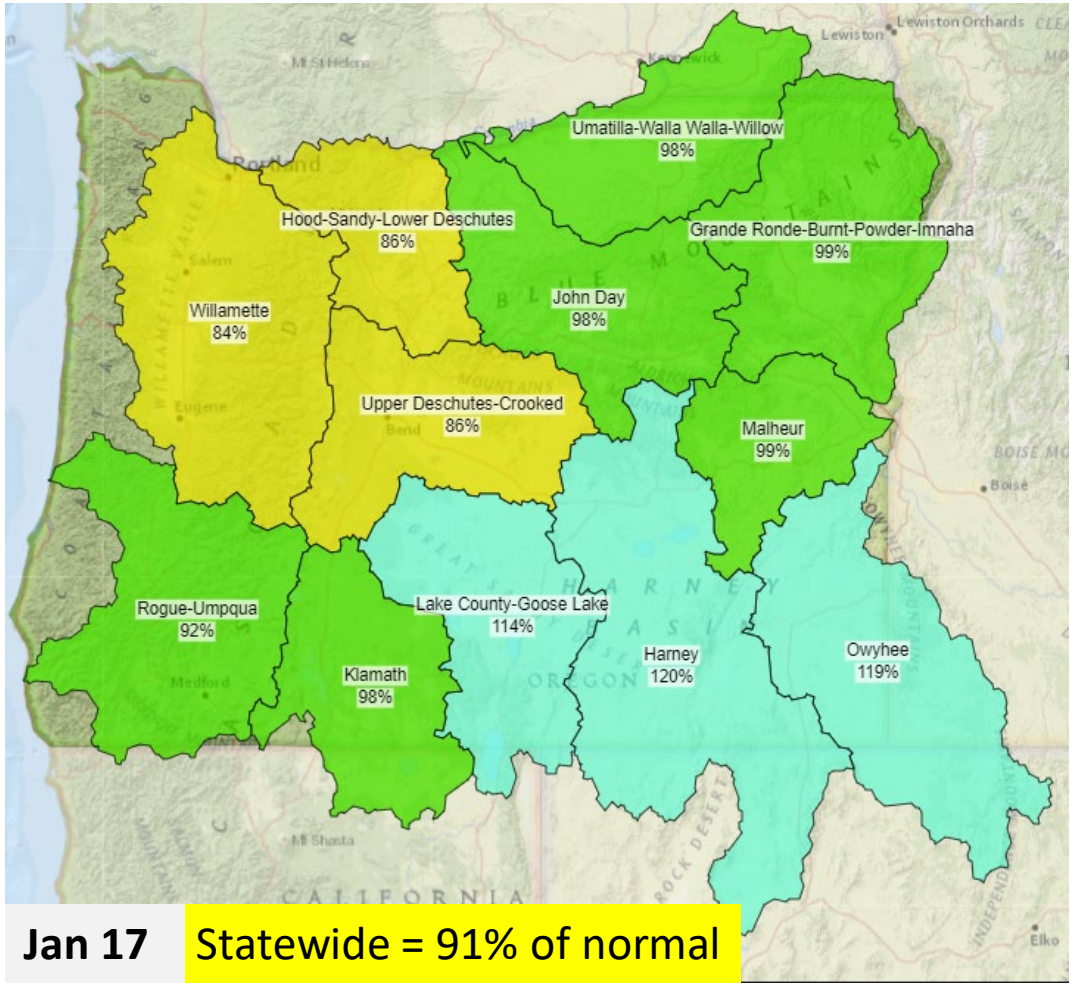


Dec 1





Jan 1



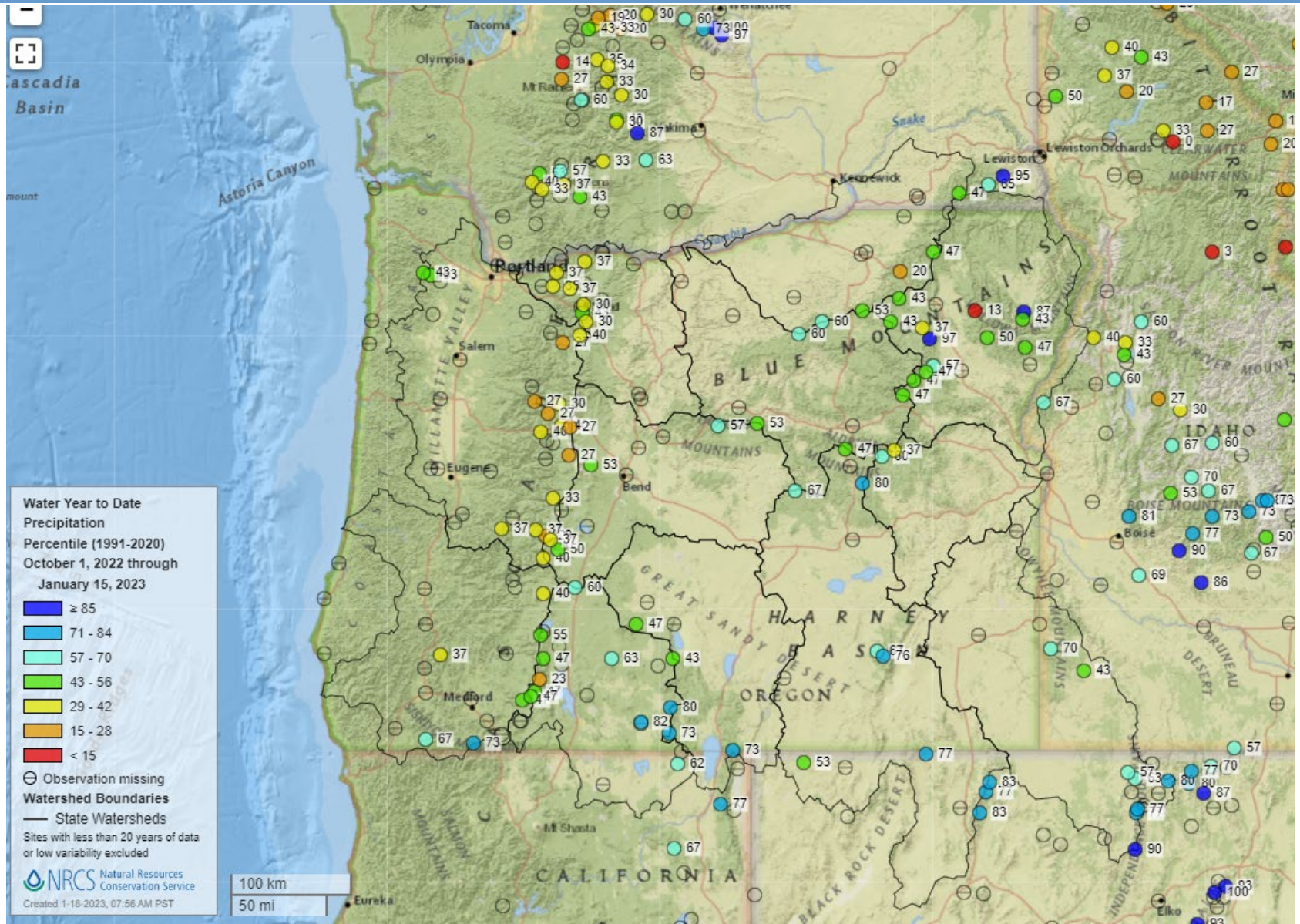
Jan 17

Statewide = 91% of normal

Precipitation

Site Percentiles – Water Year

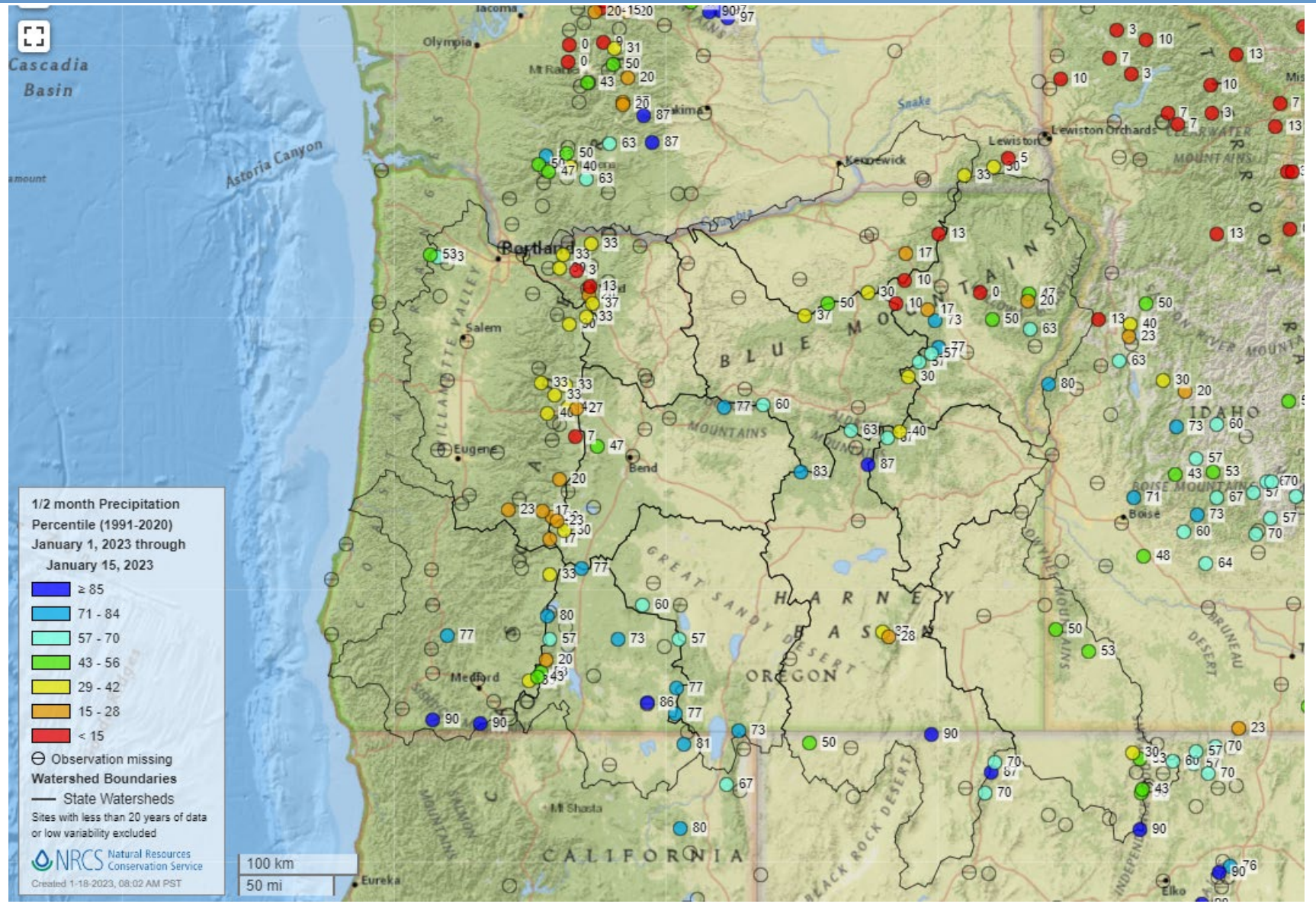
United States Department of Agriculture
Natural Resources Conservation Service



Precipitation

Site Percentiles – ½ Month

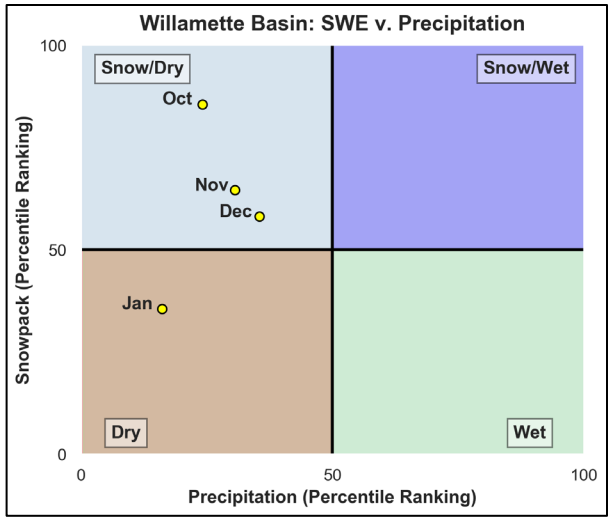
USDA United States Department of Agriculture
Natural Resources Conservation Service

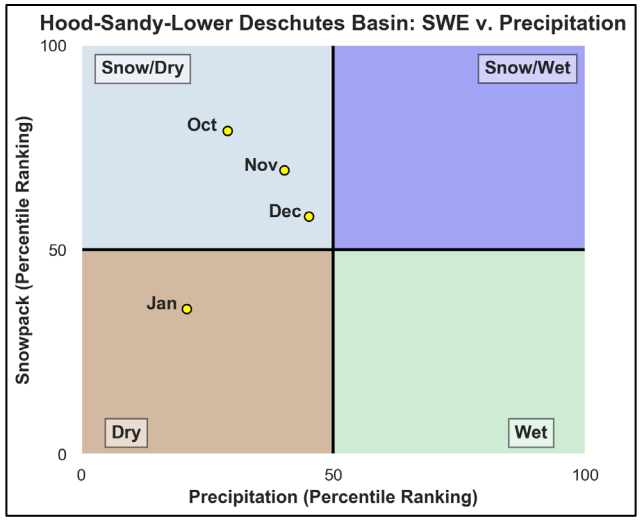


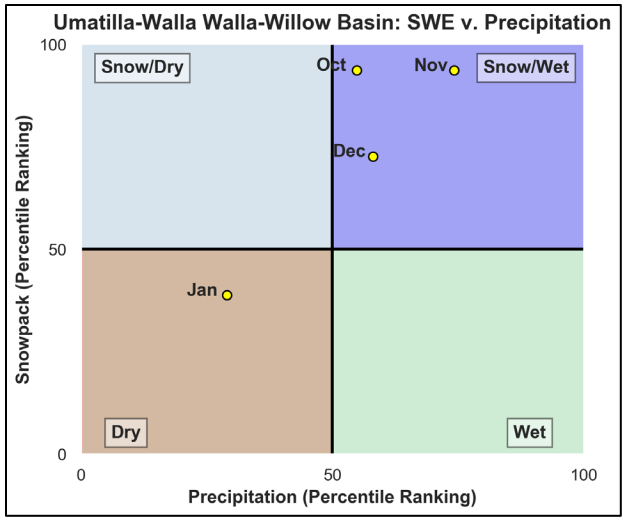
Percentile Ranking: SWE v. WY Precipitation

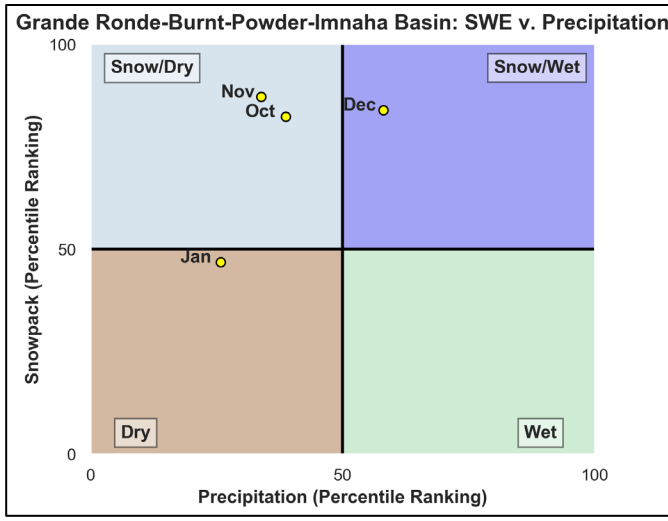
WY 2023

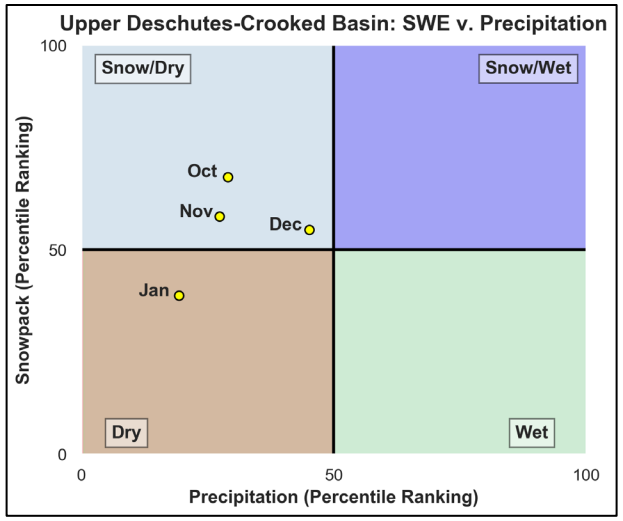
USDA United States Department of Agriculture
Natural Resources Conservation Service

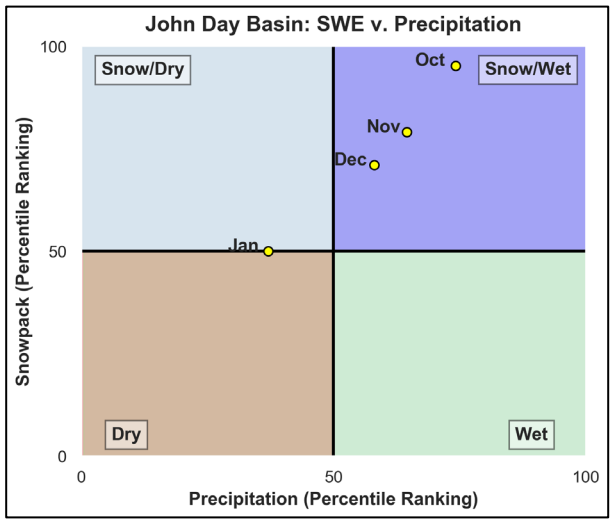


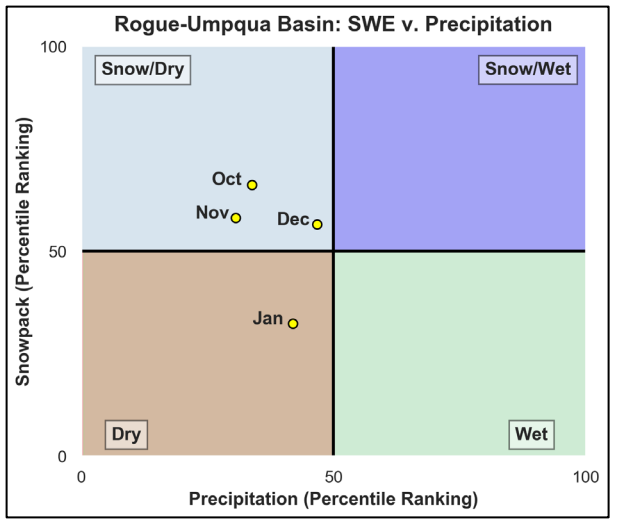








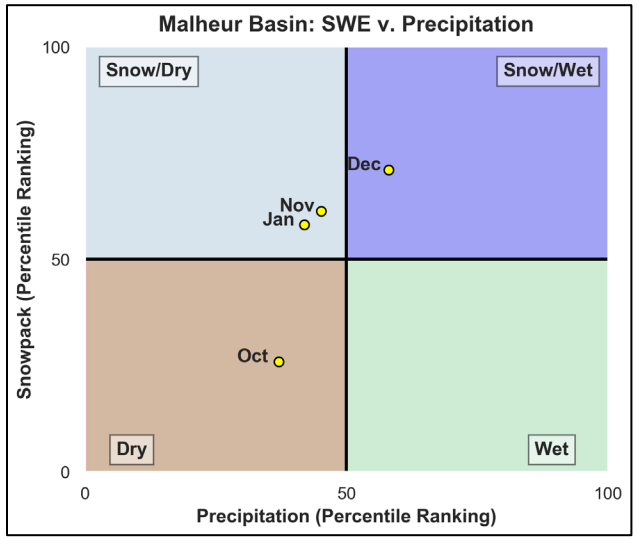


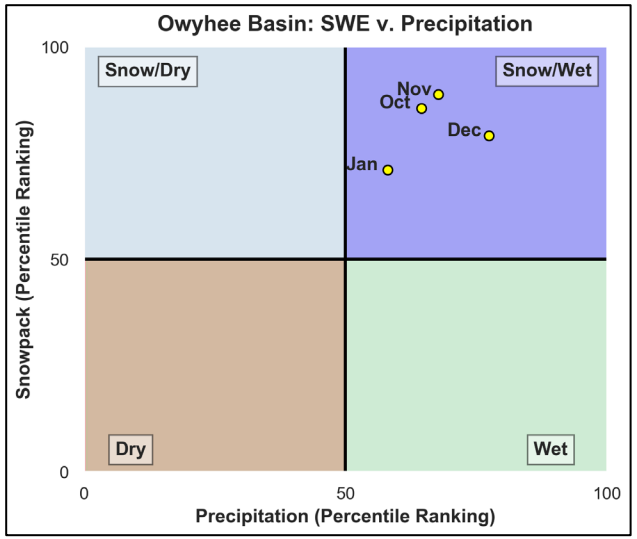


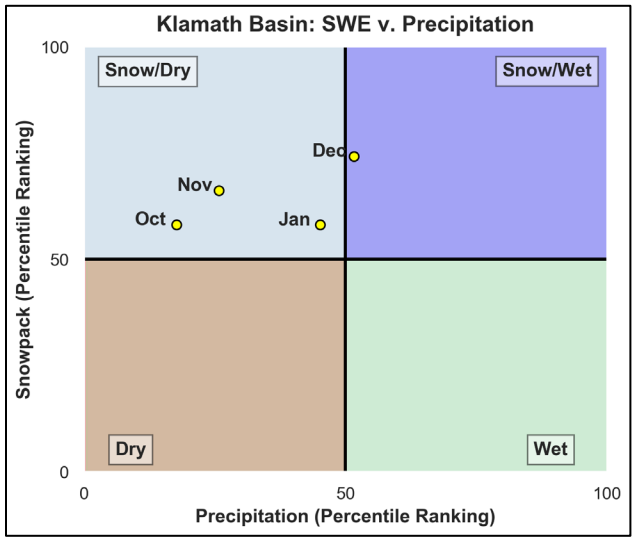
Percentile Ranking: SWE v. WY Precipitation

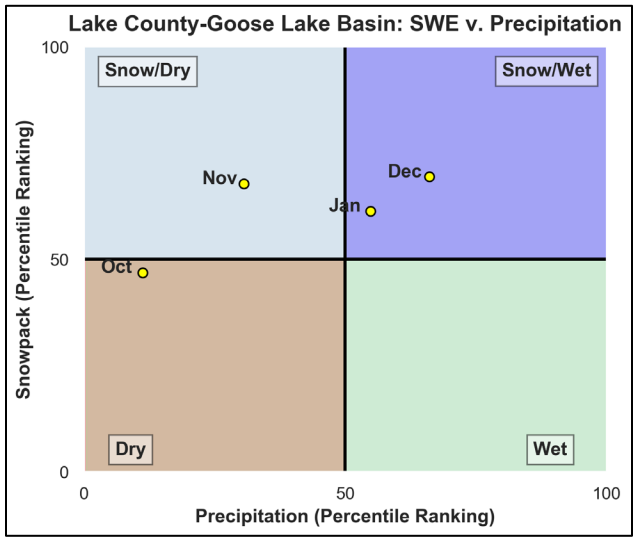
WY 2023

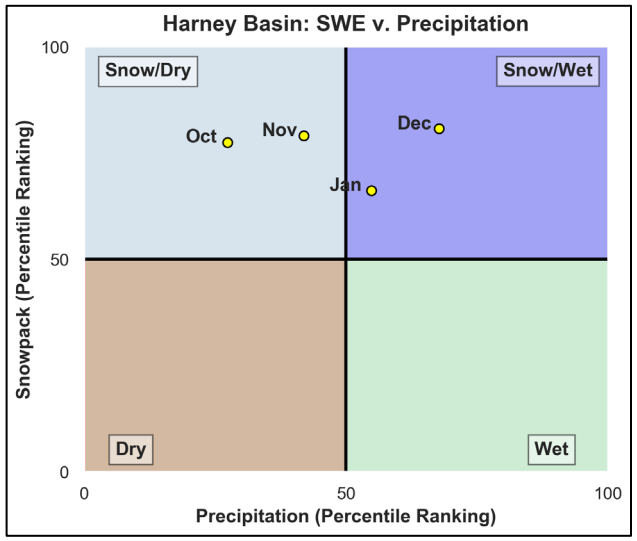
United States Department of Agriculture
Natural Resources Conservation Service











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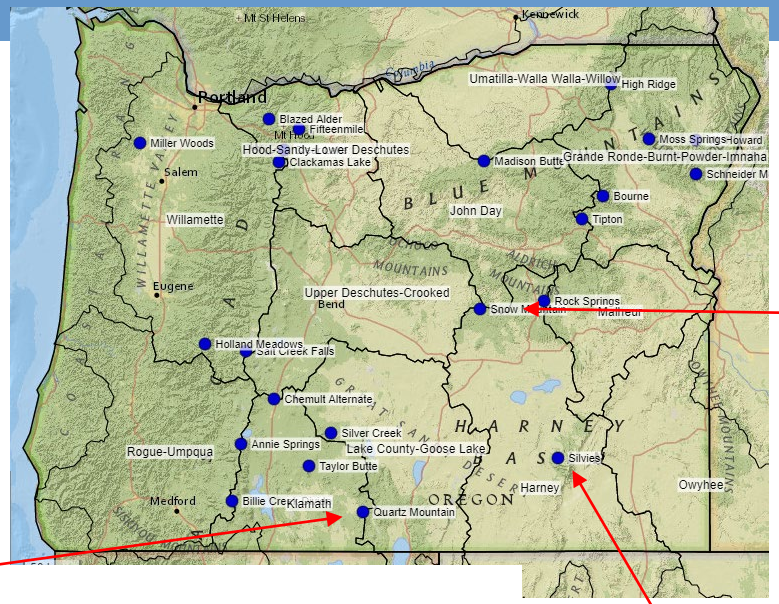
Natural Resources Conservation Service

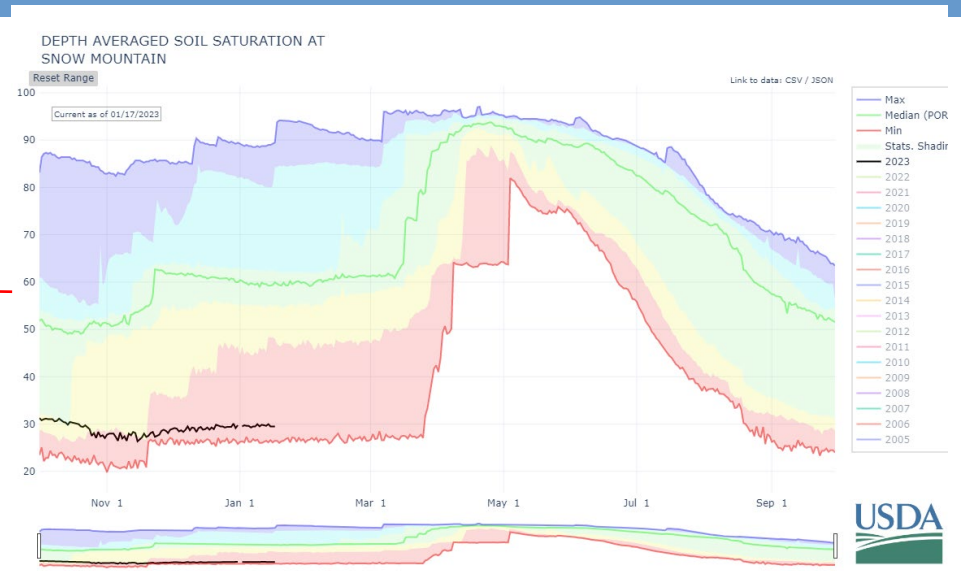
Soil Moisture Conditions

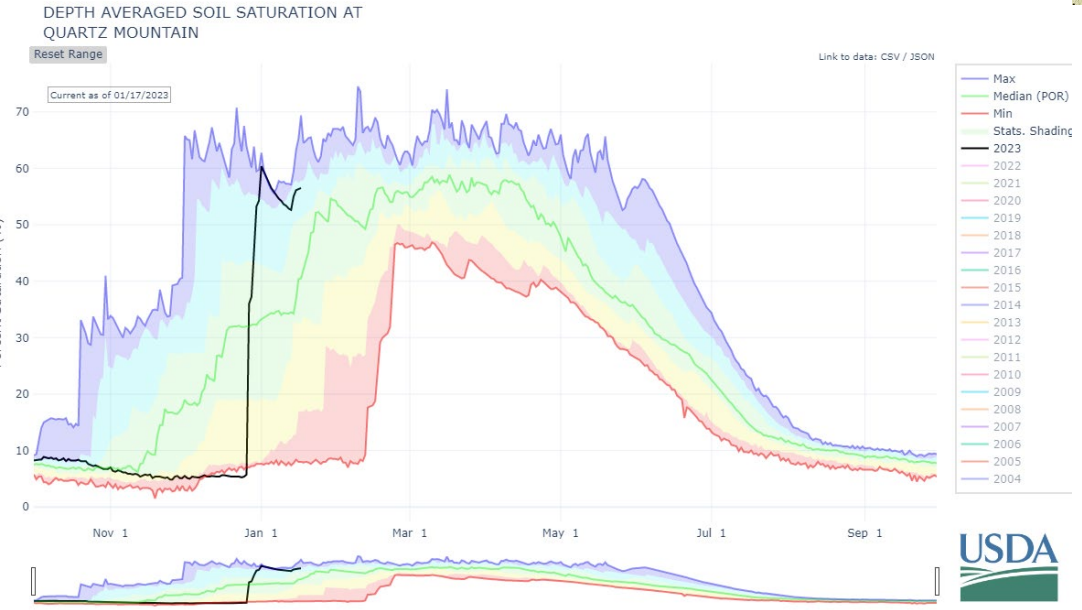
Soil Moisture

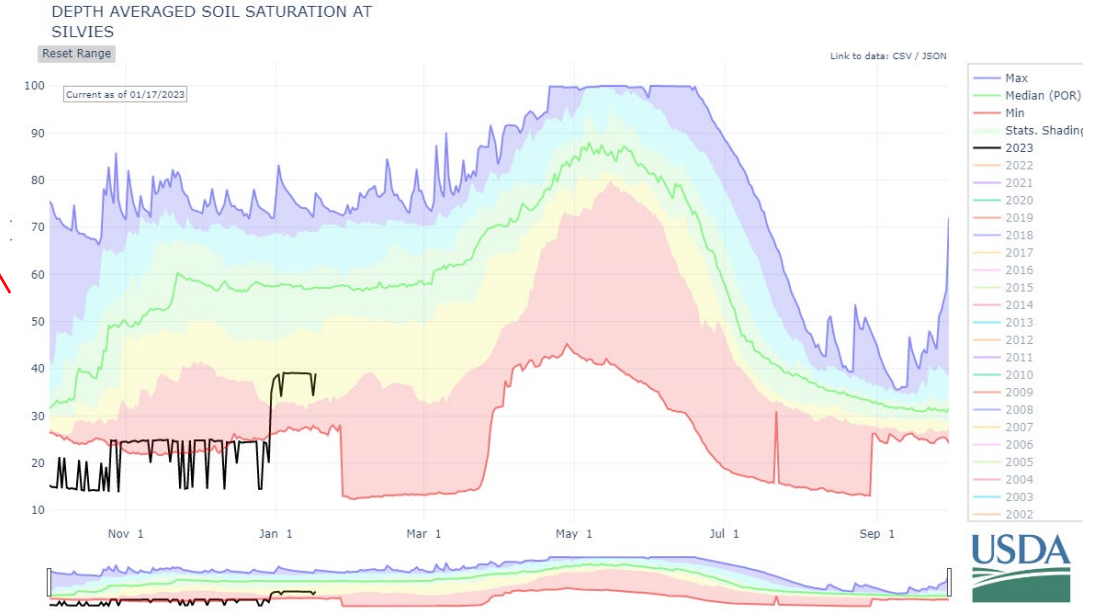
WY 2023 – Select Site Charts

USDA United States Department of Agriculture
Natural Resources Conservation Service





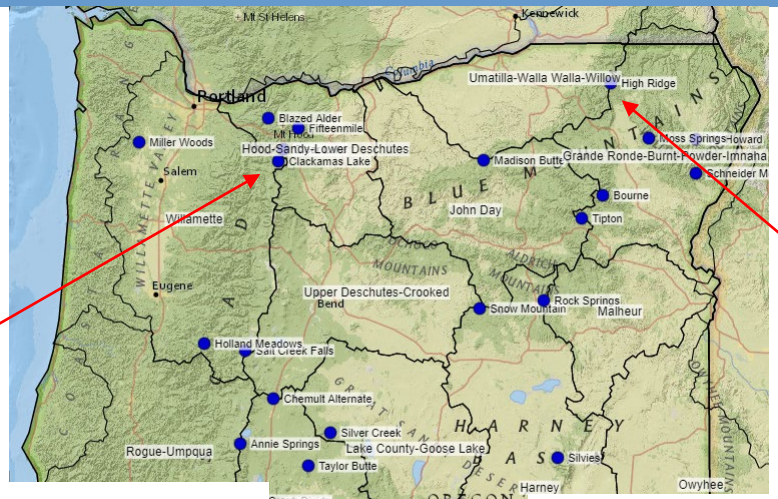


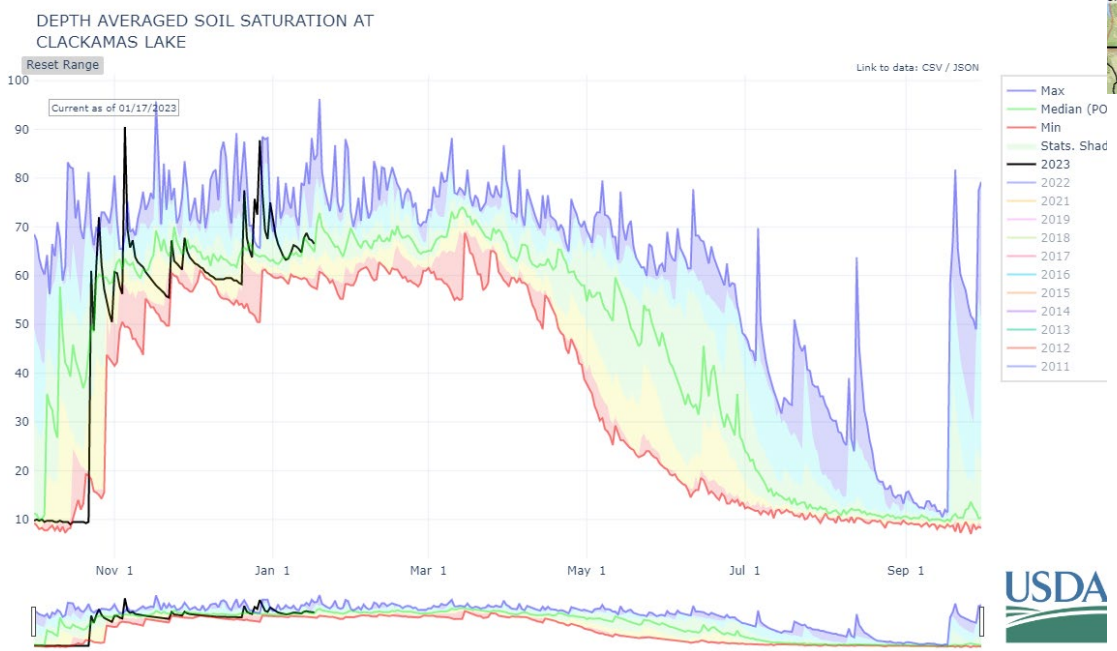


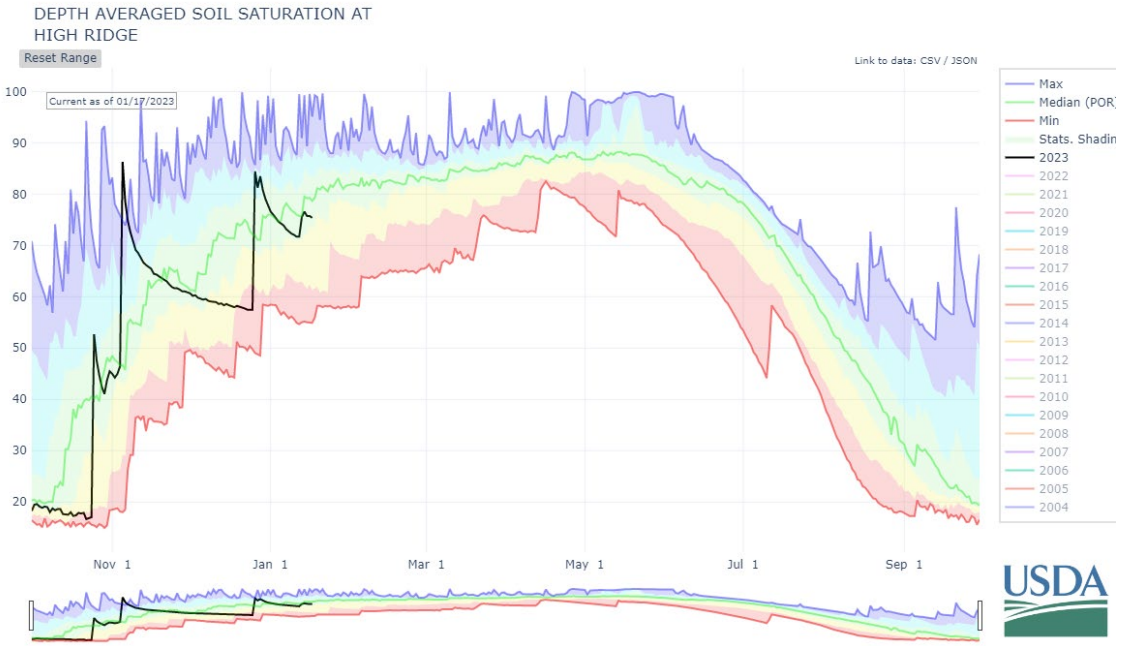
Soil Moisture

WY 2023 – Select Site Charts

United States Department of Agriculture
Natural Resources Conservation Service



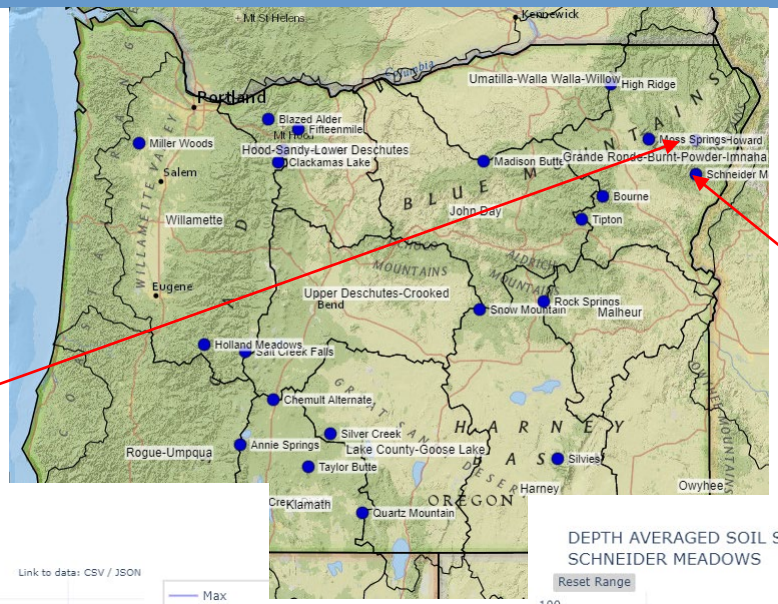


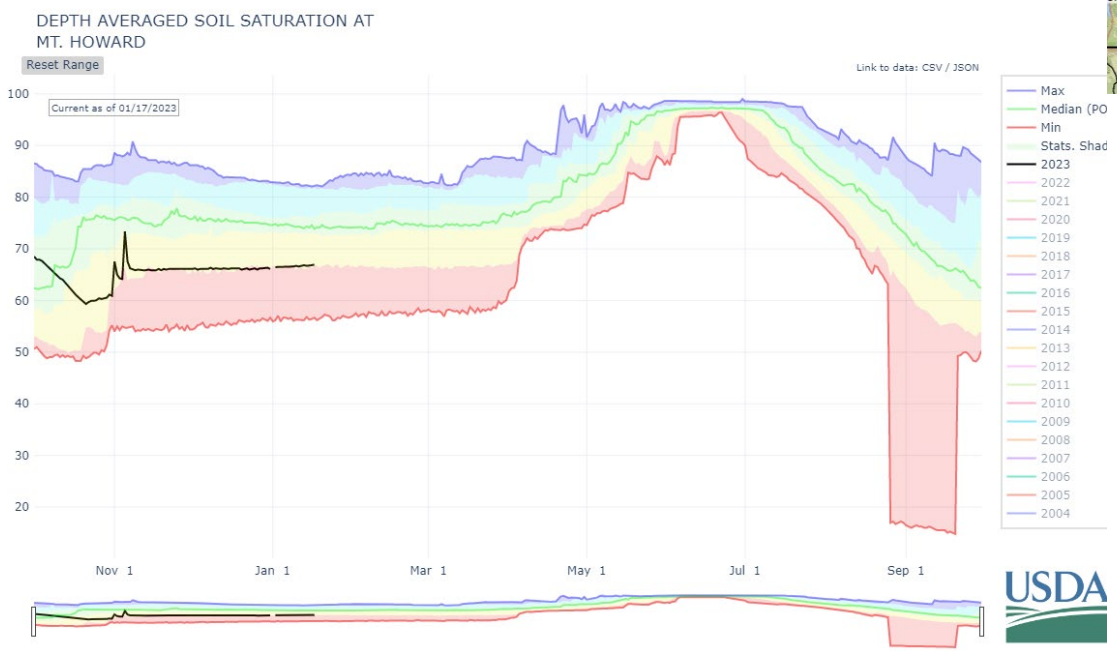


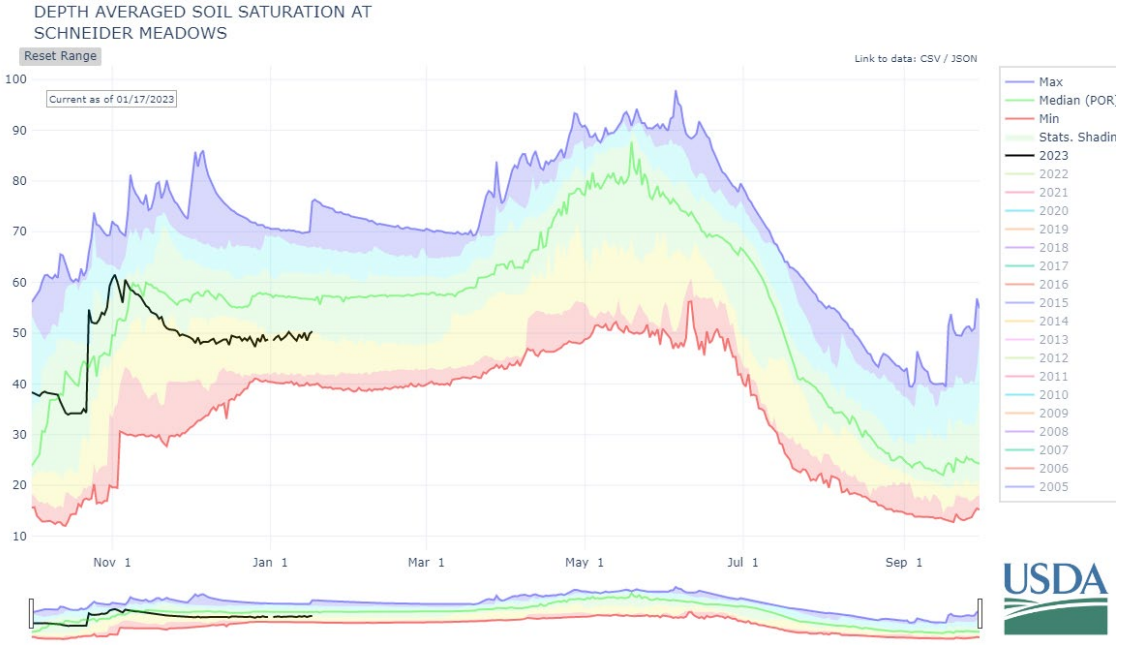
Soil Moisture

WY 2023 – Select Site Charts

United States Department of Agriculture
Natural Resources Conservation Service







USDA United States Department of Agriculture

Natural Resources Conservation Service

Thank you!

Matt Warbritton
Lead Hydrologist
USDA NRCS Oregon Snow Survey
matt.warbritton@usda.gov
503-307-2829

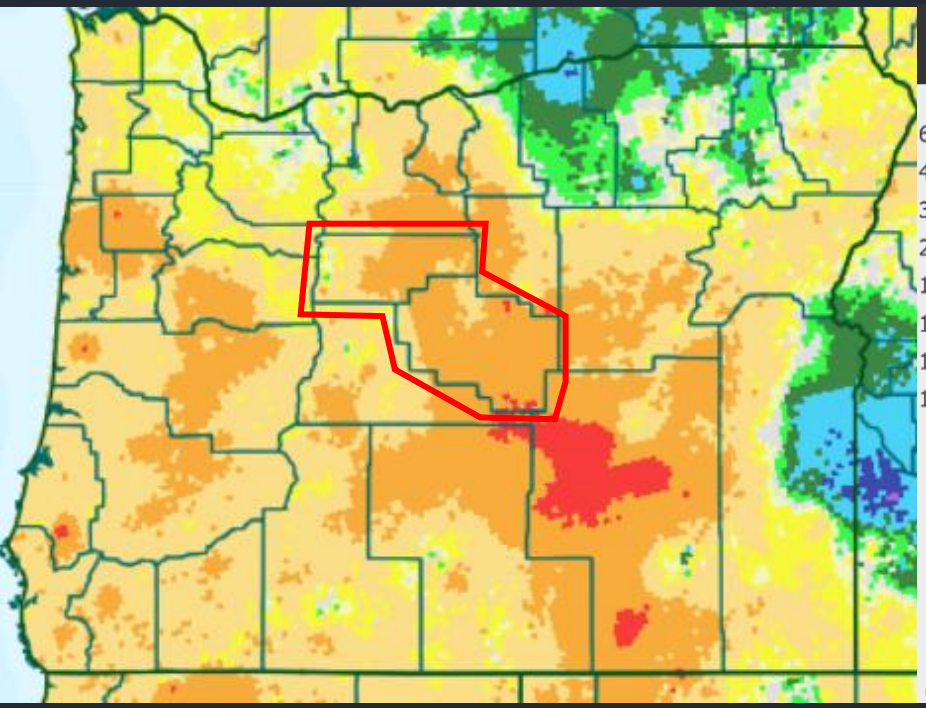
Oregon Snow Survey Website

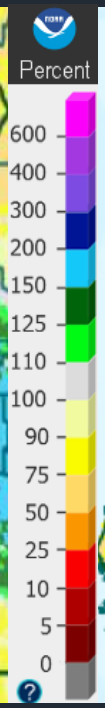
January 2023 Update for Precipitation, Temperatures, and River Forecasts

NOAA National Weather Service

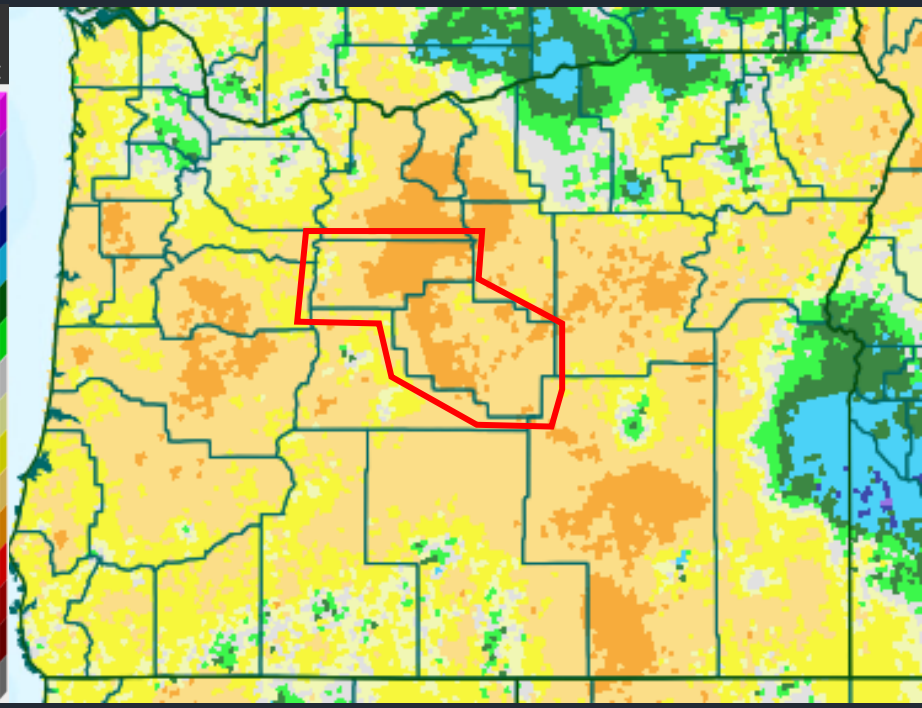
Water Year Precipitation

As of December 12, 2022





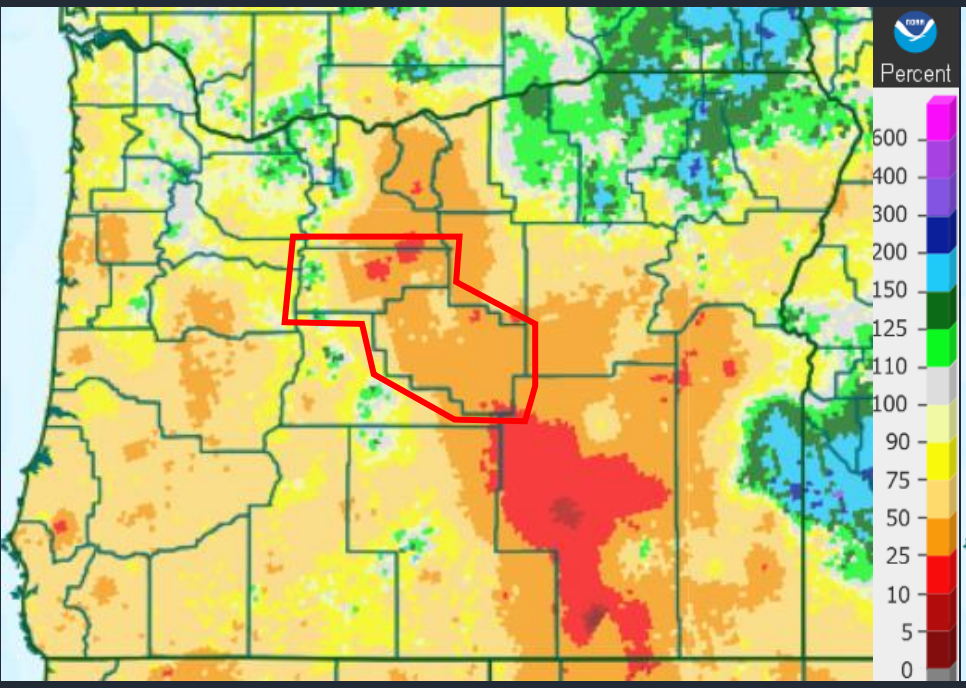
As of January 17, 2022



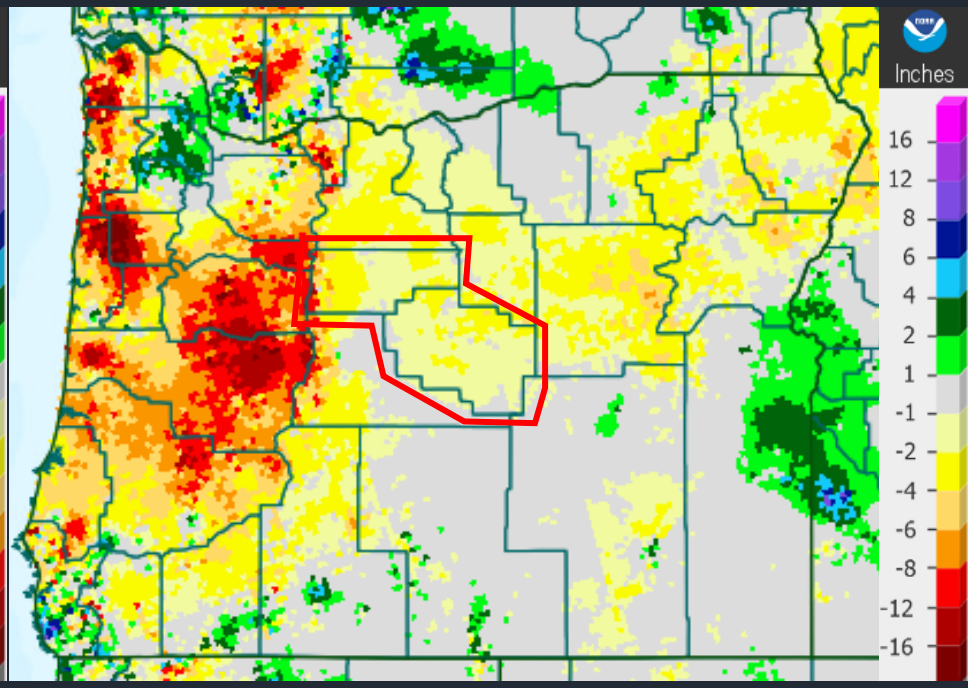
water.weather.gov/precip/index.php

Precipitation – Past 60 Days

Past 60 Days % Normal



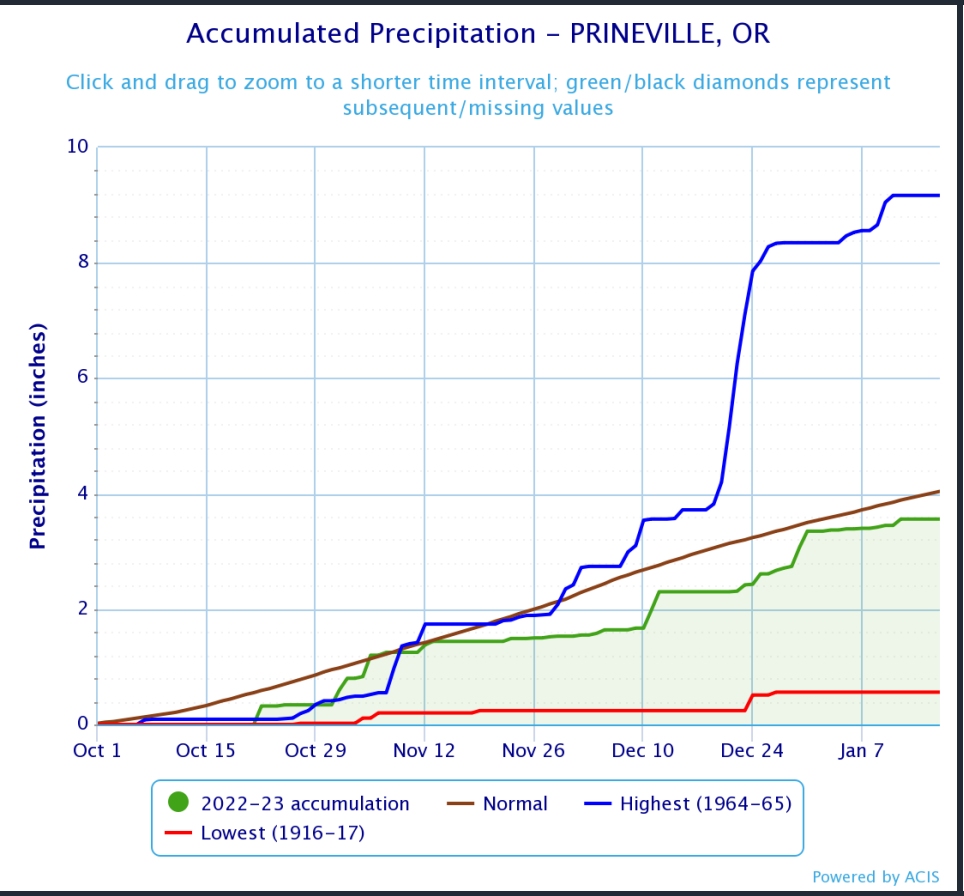
Past 60 Days Departure from Normal

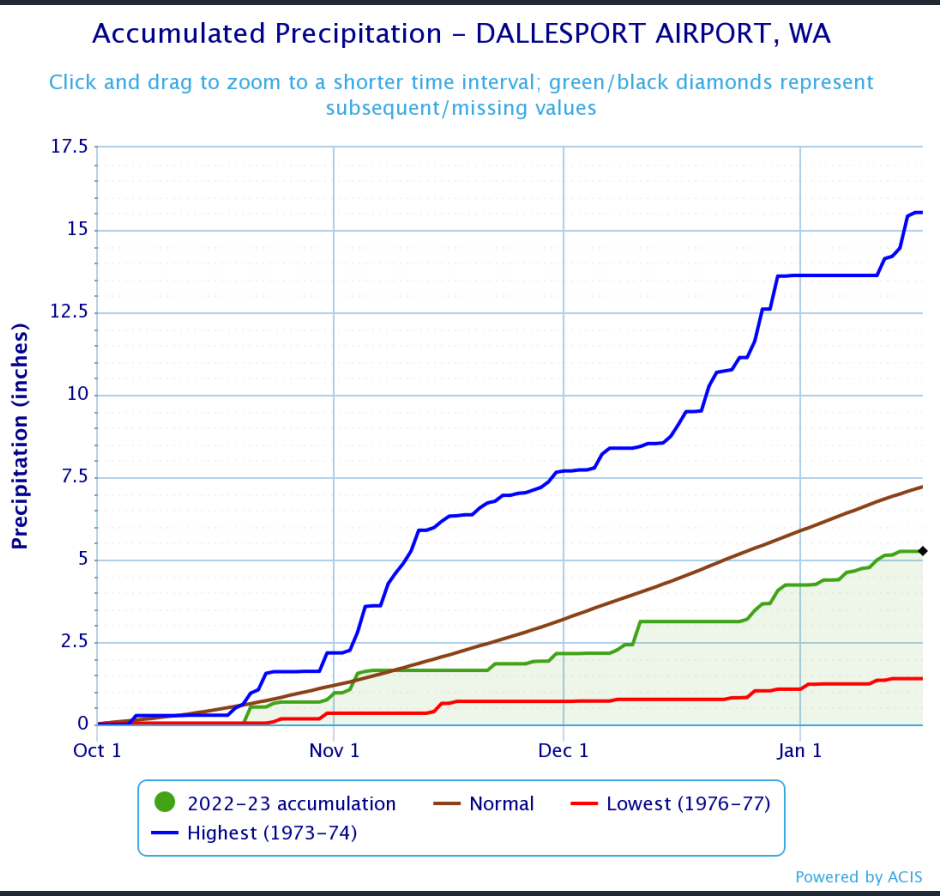


Precipitation Data as of January 17, 2022

water.weather.gov/precip/index.php

Water Year Precipitation
Prineville & The Dalles

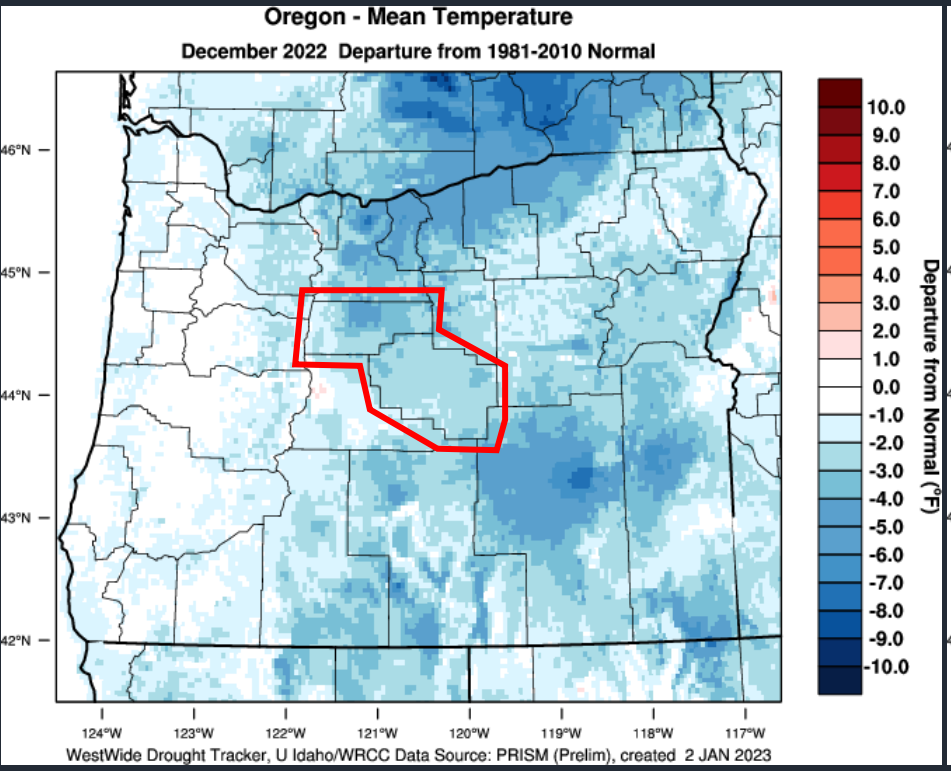




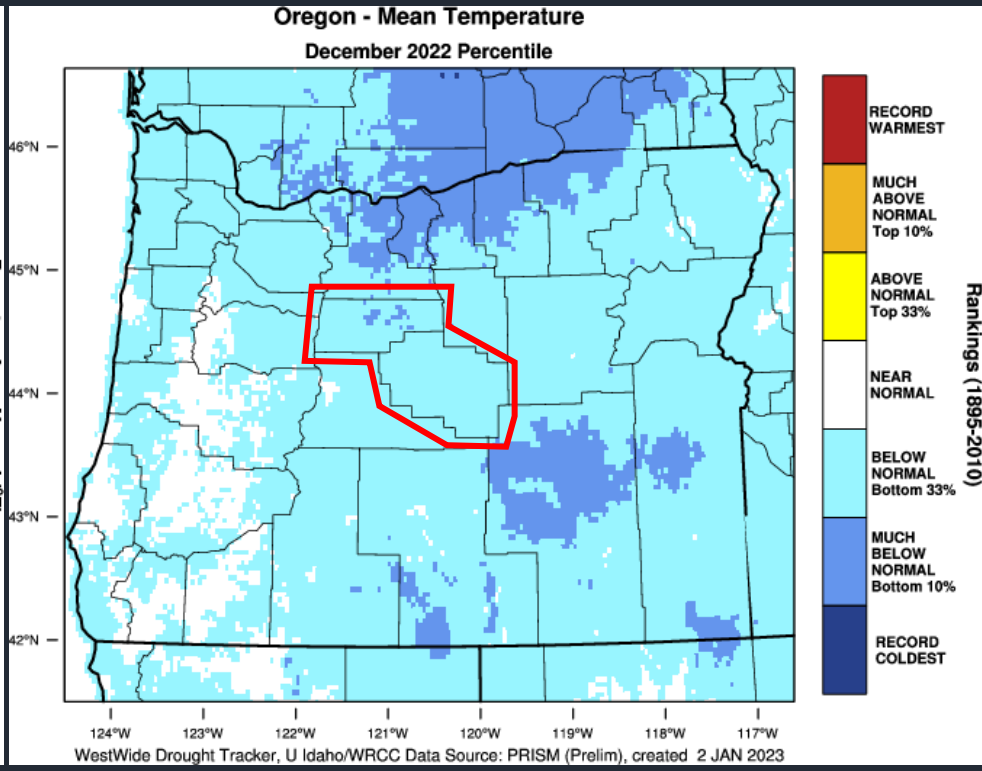
water.weather.gov/precip/index.php

December Temperatures

Departure from Normal

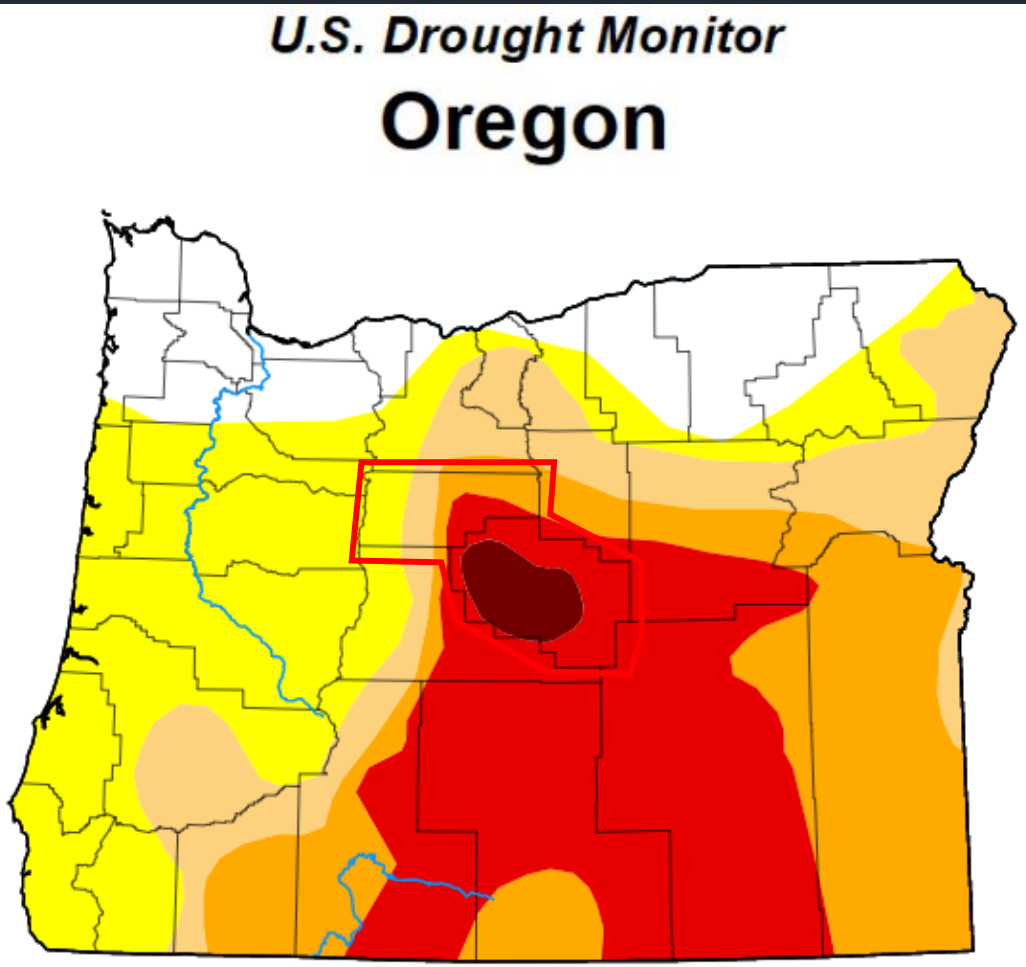


Percentile



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

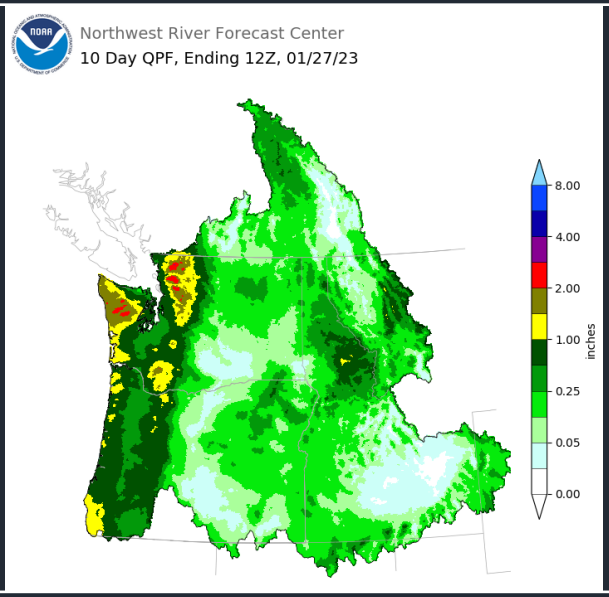
Drought Monitor

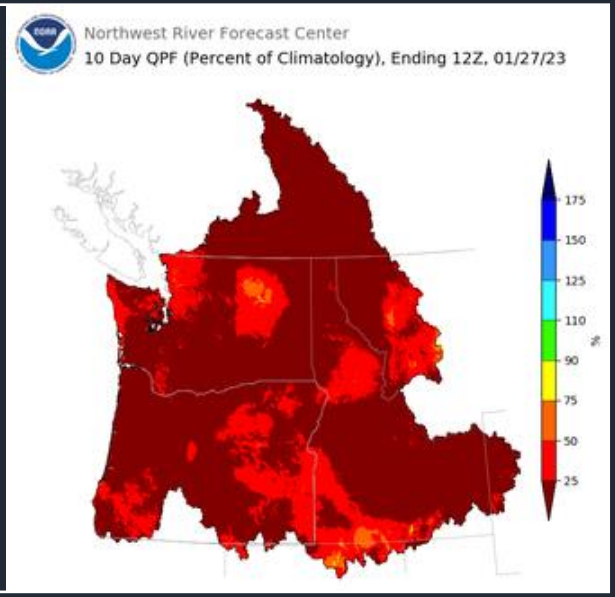


Mid January Outlook

NWRFC
10-DAY
PRECIPITATION
FORECAST

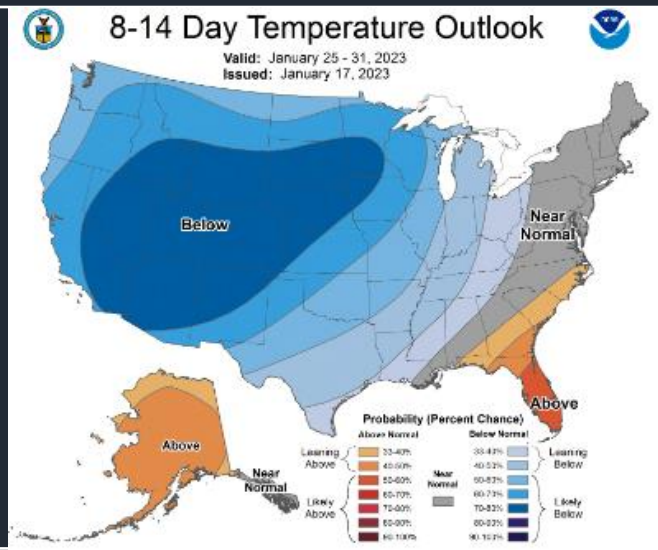
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php

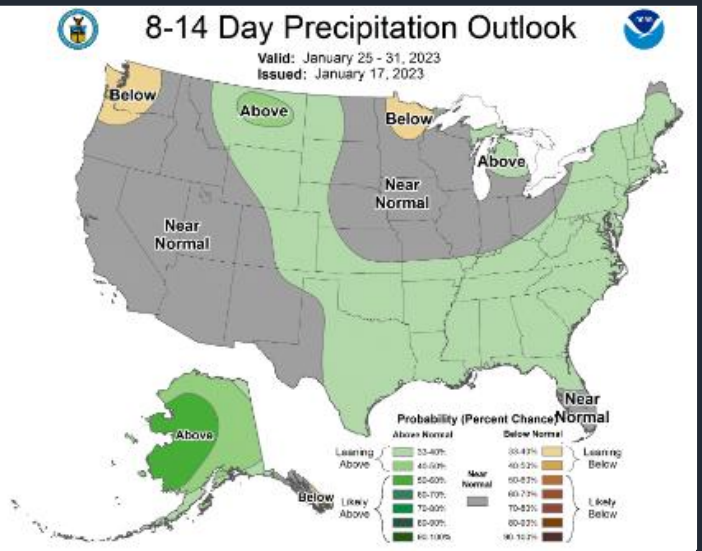




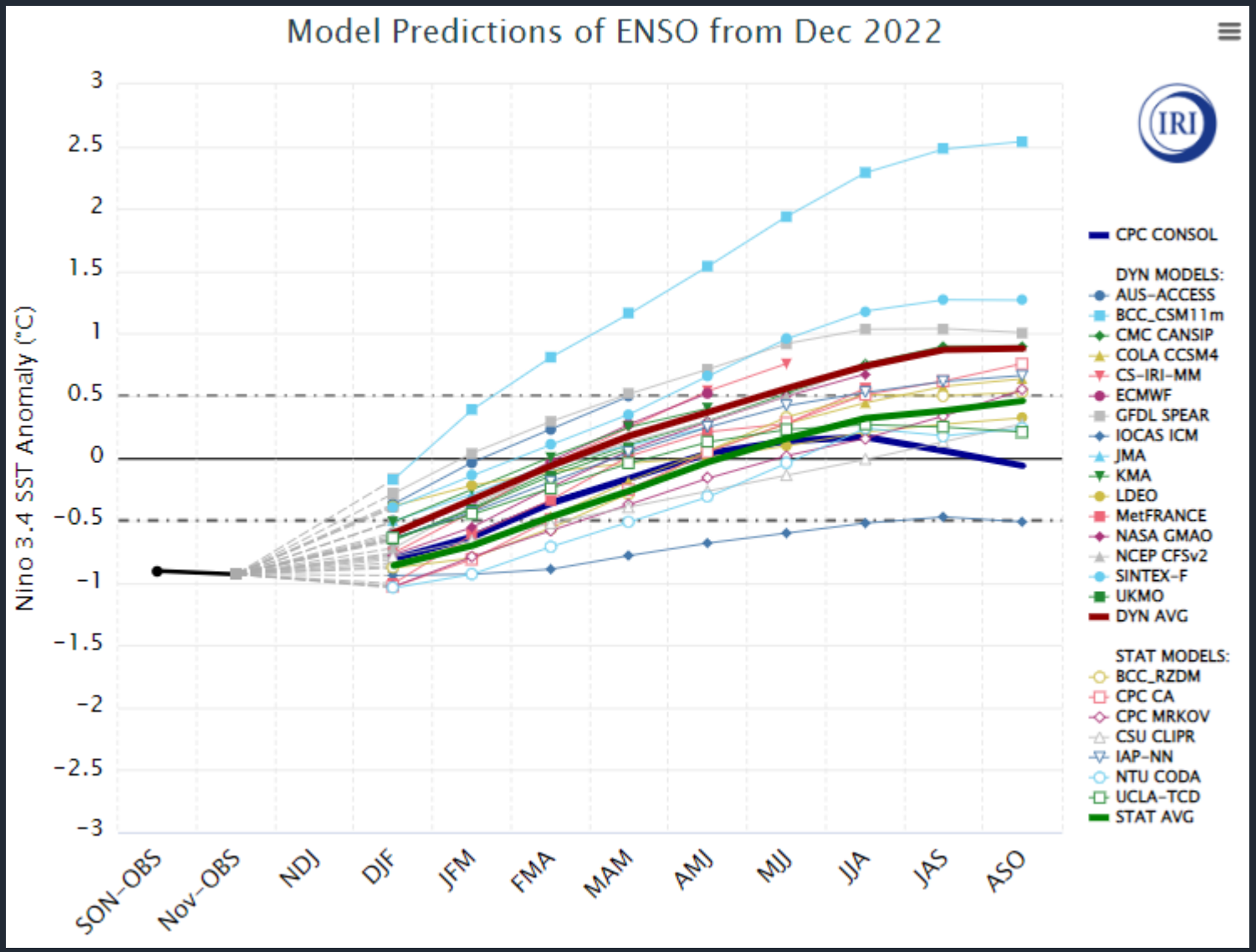
CPC
8 – 14 DAY
OUTLOOK

www.cpc.ncep.noaa.gov





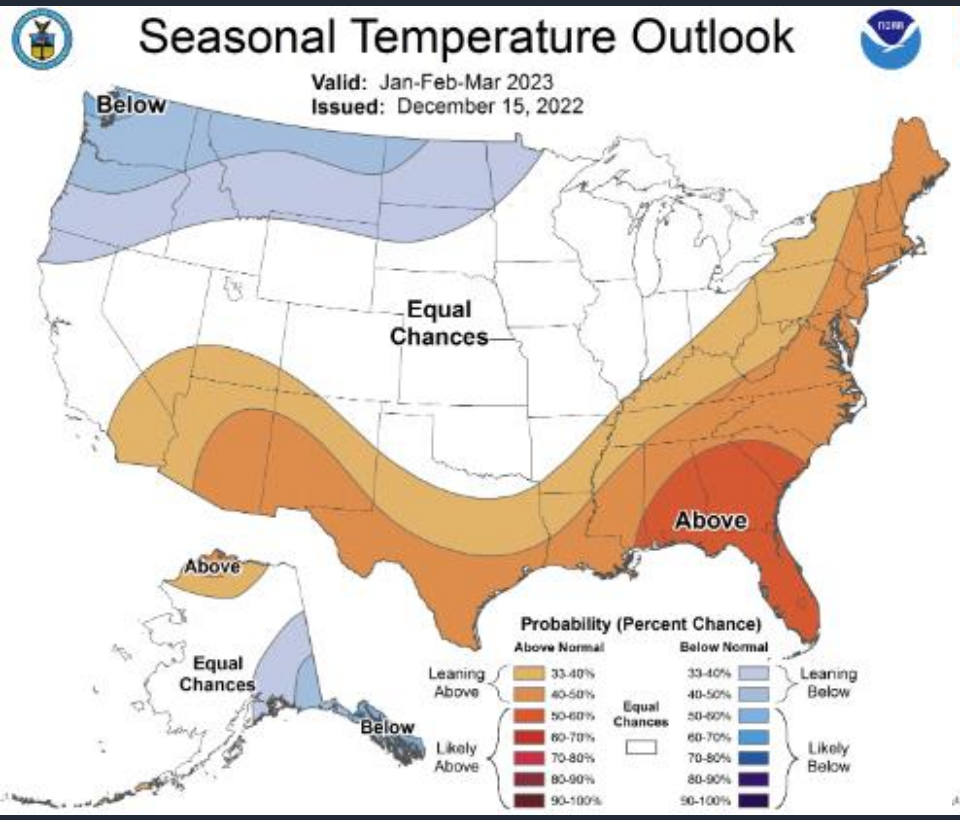
ENSO Status & Prediction

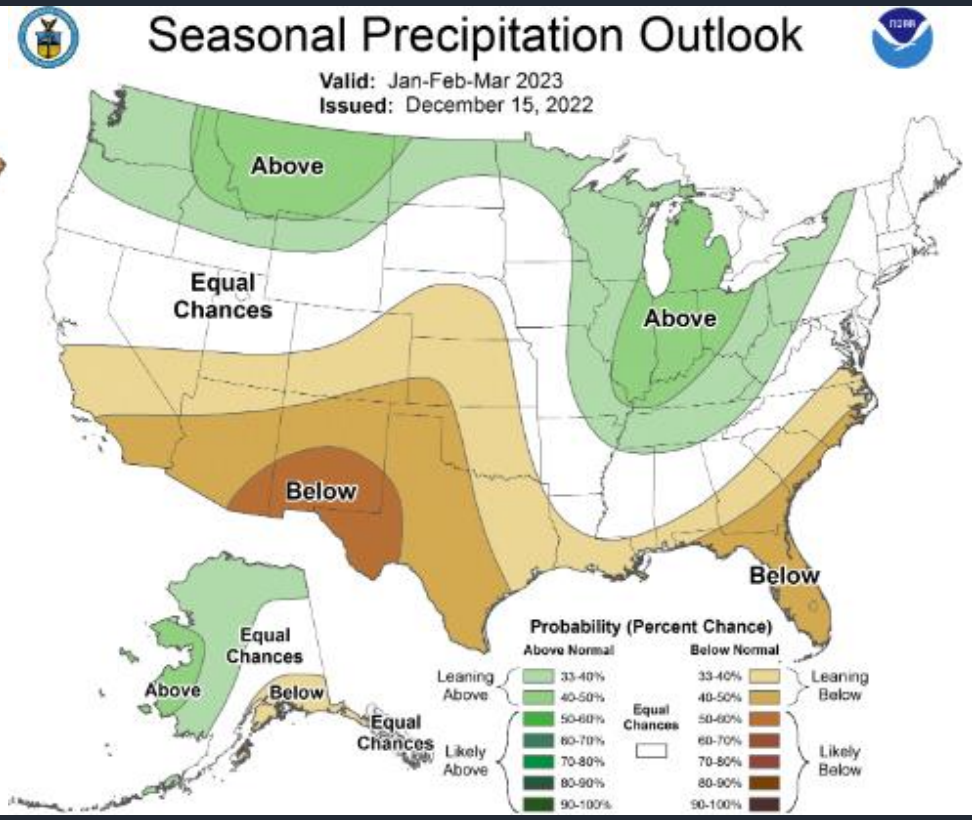


https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-sst_table

Climate Prediction Center Outlook

January – March 2023

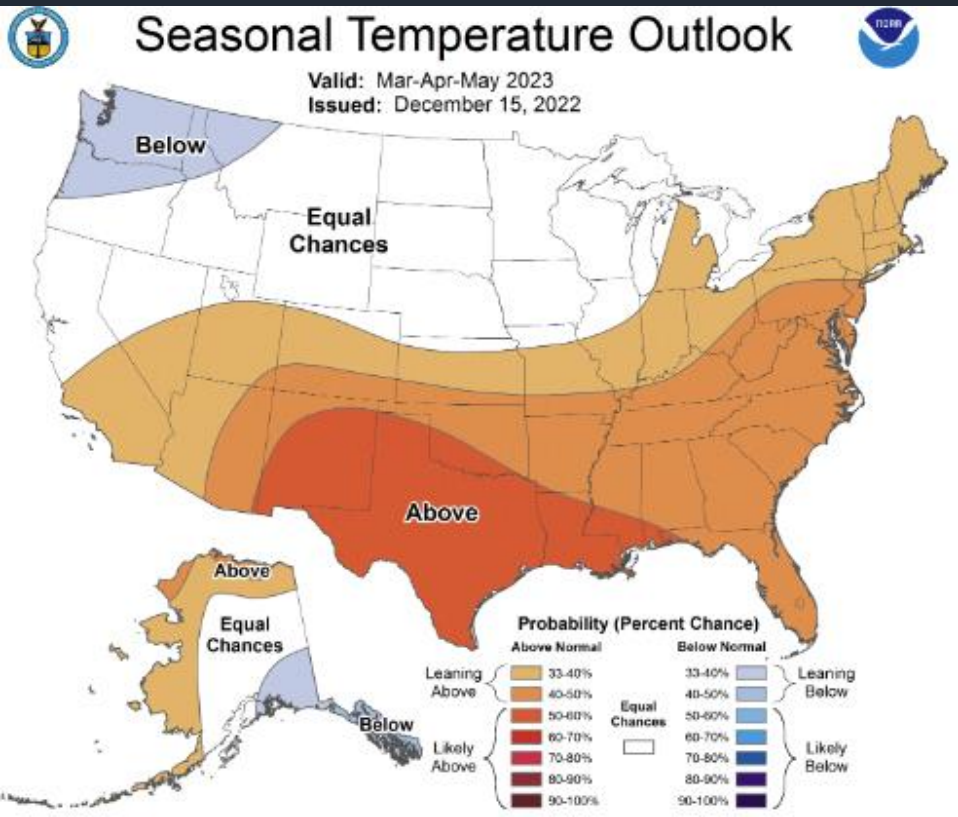


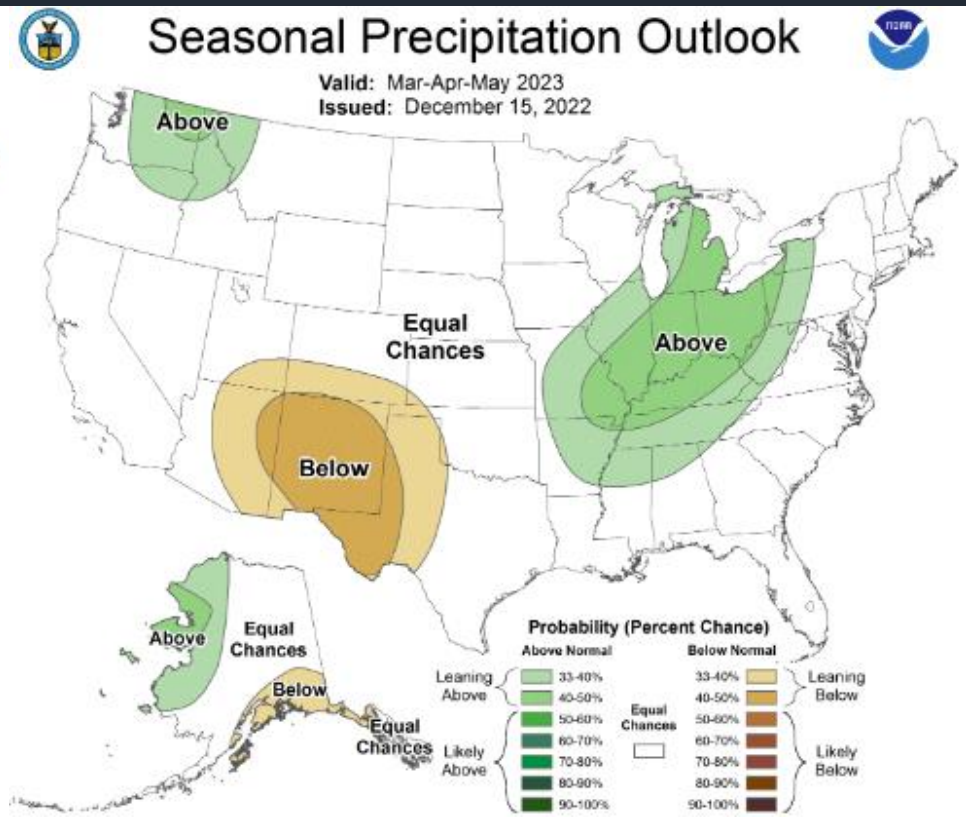


www.cpc.ncep.noaa.gov

Climate Prediction Center Outlook

March – May 2023





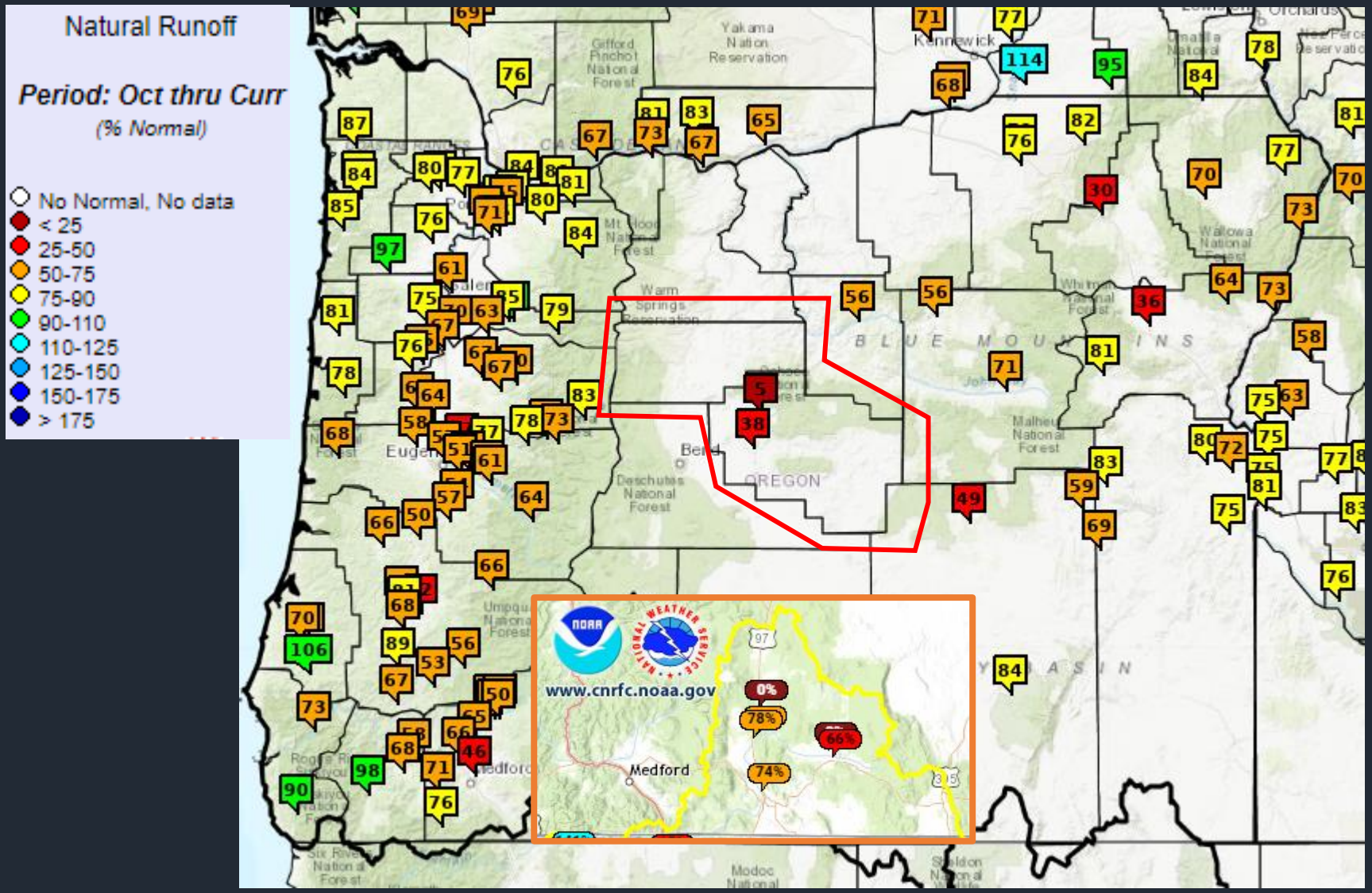
www.cpc.ncep.noaa.gov

NWRFC Update

NOAA National Weather Service

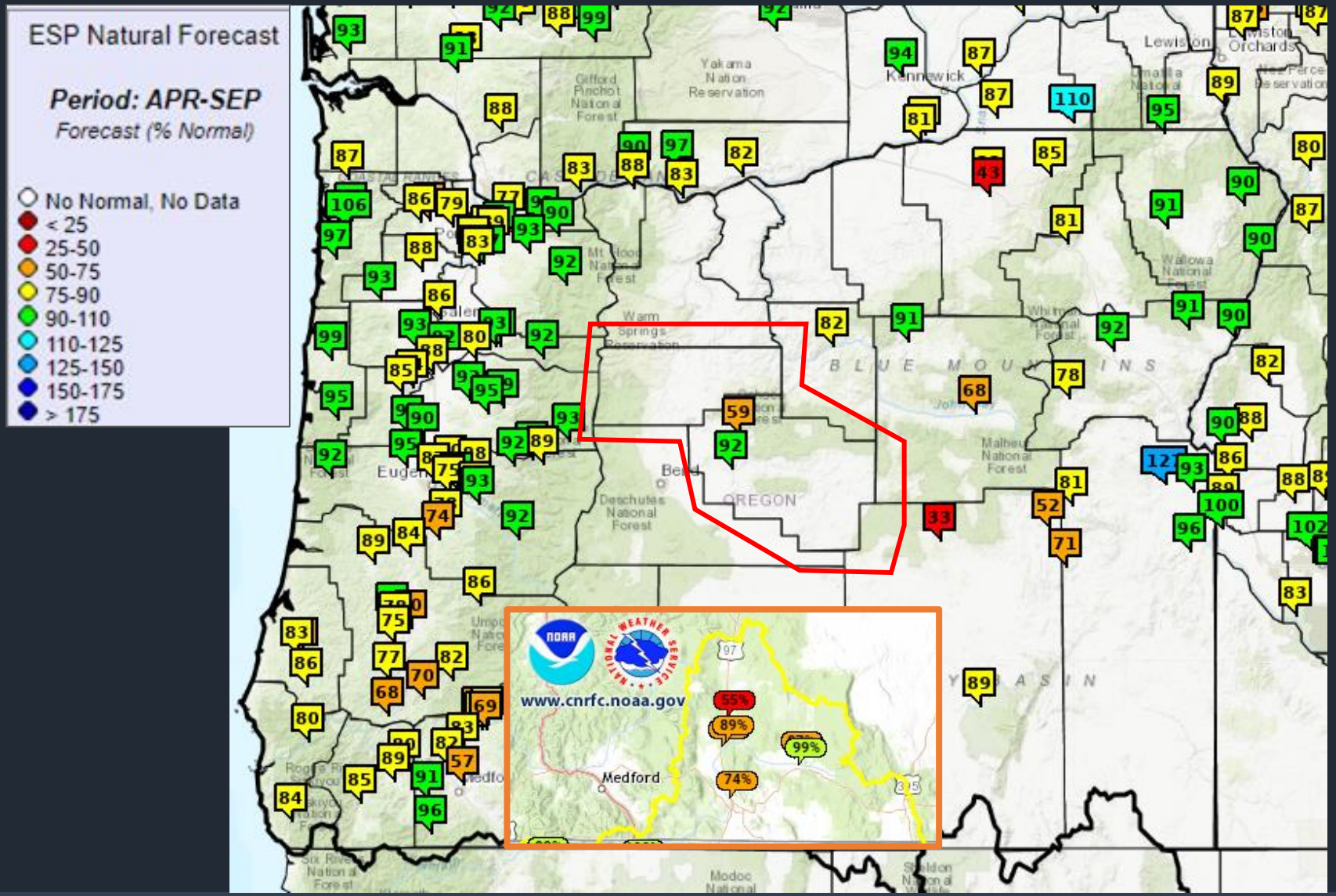
Observed Runoff

October – Present % of Average



Forecast

April – September % of Average



Natural Volume Forecast

Crooked near Prineville

CROOKED - NR PRINEVILLE (PRVO3)
Forecasts for Water Year 2023

Natural Forecast

ESP with 10 Days QPF ***Ensemble:*** 2023-01-17 ***Issued:*** 2023-01-17

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	27	75	92	106	82
APR-JUL	27	75	92	106	81
JAN-SEP	96	146	84	244	174
JAN-JUL	96	146	84	243	174
OCT-SEP	102	153	80	250	191

Experimental

HEFS with 15 days EQPF ***Ensemble:*** 2023-01-17 ***Issued:*** 2023-01-17

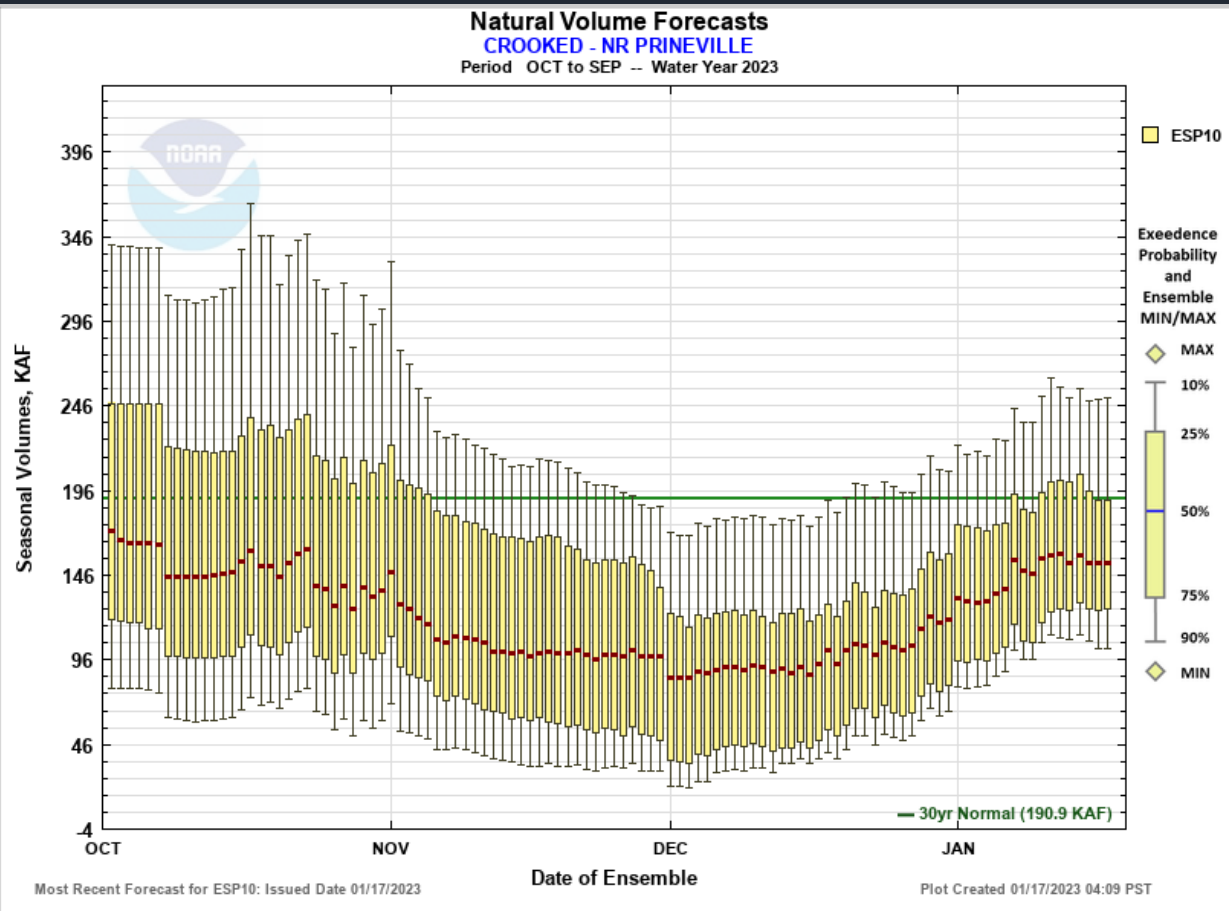
APR-SEP	27	74	90	114	82
APR-JUL	27	74	91	114	81
JAN-SEP	99	148	85	246	174
JAN-JUL	99	148	85	245	174
OCT-SEP	105	154	81	252	191

Reference

ESP with 0 Days QPF ***Ensemble:*** 2023-01-17 ***Issued:*** 2023-01-17

APR-SEP	30	79	97	129	82
APR-JUL	30	79	97	128	81
JAN-SEP	105	159	91	263	174
JAN-JUL	105	159	91	262	174
OCT-SEP	112	165	86	269	191

Move the mouse over the desired "Forecast Period" to display a graph.



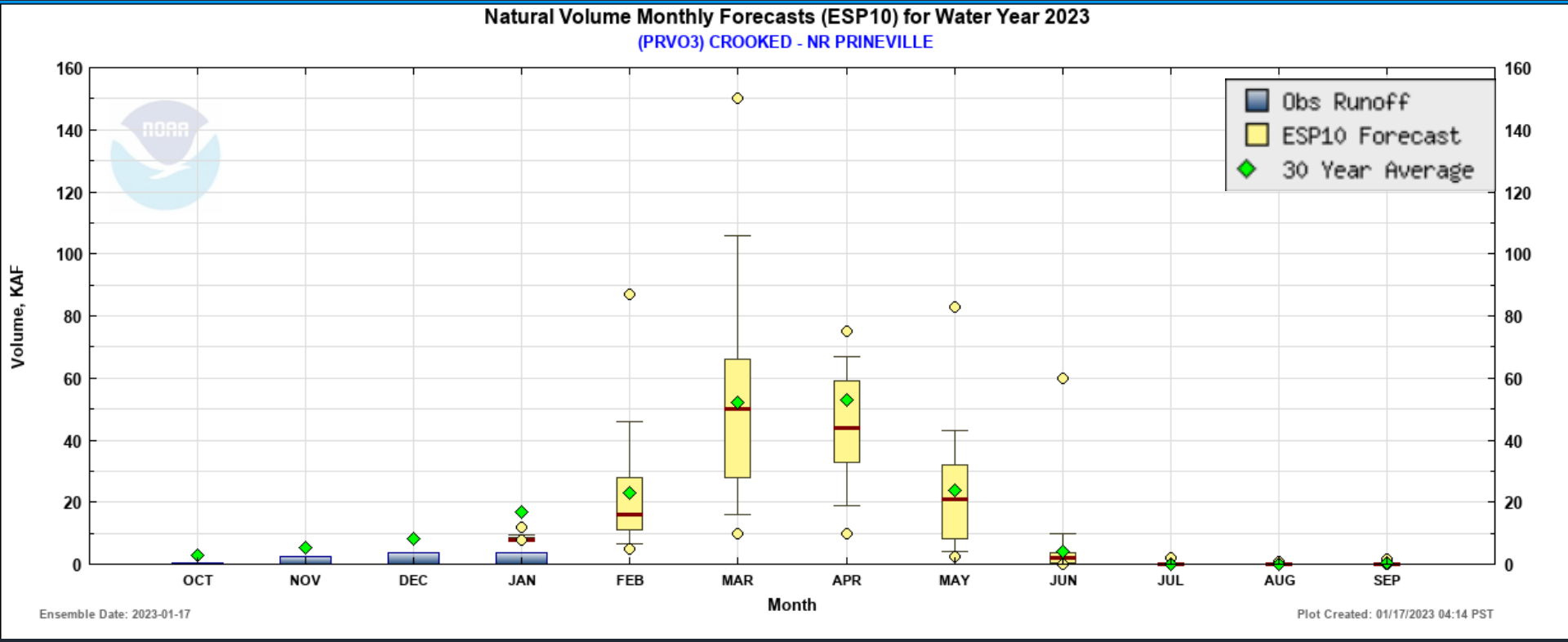
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=PRVO3

Monthly Natural Volumes

Crooked near Prineville

Apr – Sep = 92% of normal

WY = 80 % normal



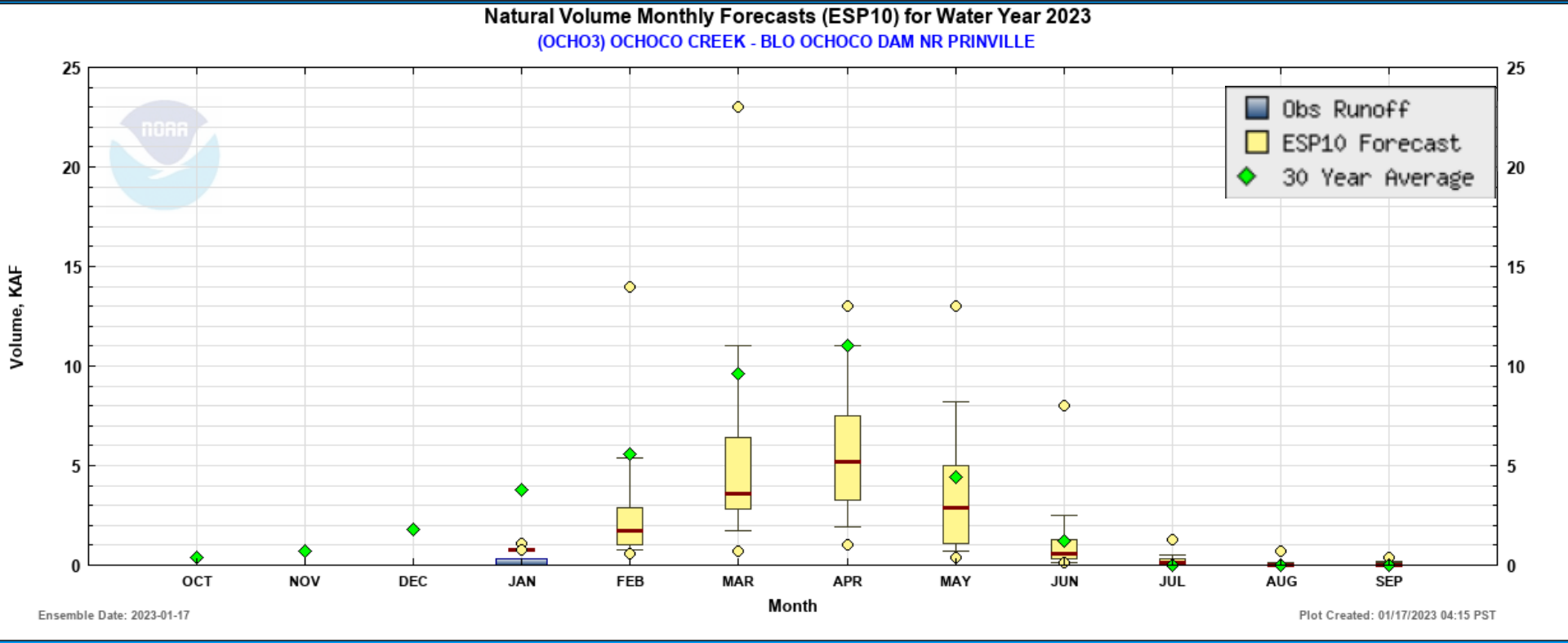
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=PRVO3

Monthly Natural Volumes

Ochoco Creek below Dam near Prineville

Apr – Sep = 59% normal

WY = 44% normal



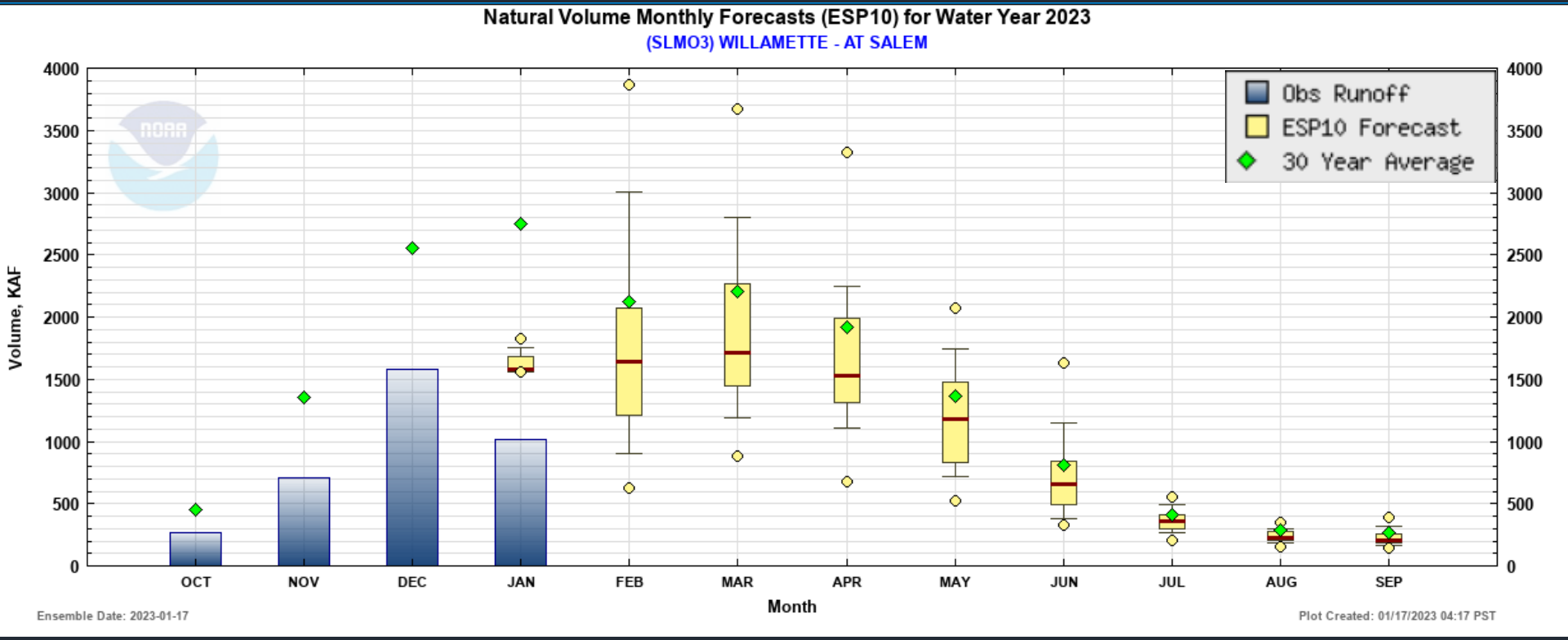
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=OCHO3

Monthly Natural Volumes

Willamette R at Salem

Apr – Sep = 86% normal

WY = 72% normal



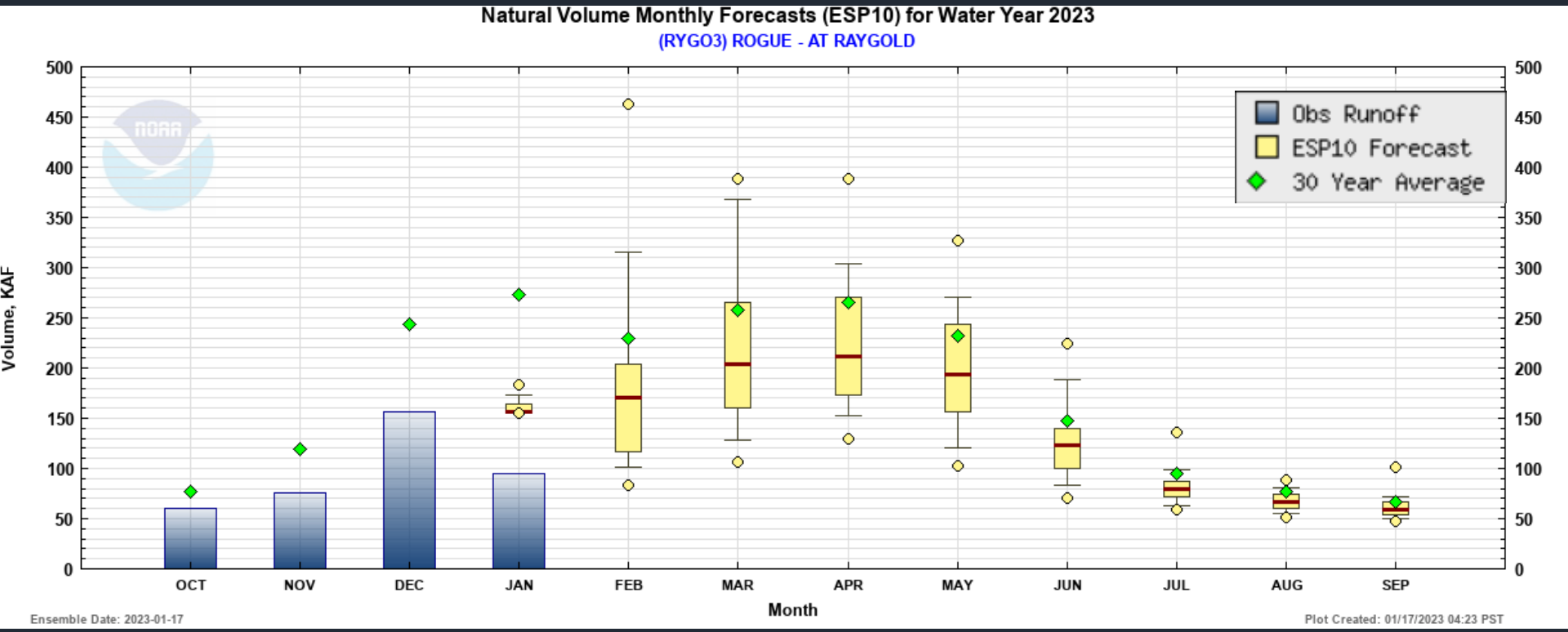
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=SLMO3

Monthly Natural Volumes

Rogue R near Raygold

Apr – Sep = 82% normal

WY = 76% normal



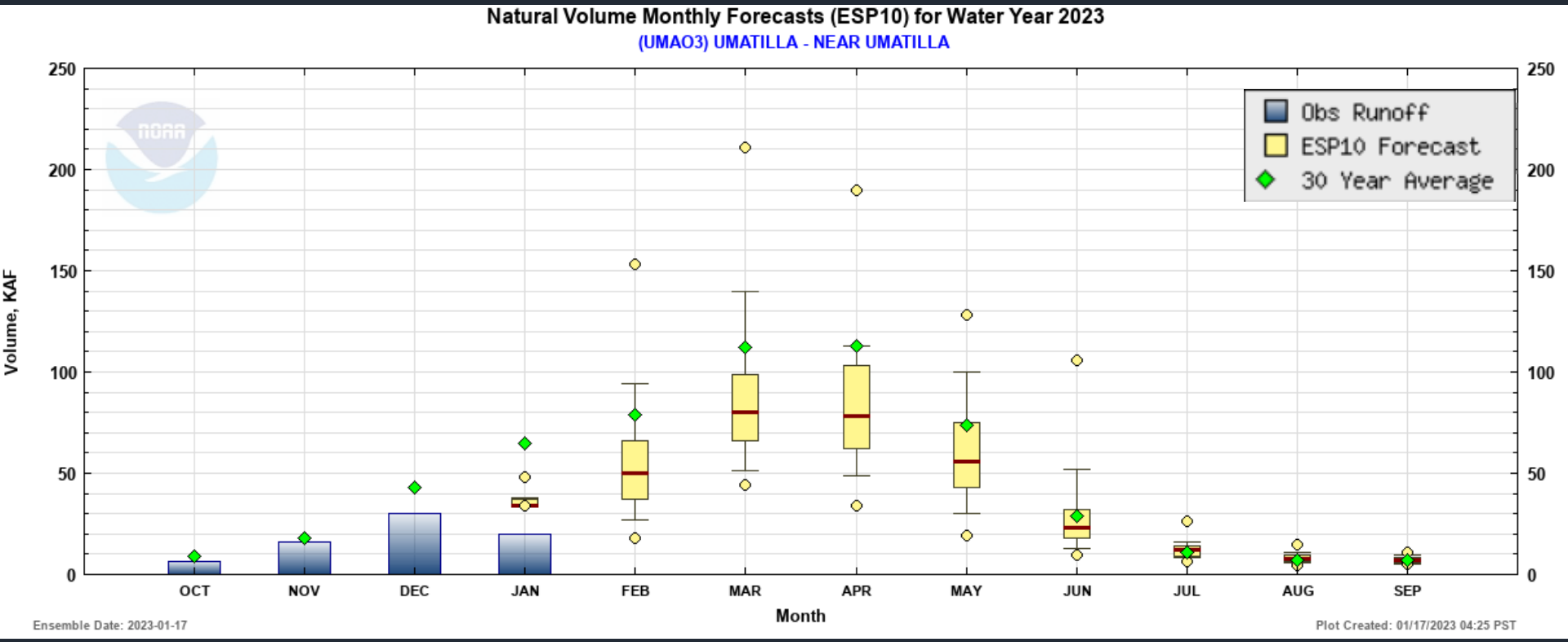
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=RYGO3

Monthly Natural Volumes

Umatilla R near Umatilla

Apr – Sep = 81% normal

WY = 74% normal



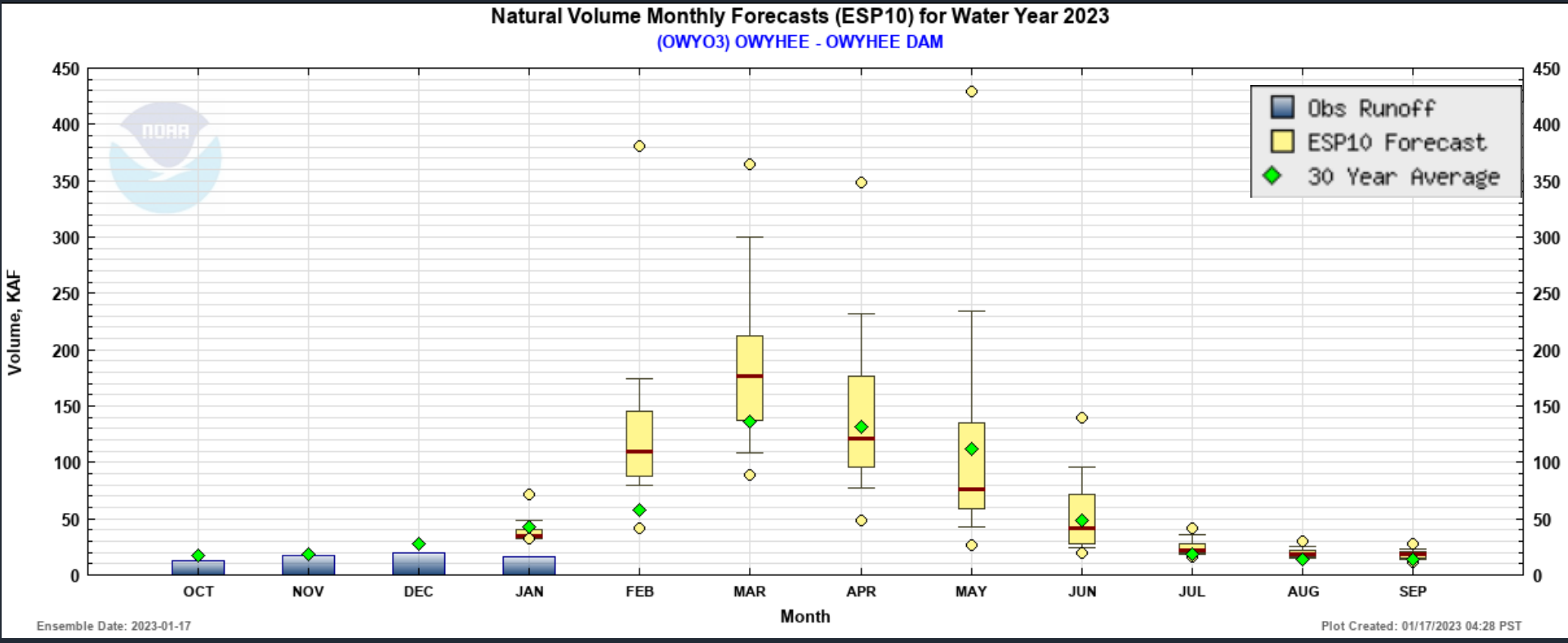
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=UMAO3

Monthly Natural Volumes

Owyhee R at Owyhee Dam

Apr – Sep = 96% normal

WY = 115% normal



https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=OWYO3

Monthly Natural Volumes
Owyhee R at Owyhee Dam

2023 Schedule for *Live* Water Supply Briefings					
Jan	Feb	Mar	Apr	May	Jun
5	2	2	6	4	TBD
All presentations held at 10:00am PDT/PST, unless noted otherwise					
Click here for Registration Information					

Info: https://www.nwrfc.noaa.gov/water_supply/ws_schd.cgi?version=20190204v1
Webinar Registration: https://register.gotowebinar.com/rt/9001532798339394573

USGS
science for a changing world

Oregon Water Supply Availability Meeting

January 2023

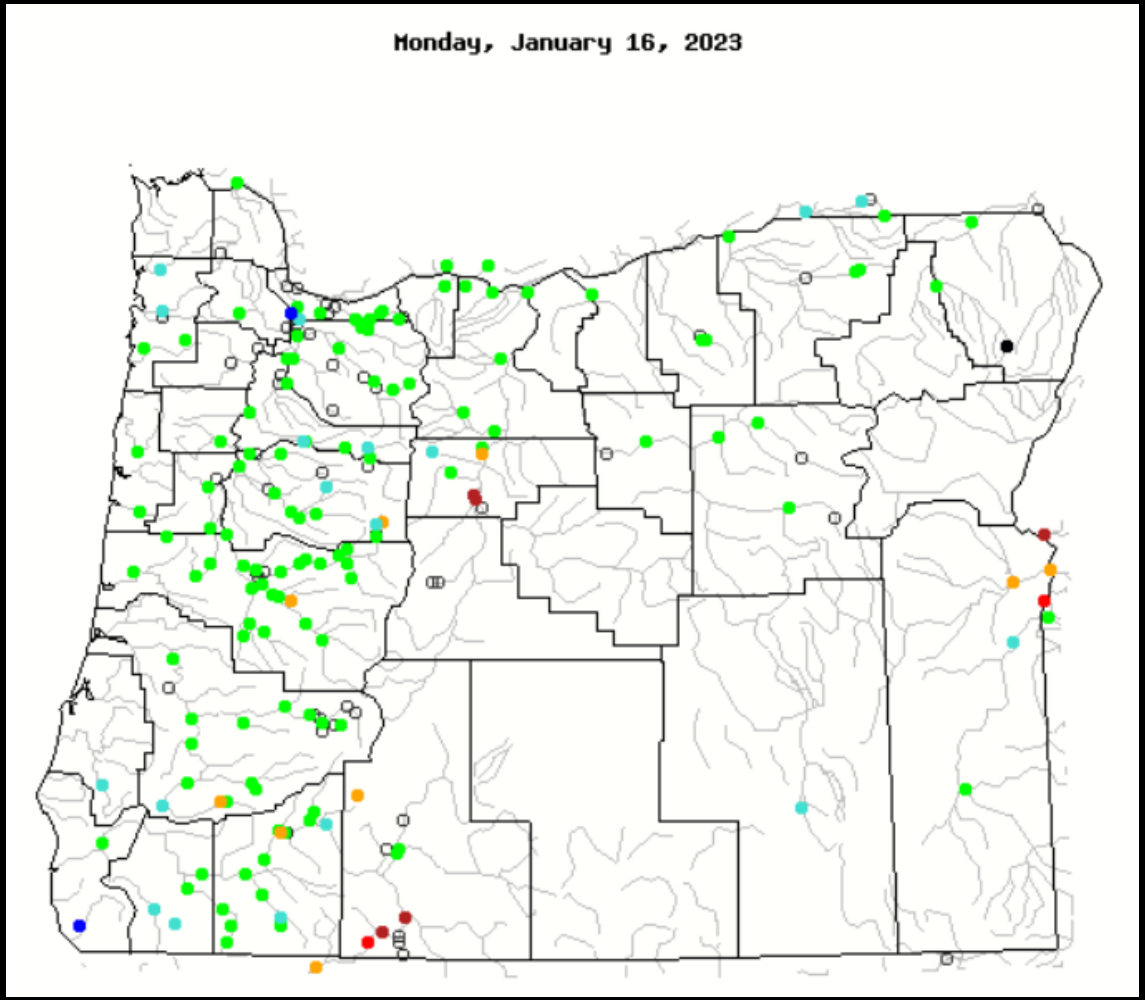
U.S. Department of the Interior
U.S. Geological Survey

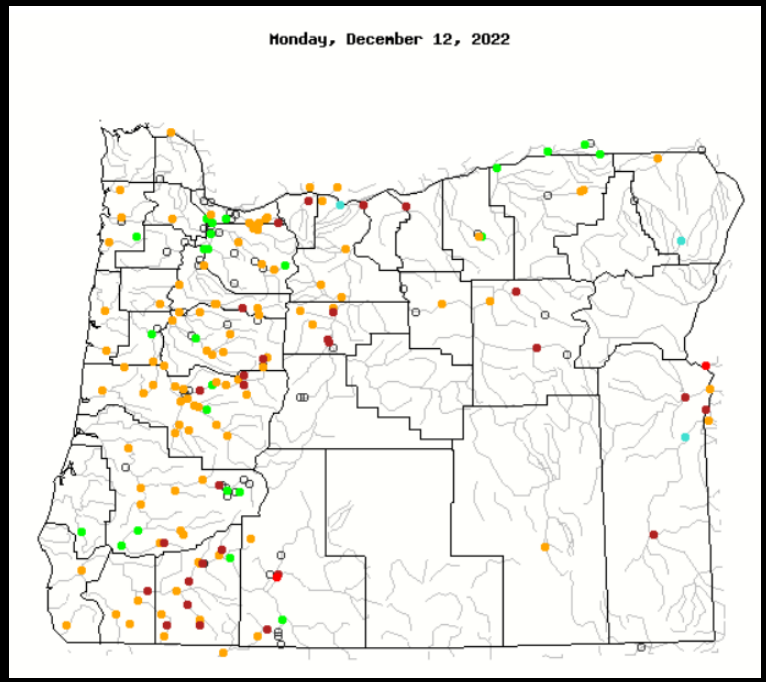
USGS Update on Surface Water Conditions

Carrie Boudreau & Marc Stewart
Oregon Water Science Center

Streamflow Conditions

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



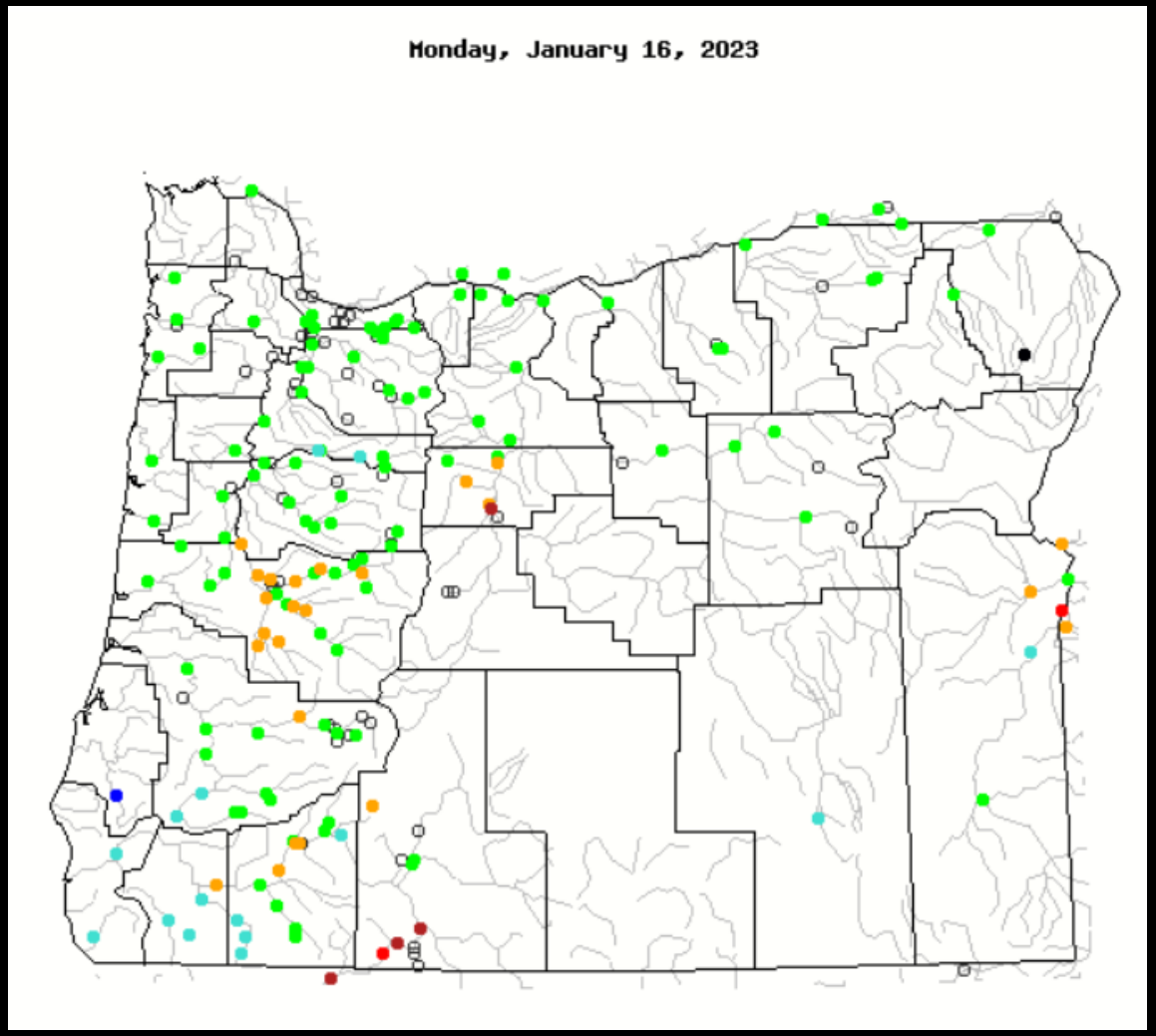


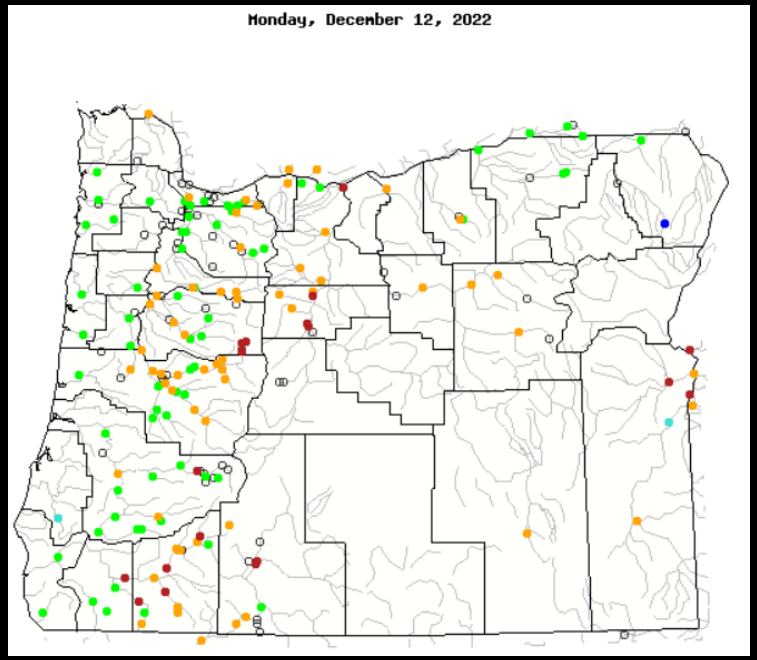
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

USGS

Streamflow Conditions

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

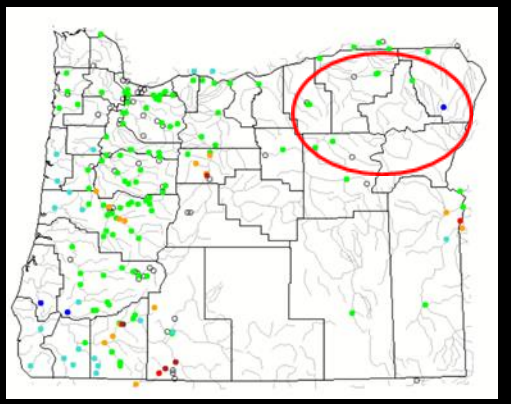


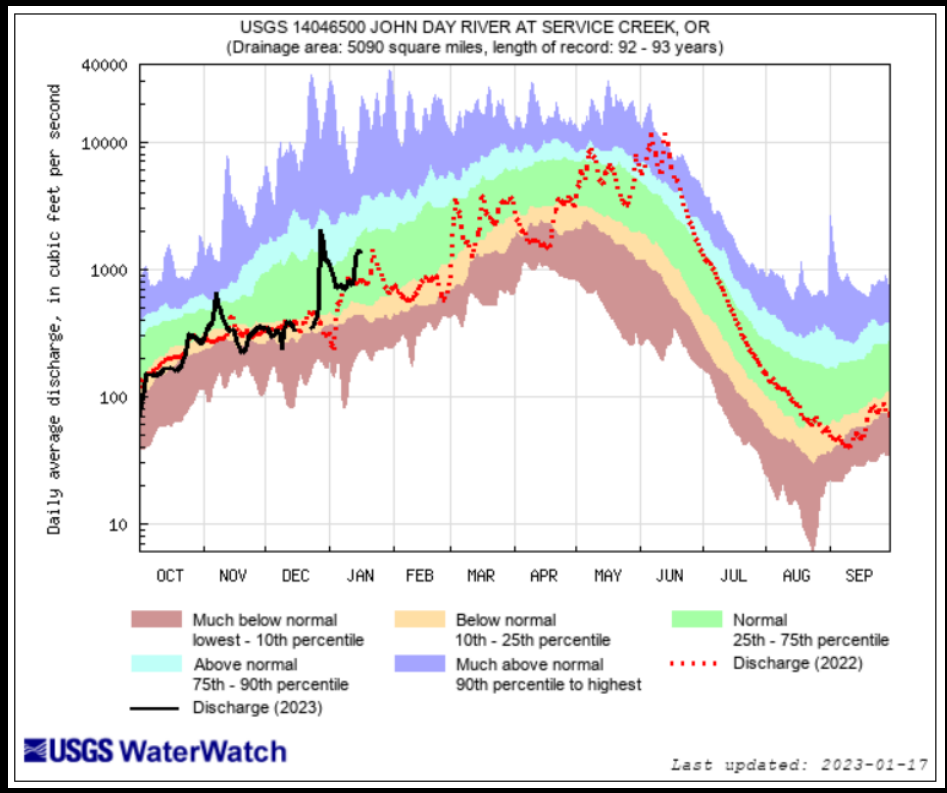


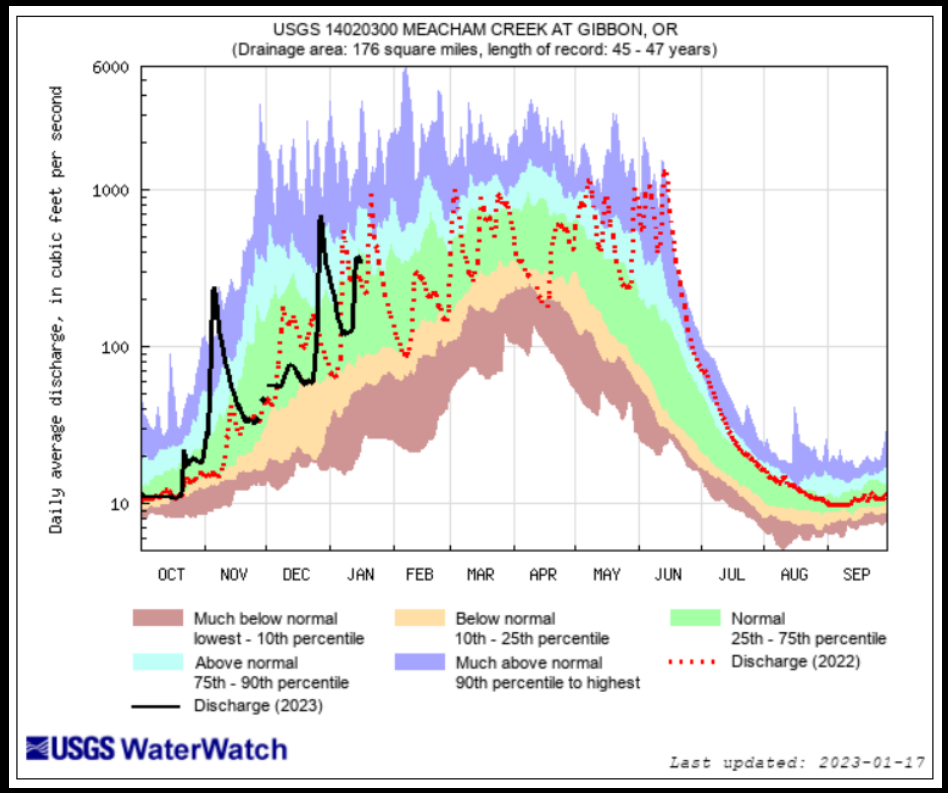
USGS

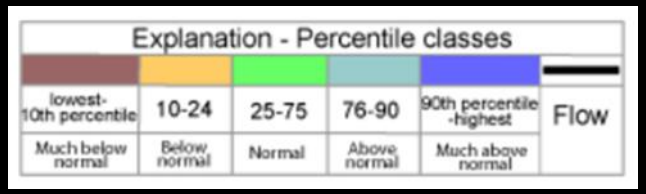
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Northeastern OR



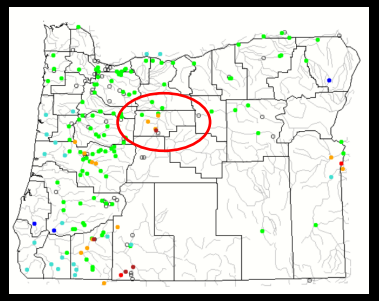


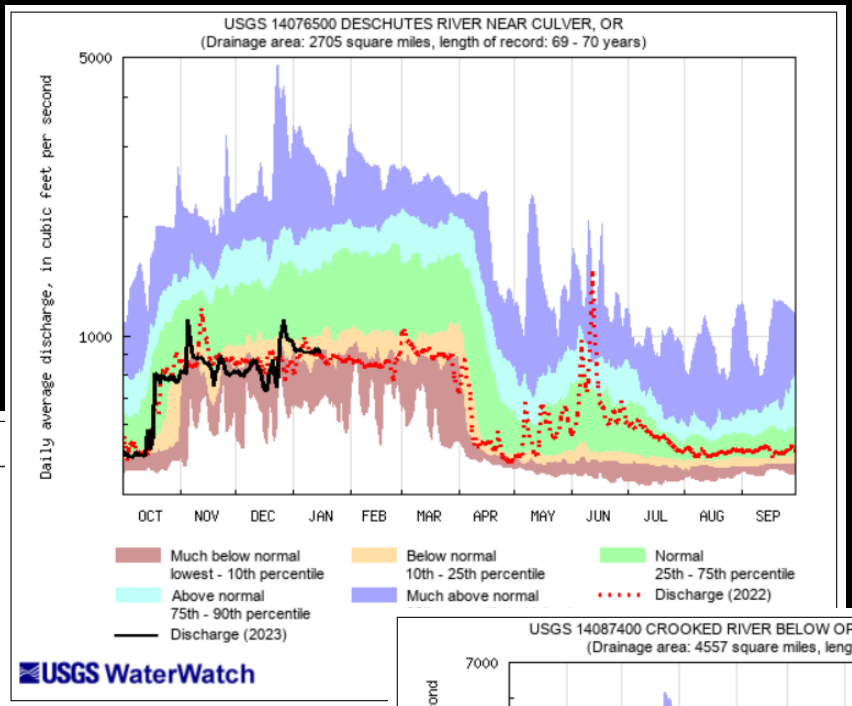


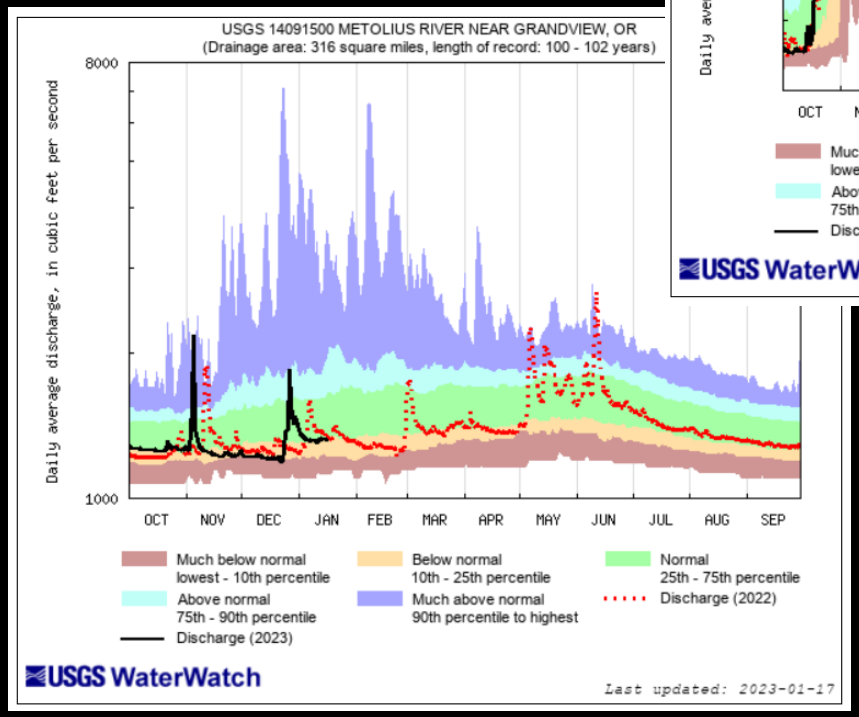


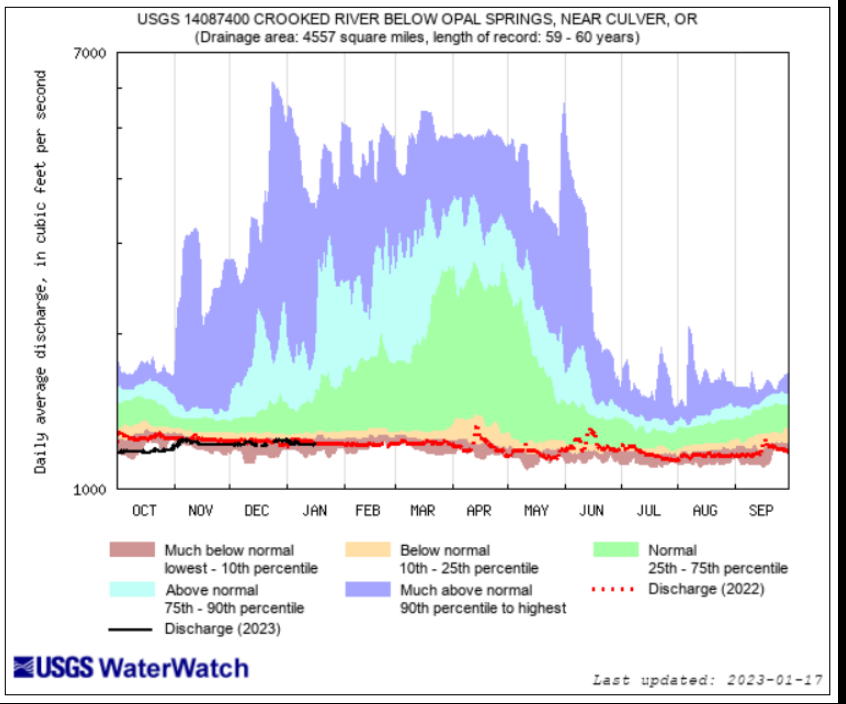
USGS

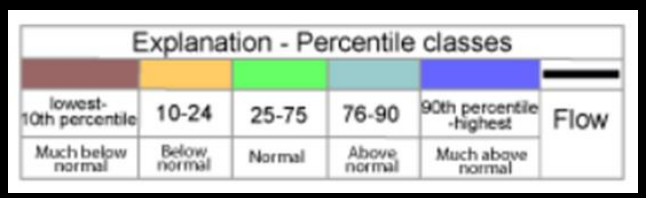
Jefferson County, OR





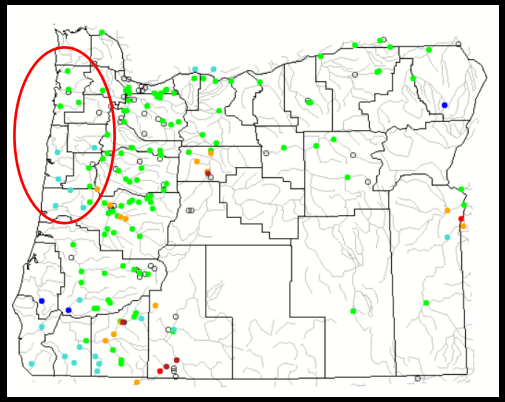


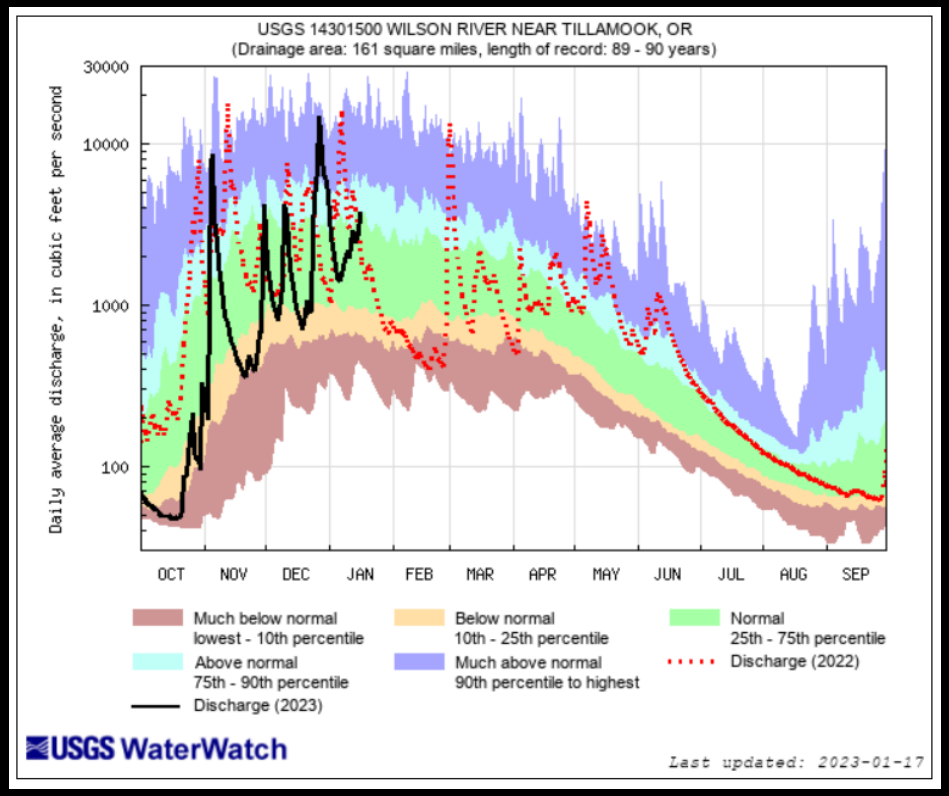


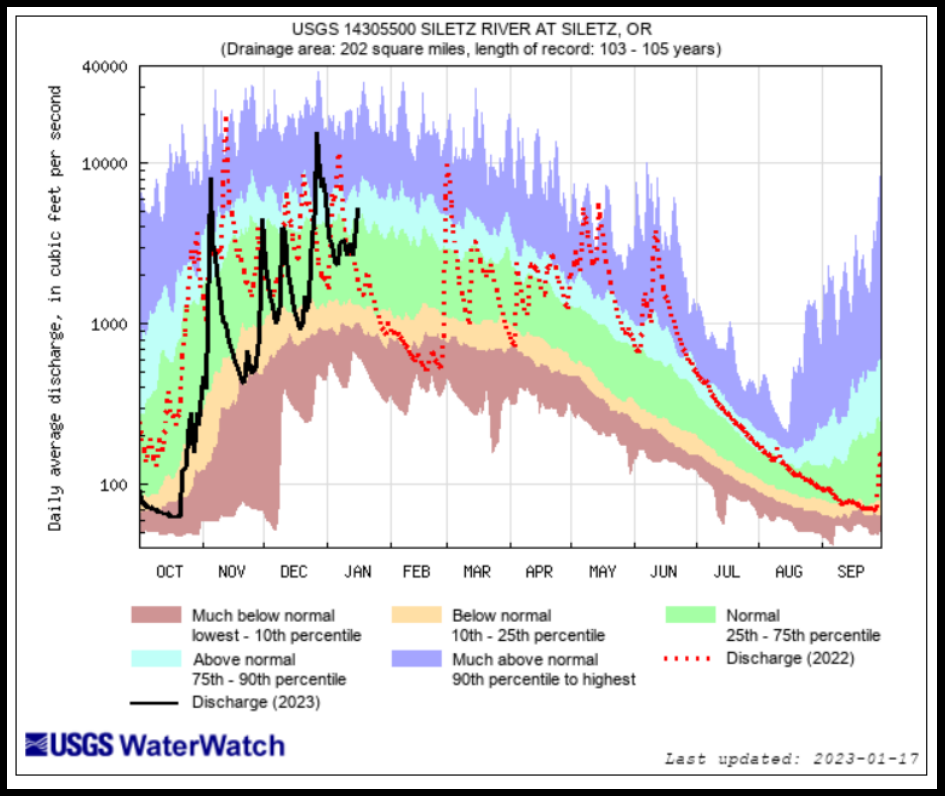


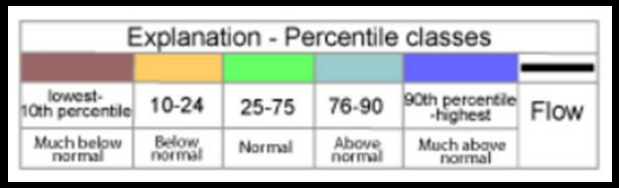
USGS

Northwestern OR



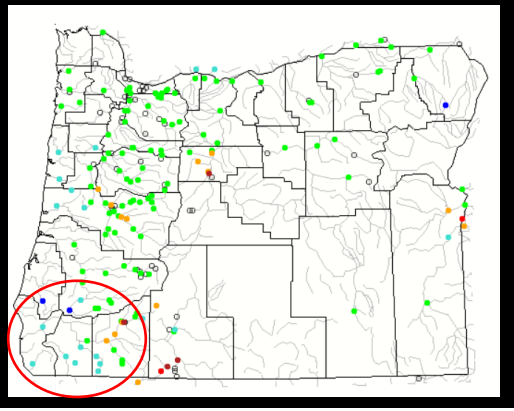


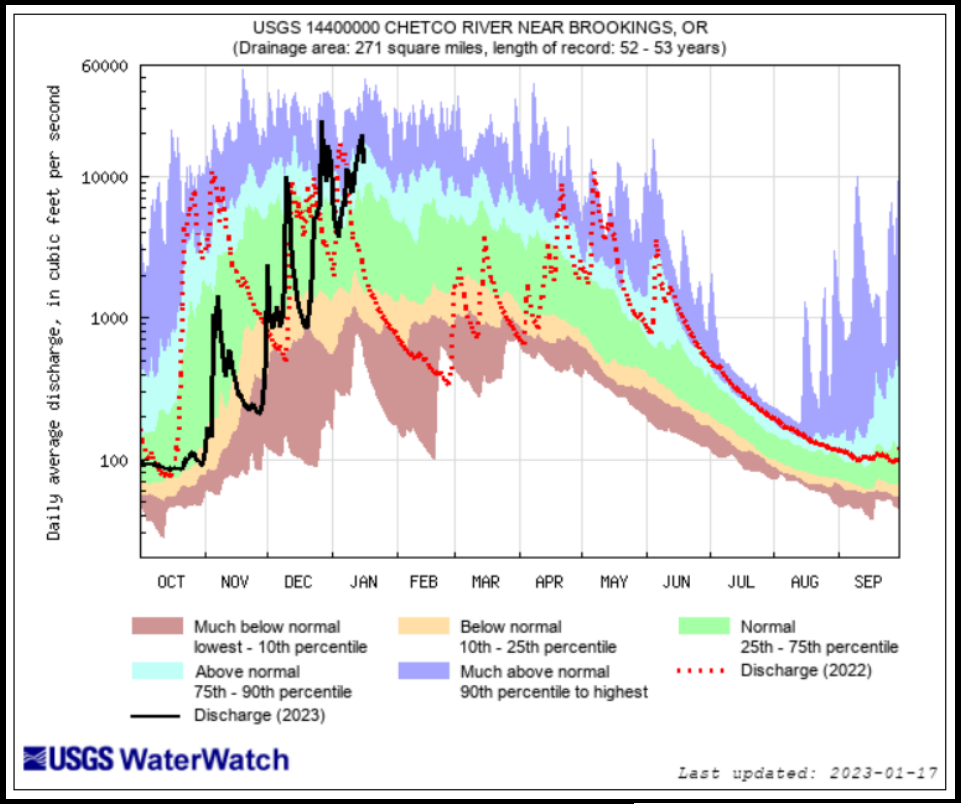


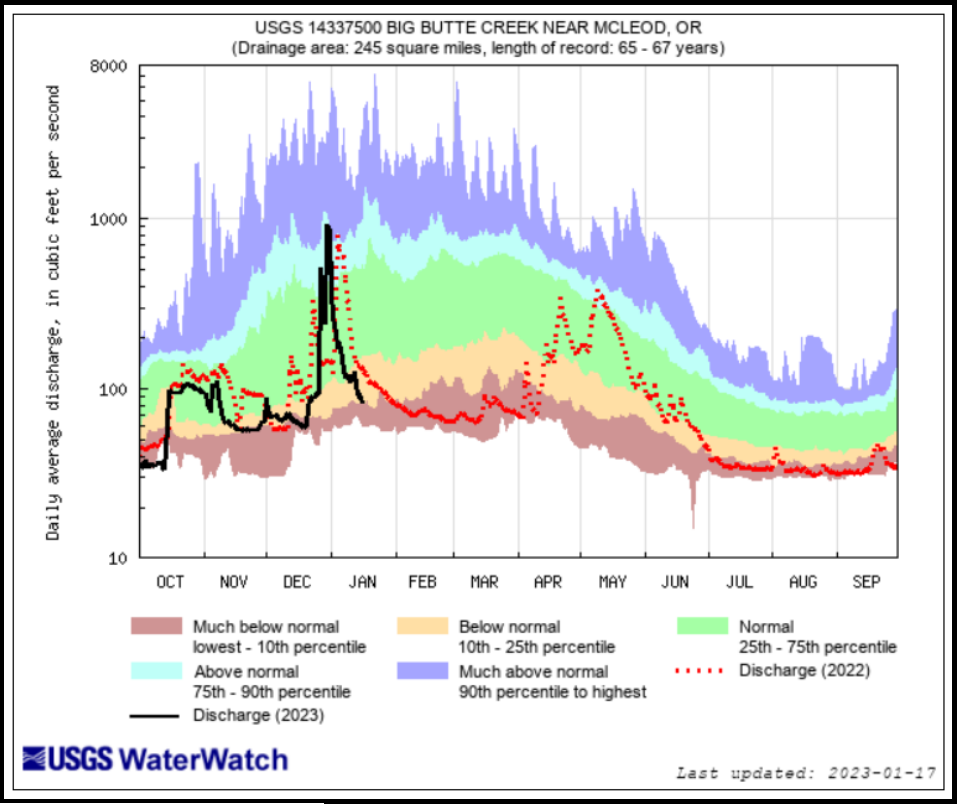


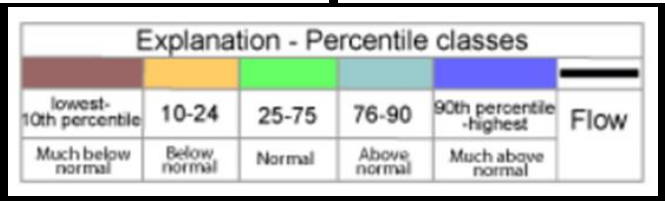
USGS

Southwestern OR



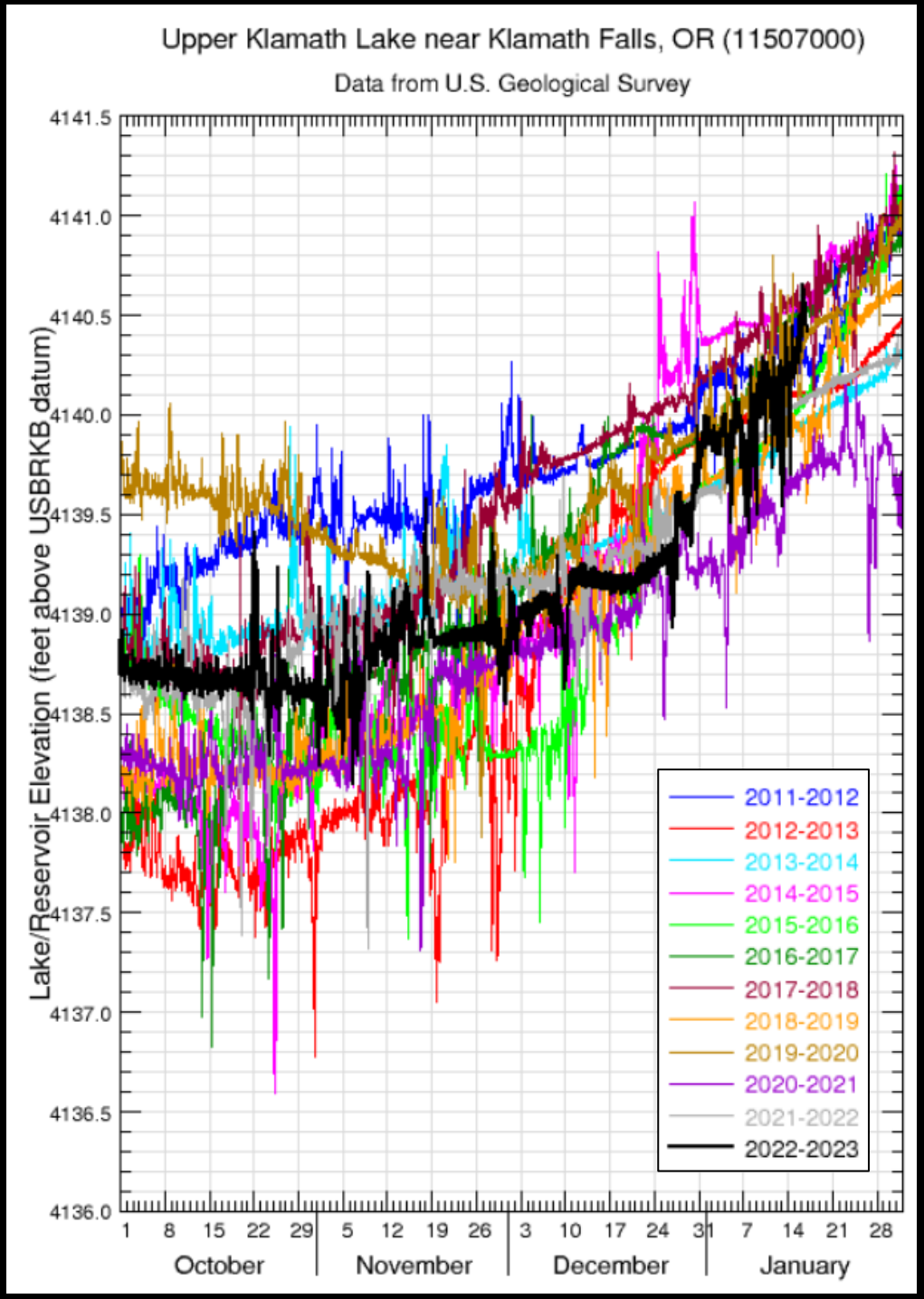


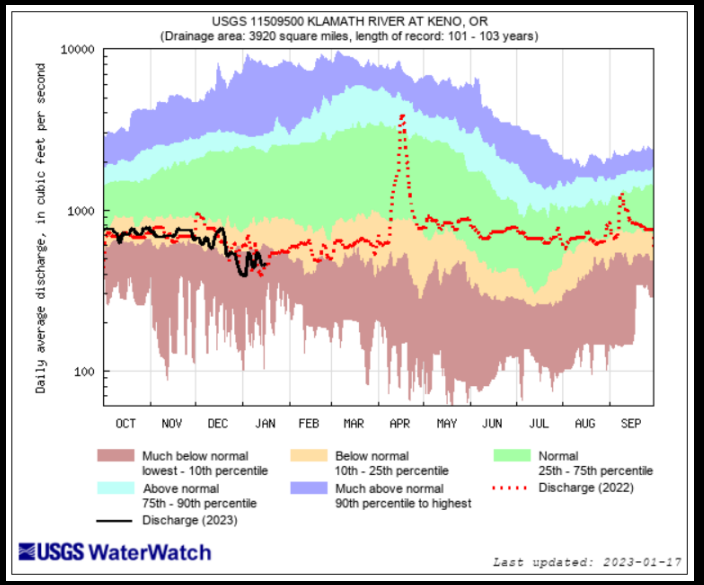


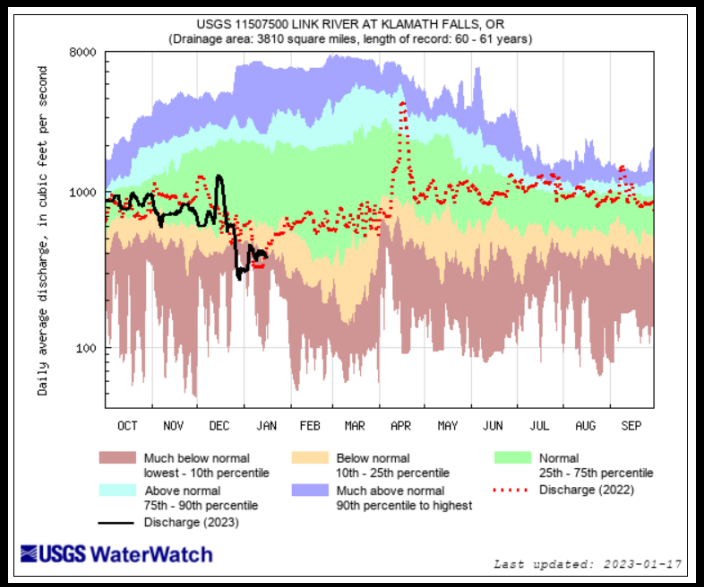


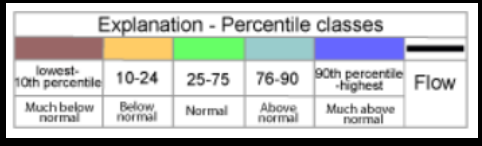
USGS

Klamath

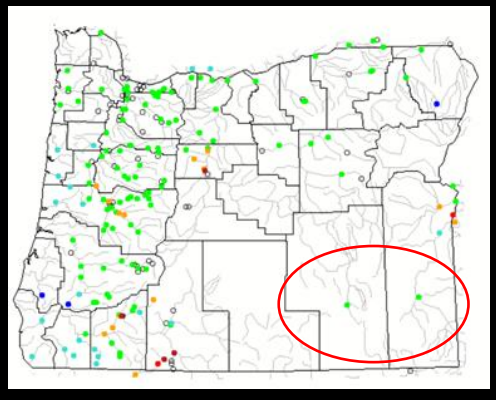

Upper Klamath Lake near Klamath Falls, OR (11507000)
Data from U.S. Geological Survey
Lake/Reservoir Elevation (feet above USBRKB datum)
4141.5
4141.0
4140.5
4140.0
4139.5
4139.0
4138.5
4138.0
4137.5
4137.0
4136.5
4136.0
1 8 15 22 29 5 12 19 26 3 10 17 24 31 7 14 21 28
October
November
December
January
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
2021-2022
2022-2023

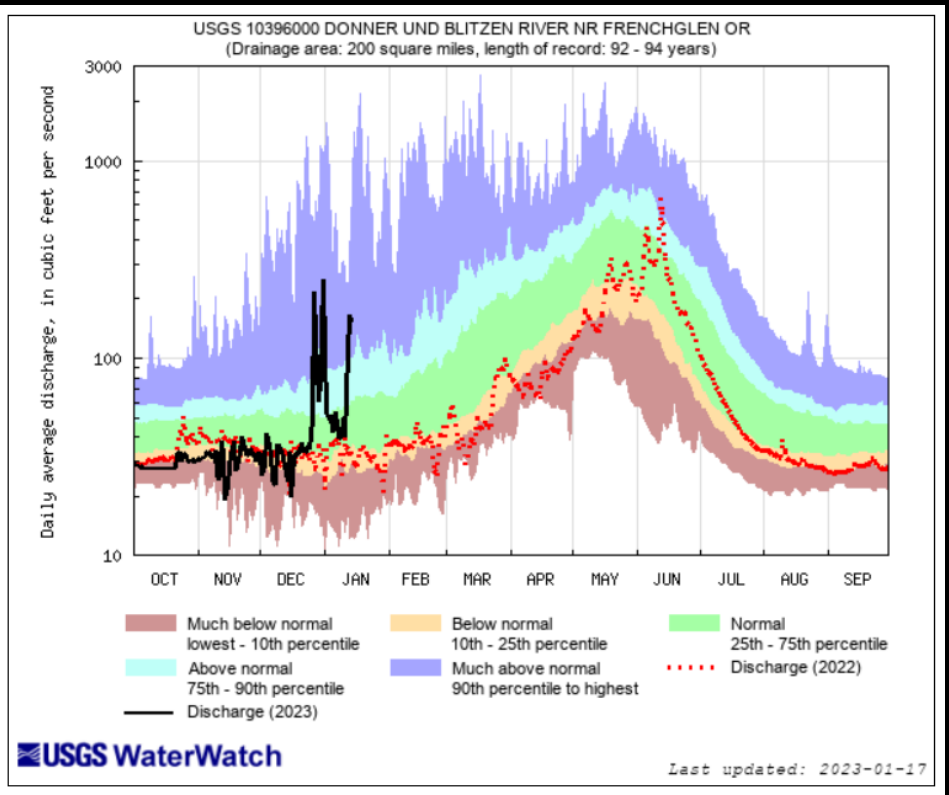

USGS 11509500 KLAMATH RIVER AT KENO, OR
(Drainage area: 3920 square miles, length of record: 101 - 103 years)
Daily average discharge, in cubic feet per second
10000
1000
100
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
Much below normal
lowest - 10th percentile
Below normal
10th - 25th percentile
Normal
25th - 75th percentile
Above normal
75th - 90th percentile
Much above normal
90th percentile to highest
Discharge (2022)
Discharge (2023)
USGS WaterWatch
Last updated: 2023-01-17

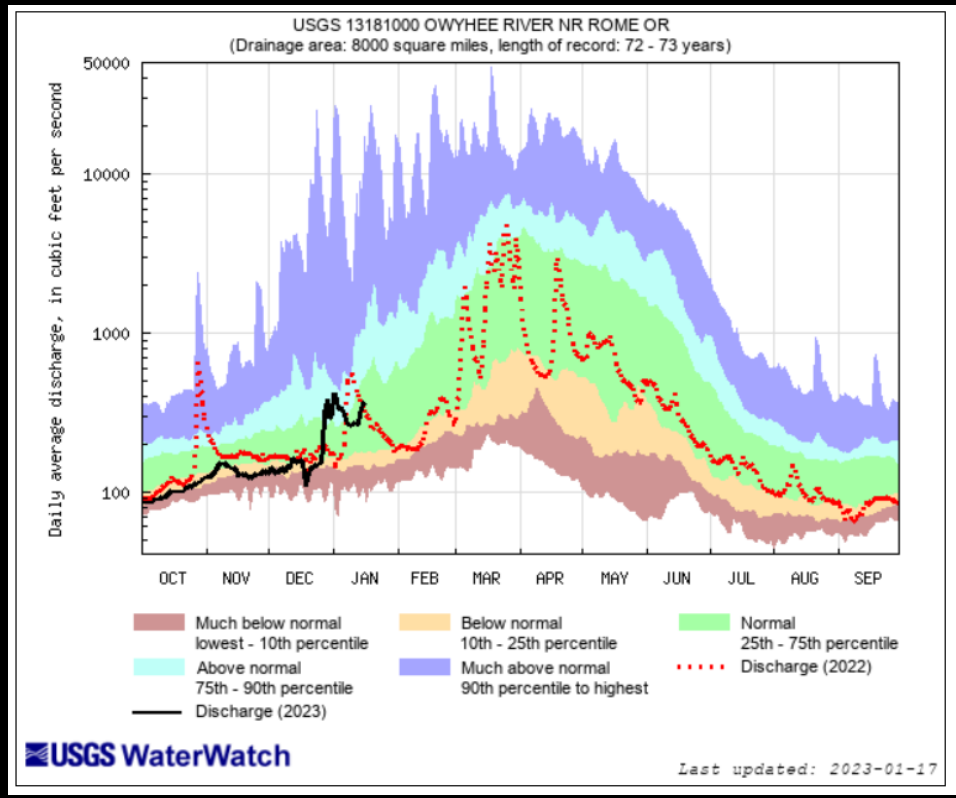

USGS 11507500 LINK RIVER AT KLAMATH FALLS, OR
(Drainage area: 3810 square miles, length of record: 60 - 61 years)
Daily average discharge, in cubic feet per second
8000
1000
100
OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP
Much below normal
lowest - 10th percentile
Below normal
10th - 25th percentile
Normal
25th - 75th percentile
Above normal
75th - 90th percentile
Much above normal
90th percentile to highest
Discharge (2022)
Discharge (2023)
USGS WaterWatch
Last updated: 2023-01-17

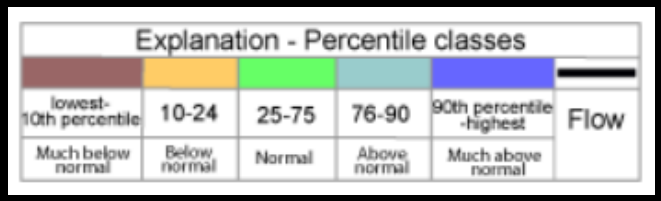

Explanation - Percentile classes
lowest-10th percentile
10-24
25-75
76-90
90th percentile -highest
Flow
Much below normal
Below normal
Normal
Above normal
Much above normal

Southeastern OR









USGS

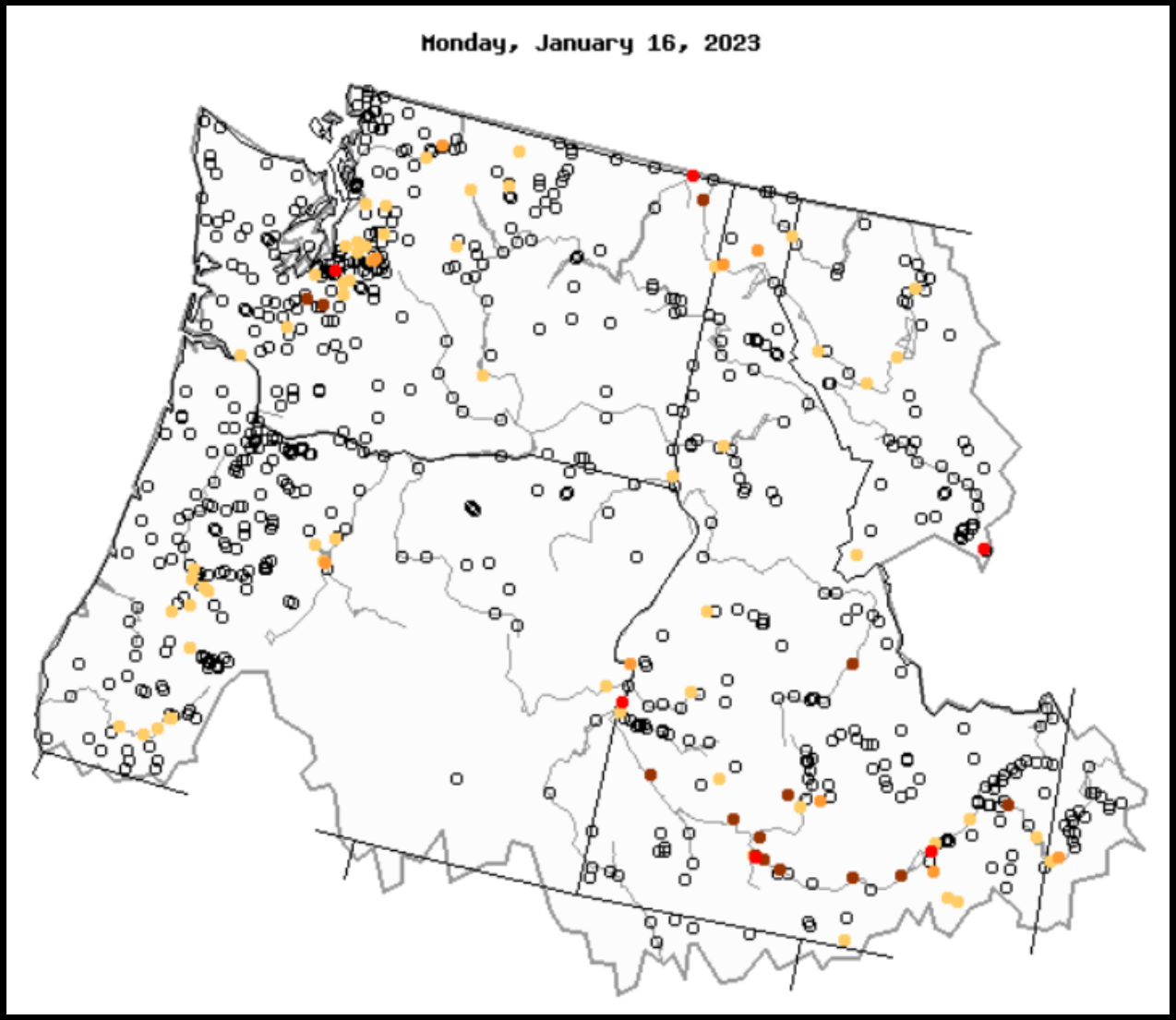
US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR DECEMBER 2022

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 Dec.: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	51	94	59	81
(*)Deep Creek above Adel	Lake County	19	30	90	33
(*)Chewaucan River near Paisley	Lake County	44	63	33	71
Williamson River near Chiloquin	Klamath	581	79	12	83
Owyhee River near Rome	Owyhee	167	54	27	64
(*)NF Malheur River near Beulah	Malheur	61	103	30	94
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	1,220	76	10	85
Umatilla River nr Gibbon	Umatilla Lower John Day	178	82	50	90
John Day River at Service Crk	Upper John Day	489	51	40	57
(*)Little Deschutes River nr LaPine	Upper Deschutes	58	45	9	49
Hood River nr Hood River	Lower Deschutes Mt.Hood	908	71	21	73
Willamette River at Salem	Willamette	25,200	60	43	68
Wilson River near Tillamook	North Coast	2,810	105	118	80
Umpqua River near Elkton	Rogue/Umpqua	9,180	67	252	63
Rogue River near Agness	Rogue/Umpqua	5,000	56	163	59
SF Coquille River at Powers	South Coast	1,870	103	600	78
Chetco River near Brookings	South Coast	4,620	88	1,044	62

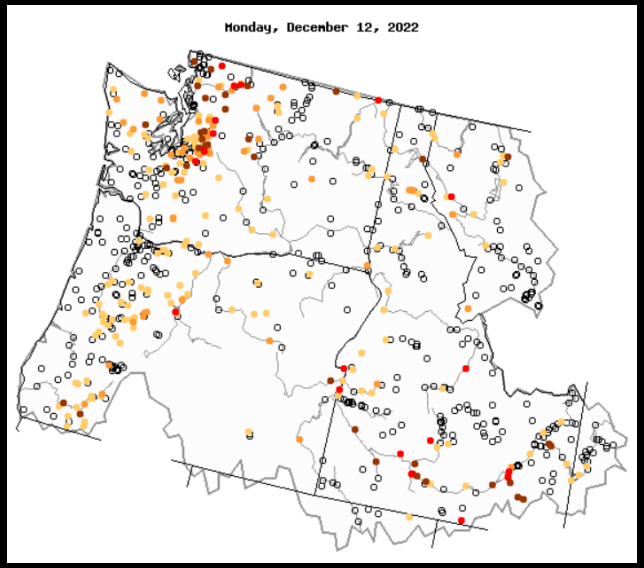
All data should be considered provisional and subject to revision.
Percent of average computed using 30-year base period, water years 1991-2020.
(*) provided by Oregon Water Resources Department

01/06/2023

USGS

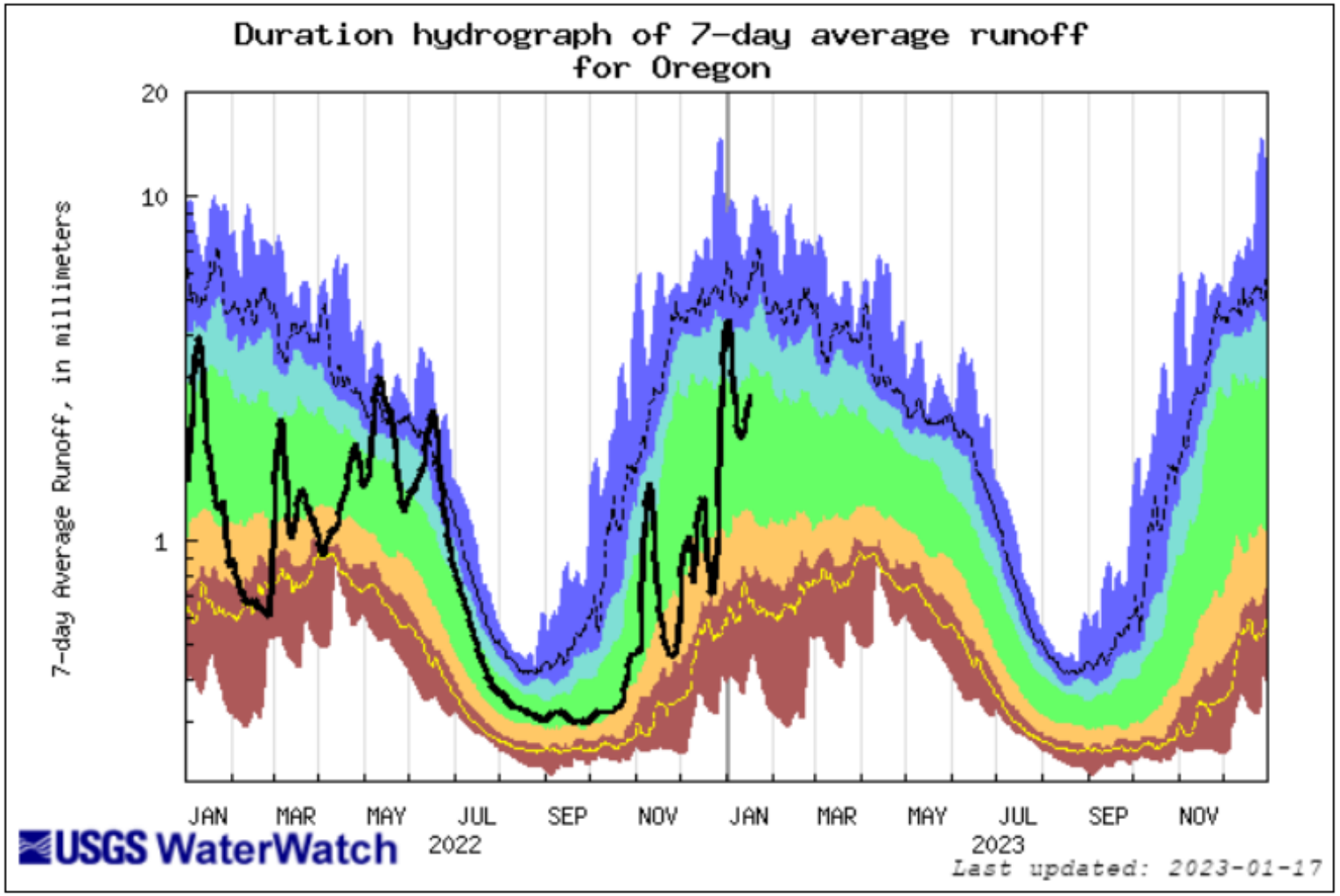


Map of below normal 14-day average streamflow compared to historical streamflow for the day of year



USGS

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



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

January 18th, 2022

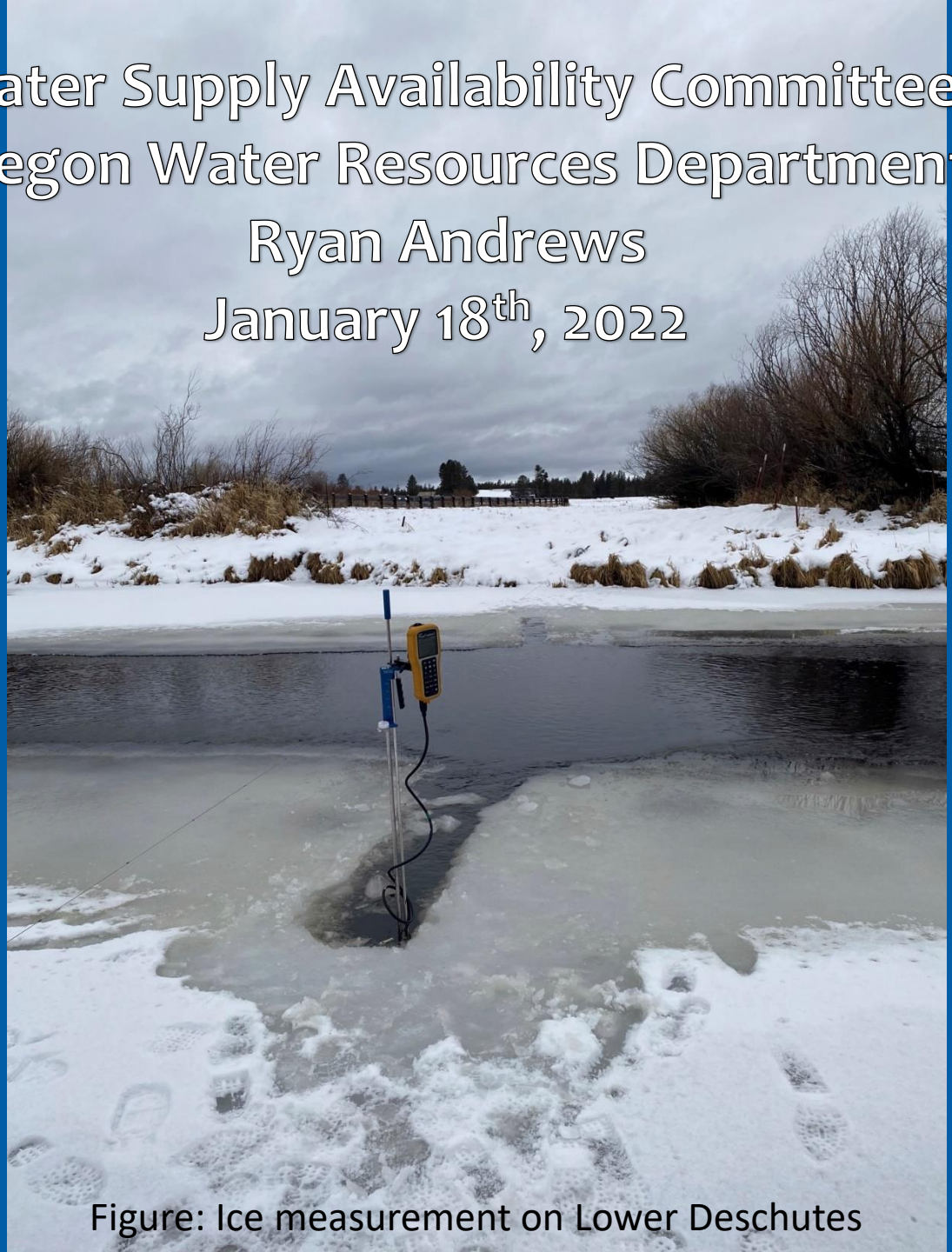
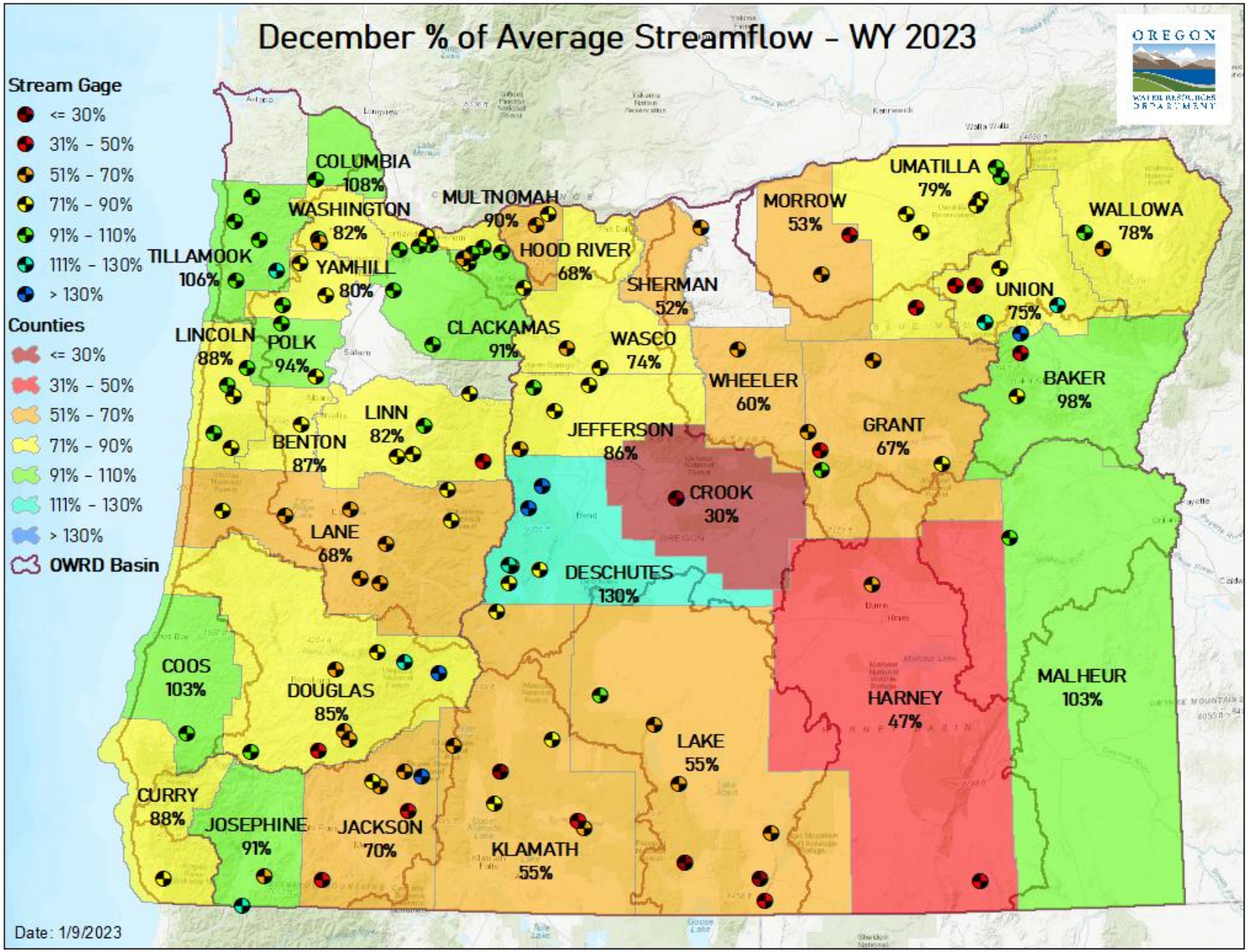
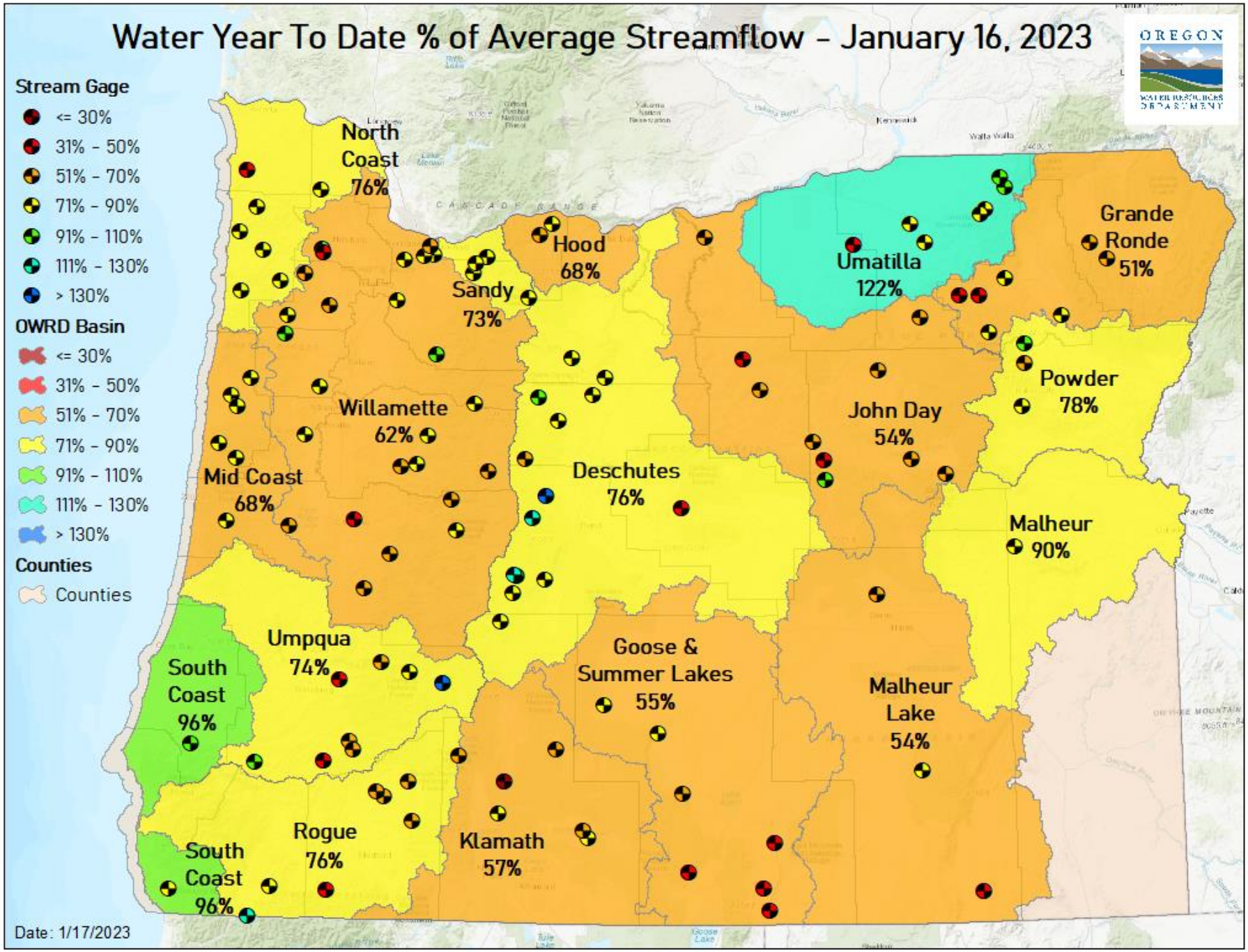


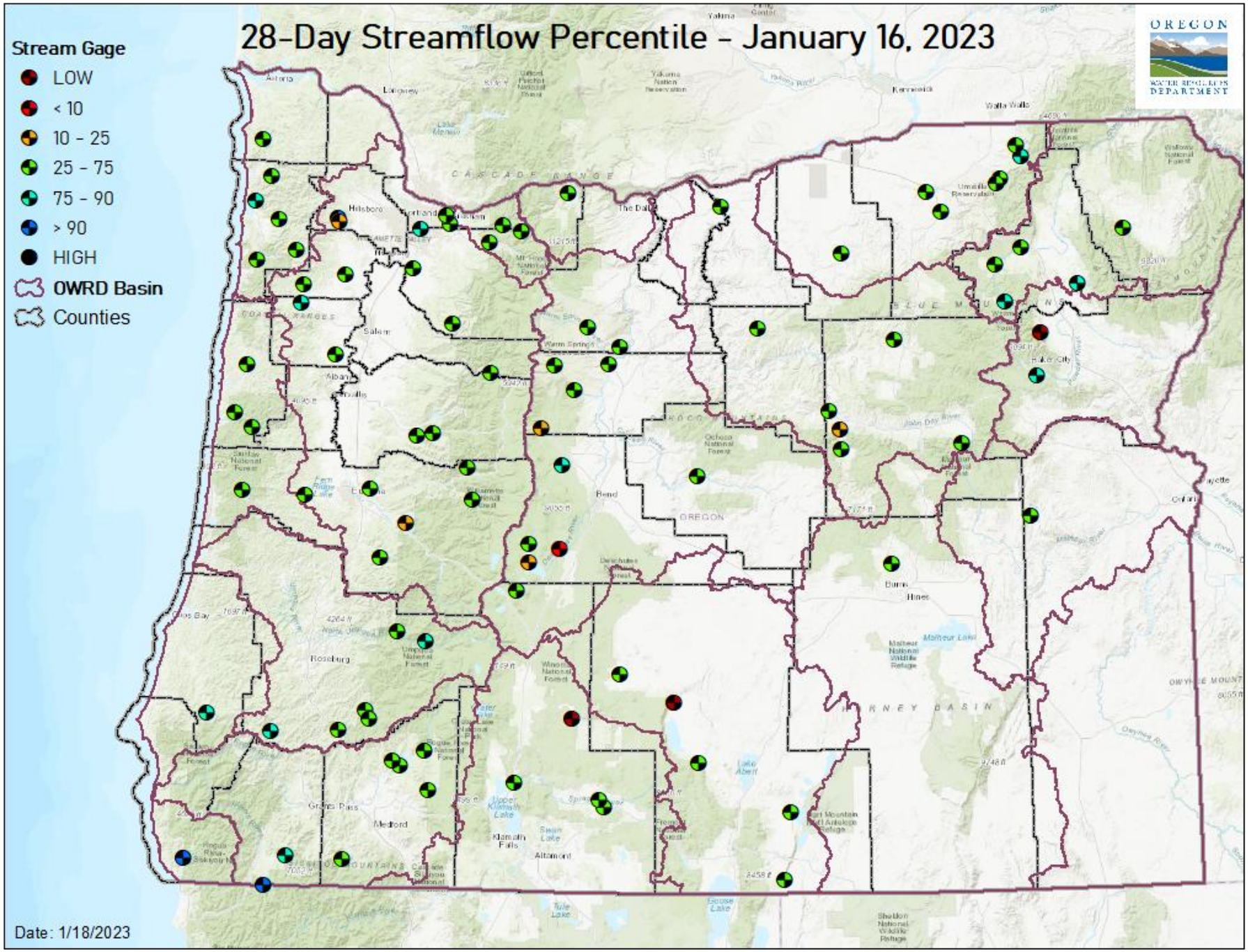
Figure: Ice measurement on Lower Deschutes

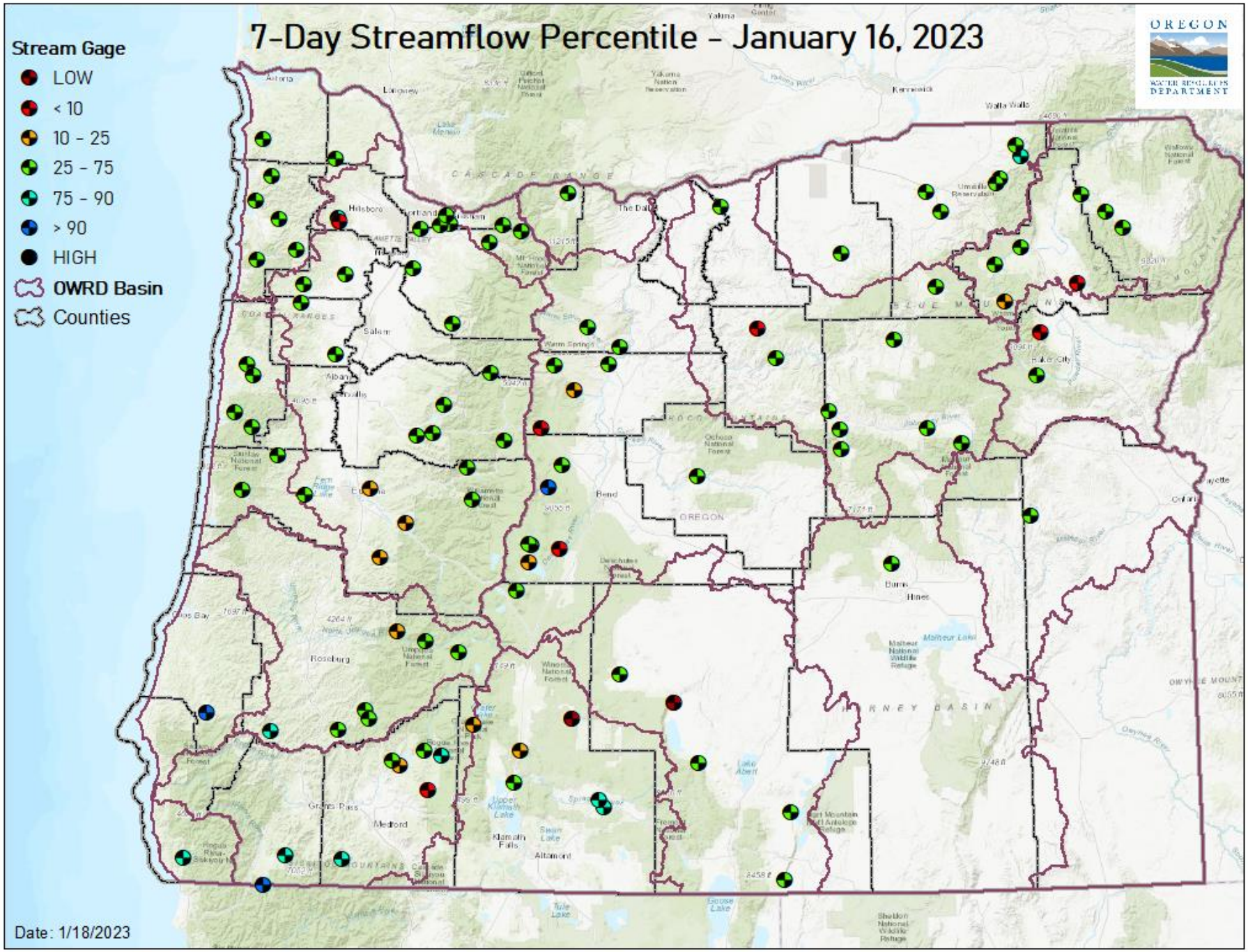
Drought Declarations

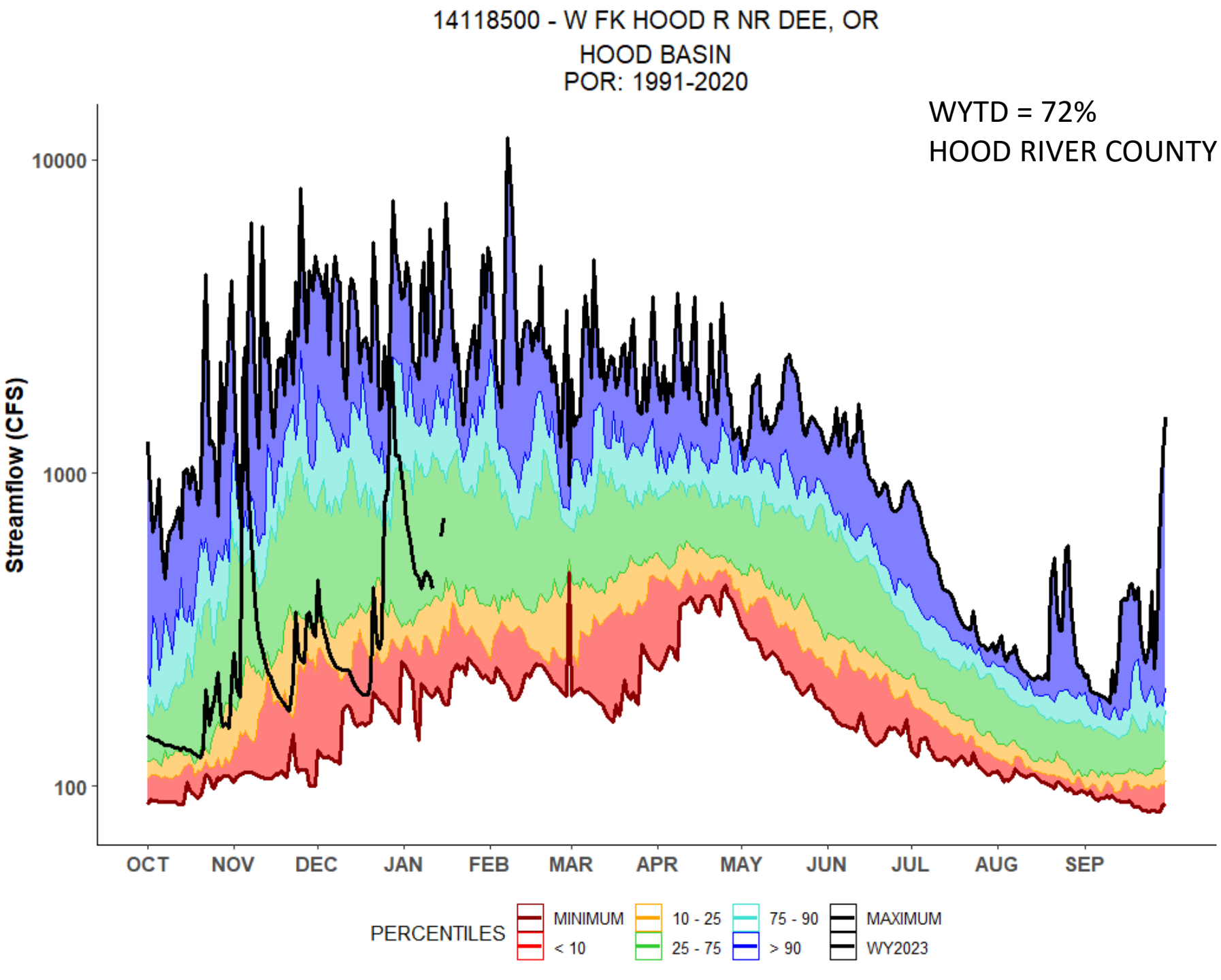
- Jefferson County submitted official drought declaration request
- Crook County declared drought locally and expected to submit official declaration request

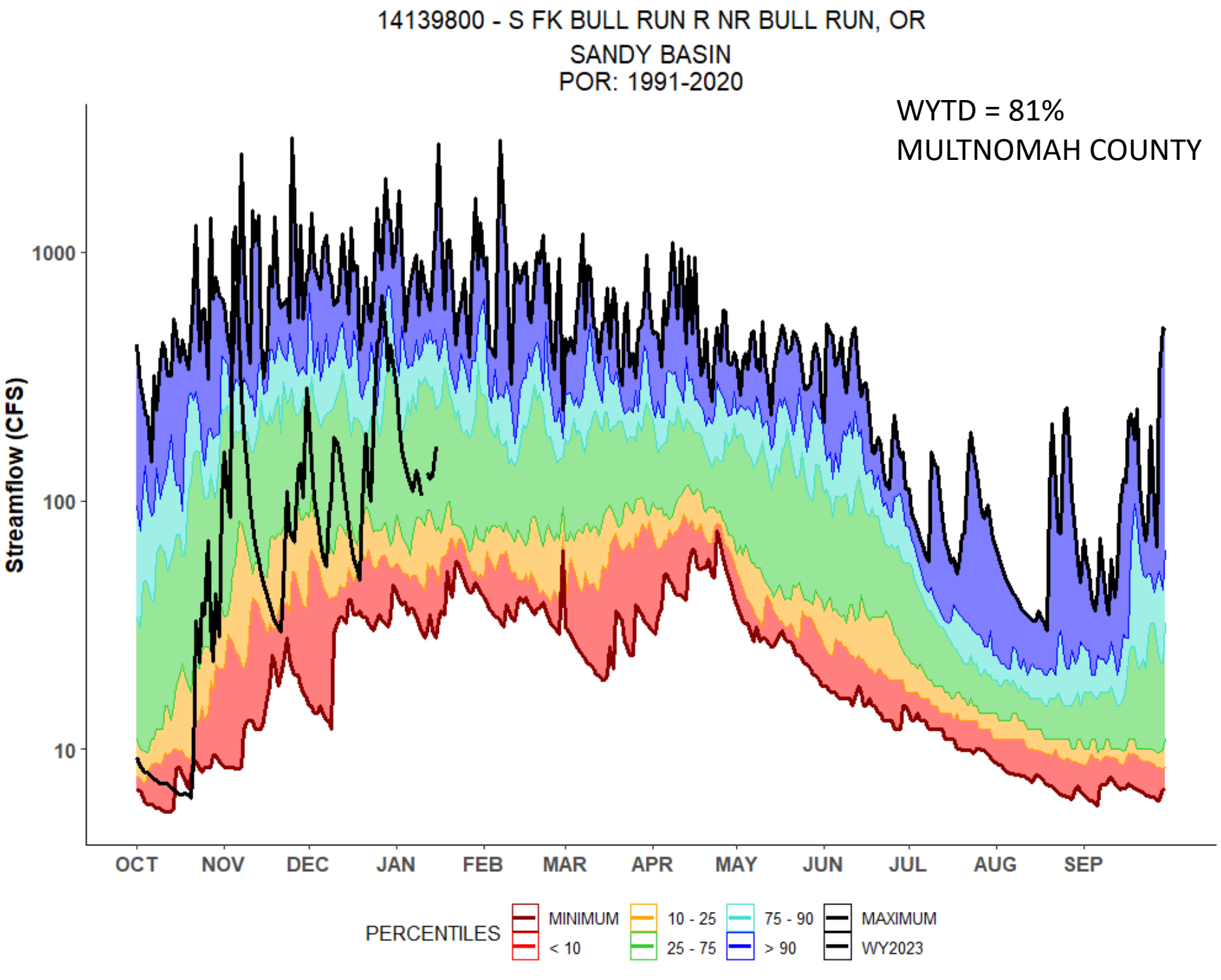

December % of Average Streamflow - WY 2023
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
COLUMBIA 108%
MULTNOMAH 90%
WASHINGTON 82%
TILLAMOOK 106%
YAMHILL 80%
HOOD RIVER 68%
SHERMAN 52%
MORROW 53%
UMATILLA 79%
WALLOWA 78%
UNION 75%
LINCOLN 88%
POLK 94%
CLACKAMAS 91%
WASCO 74%
WHEELER 60%
BAKER 98%
LINN 82%
BENTON 87%
JEFFERSON 86%
GRANT 67%
CROOK 30%
LANE 68%
DESCHUTES 130%
COOS 103%
DOUGLAS 85%
HARNEY 47%
MALHEUR 103%
LAKE 55%
CURRY 88%
JOSEPHINE 91%
JACKSON 70%
KLAMATH 55%
Date: 1/9/2023

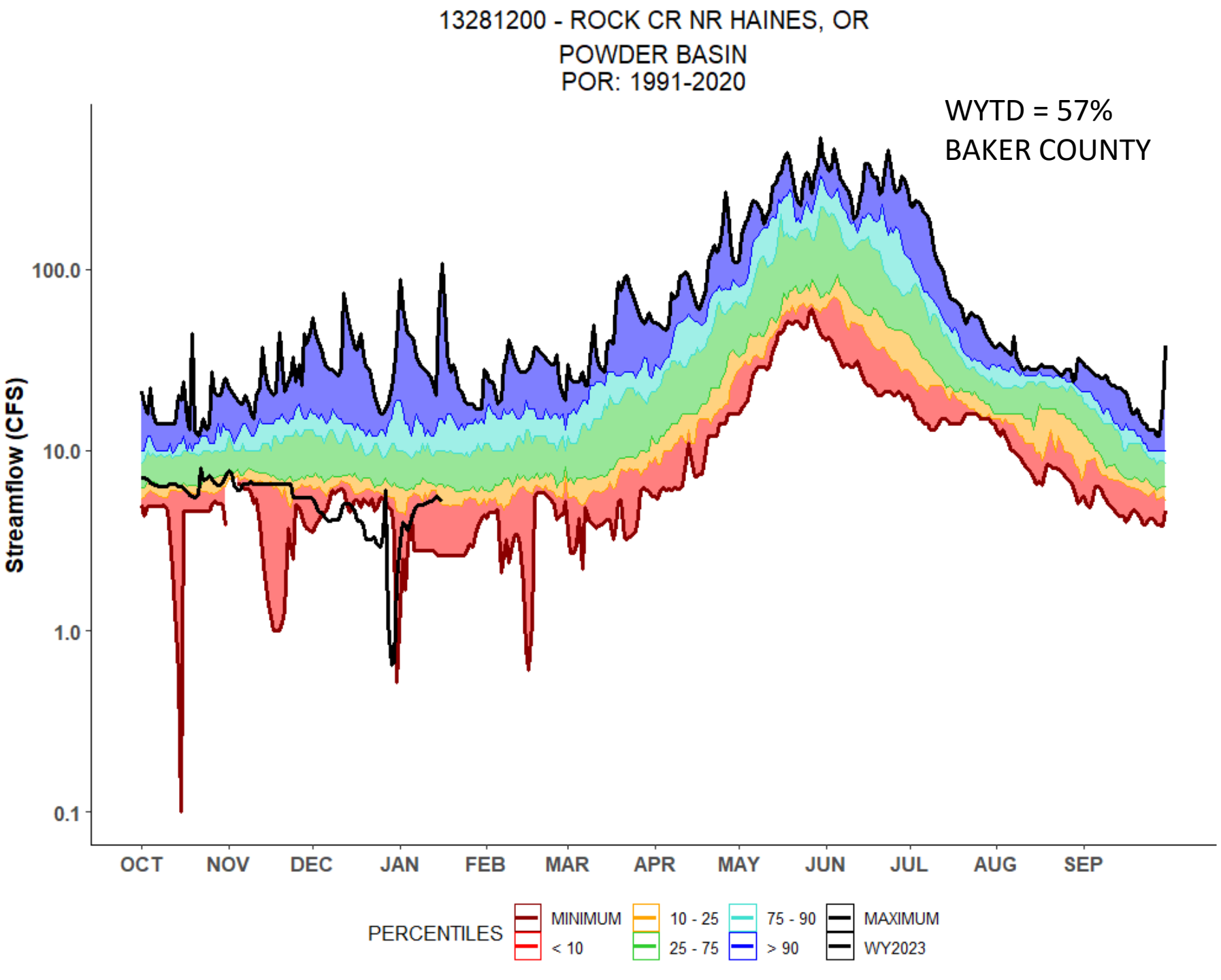

Water Year To Date % of Average Streamflow - January 16, 2023
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
Counties
North Coast 76%
Hood 68%
Sandy 73%
Umatilla 122%
Grande Ronde 51%
Powder 78%
John Day 54%
Willamette 62%
Mid Coast 68%
Deschutes 76%
Malheur 90%
Umpqua 74%
South Coast 96%
Goose & Summer Lakes 55%
Malheur Lake 54%
Rogue 76%
Klamath 57%
South Coast 96%
Date: 1/17/2023

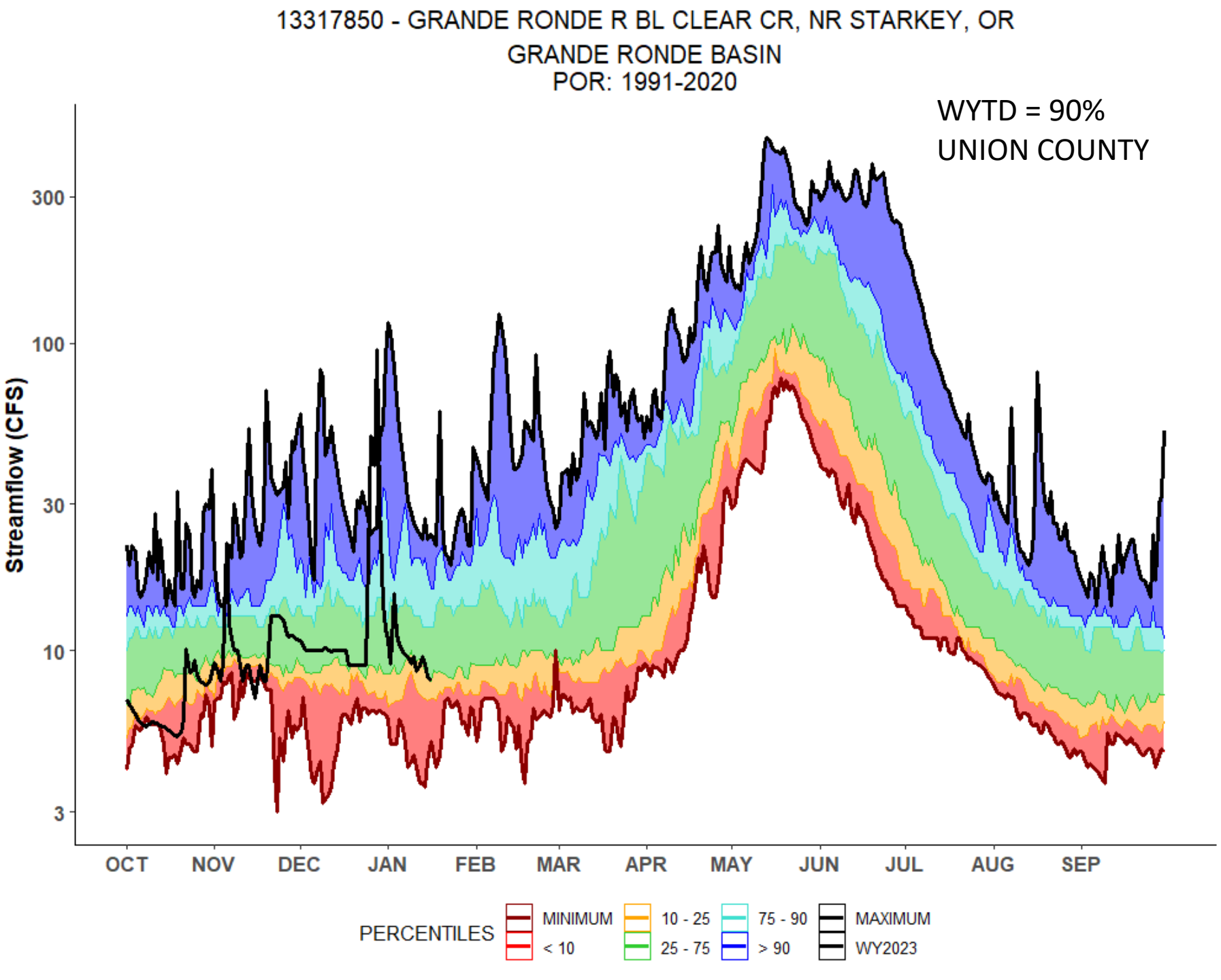

28-Day Streamflow Percentile - January 16, 2023
Stream Gage
LOW
< 10
10 - 25
25 - 75
75 - 90
> 90
HIGH
OWRD Basin
Counties
OREGON
WATER RESOURCES DEPARTMENT
Date: 1/18/2023

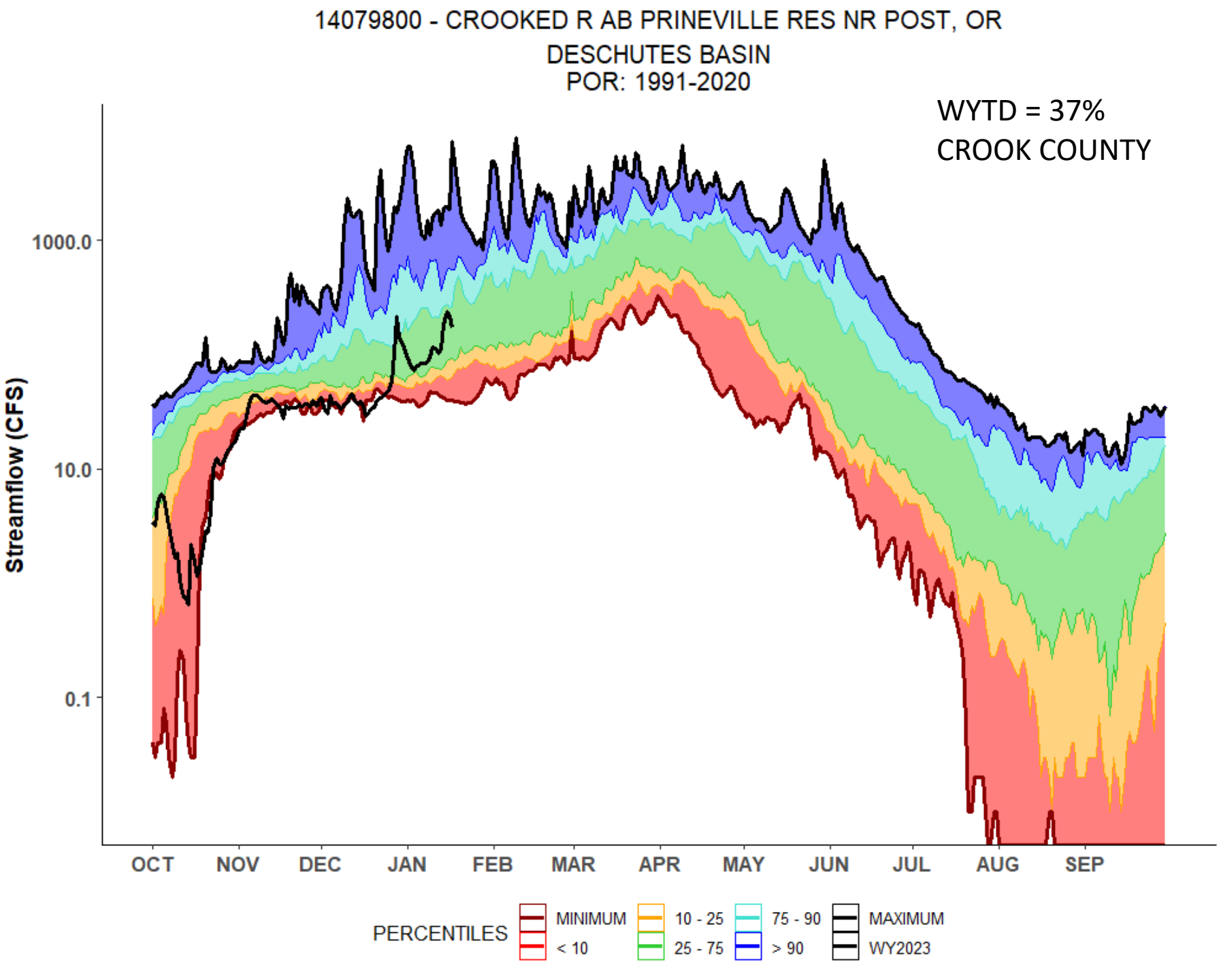

7-Day Streamflow Percentile - January 16, 2023
Stream Gage
LOW
< 10
10 - 25
25 - 75
75 - 90
> 90
HIGH
OWRD Basin
Counties
OREGON
WATER RESOURCES DEPARTMENT
Date: 1/18/2023

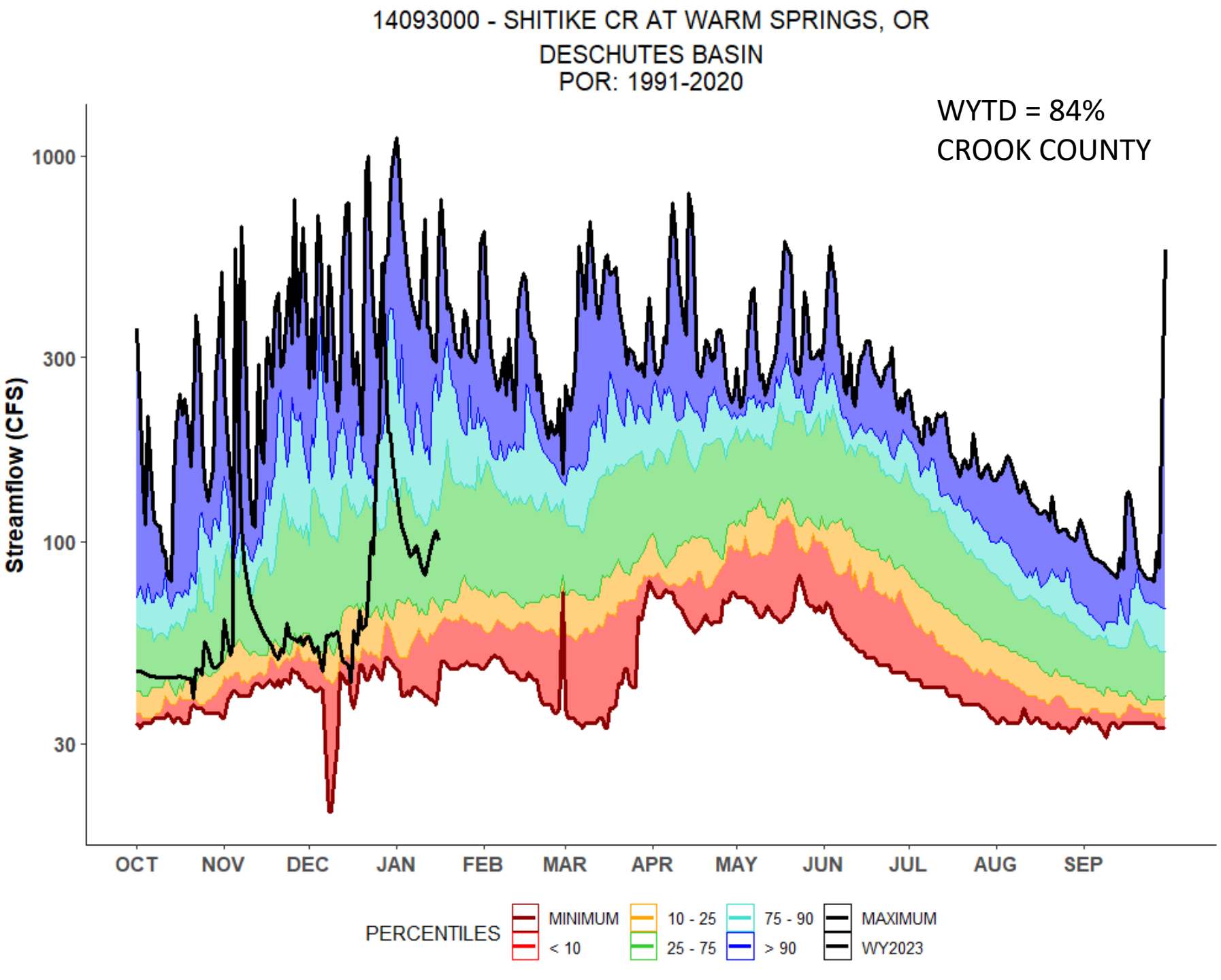

14118500 - W FK HOOD R NR DEE, OR
HOOD BASIN
POR: 1991-2020
WYTD = 72%
HOOD RIVER COUNTY
Streamflow (CFS)
10000
1000
100
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023


14139800 - S FK BULL RUN R NR BULL RUN, OR
SANDY BASIN
POR: 1991-2020
WYTD = 81%
MULTNOMAH COUNTY
Streamflow (CFS)
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


13281200 - ROCK CR NR HAINES, OR
POWDER BASIN
POR: 1991-2020
WYTD = 57%
BAKER COUNTY
Streamflow (CFS)
100.0
10.0
1.0
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


13317850 - GRANDE RONDE R BL CLEAR CR, NR STARKEY, OR
GRANDE RONDE BASIN
POR: 1991-2020
WYTD = 90%
UNION COUNTY
Streamflow (CFS)
300
100
30
10
3
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2023


14079800 - CROOKED R AB PRINEVILLE RES NR POST, OR
DESCHUTES BASIN
POR: 1991-2020
WYTD = 37%
CROOK 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


14093000 - SHITIKE CR AT WARM SPRINGS, OR
DESCHUTES BASIN
POR: 1991-2020
WYTD = 84%
CROOK COUNTY
Streamflow (CFS)
1000
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

- Water year streamflow well below average in nearly all basins (some uncertainty due to potential for ice and snowpack)
  - Exceptions in Umatilla, South Coast

- Jefferson and Crook Counties request state drought declarations under ORS 536

OREGON
WATER RESOURCES DEPARTMENT

QUESTIONS?

BUREAU OF RECLAMATION

Emigrant Dam
June 12, 2008

Reclamation Storage Update

Oregon Water Supply Availability Committee Meeting

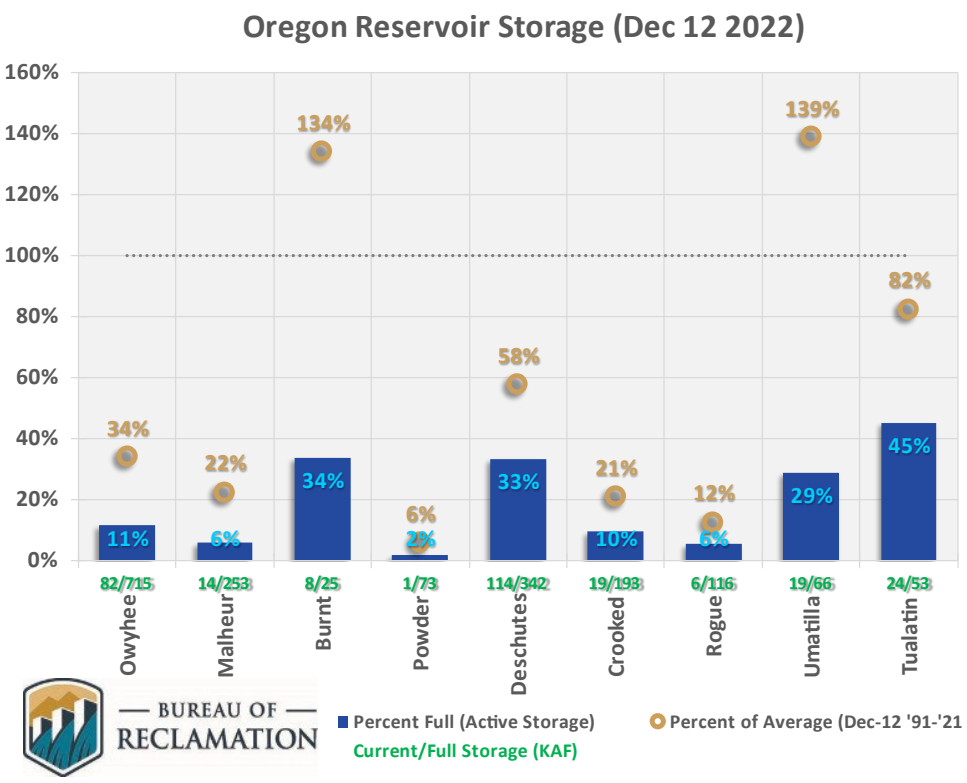
January 18, 2023

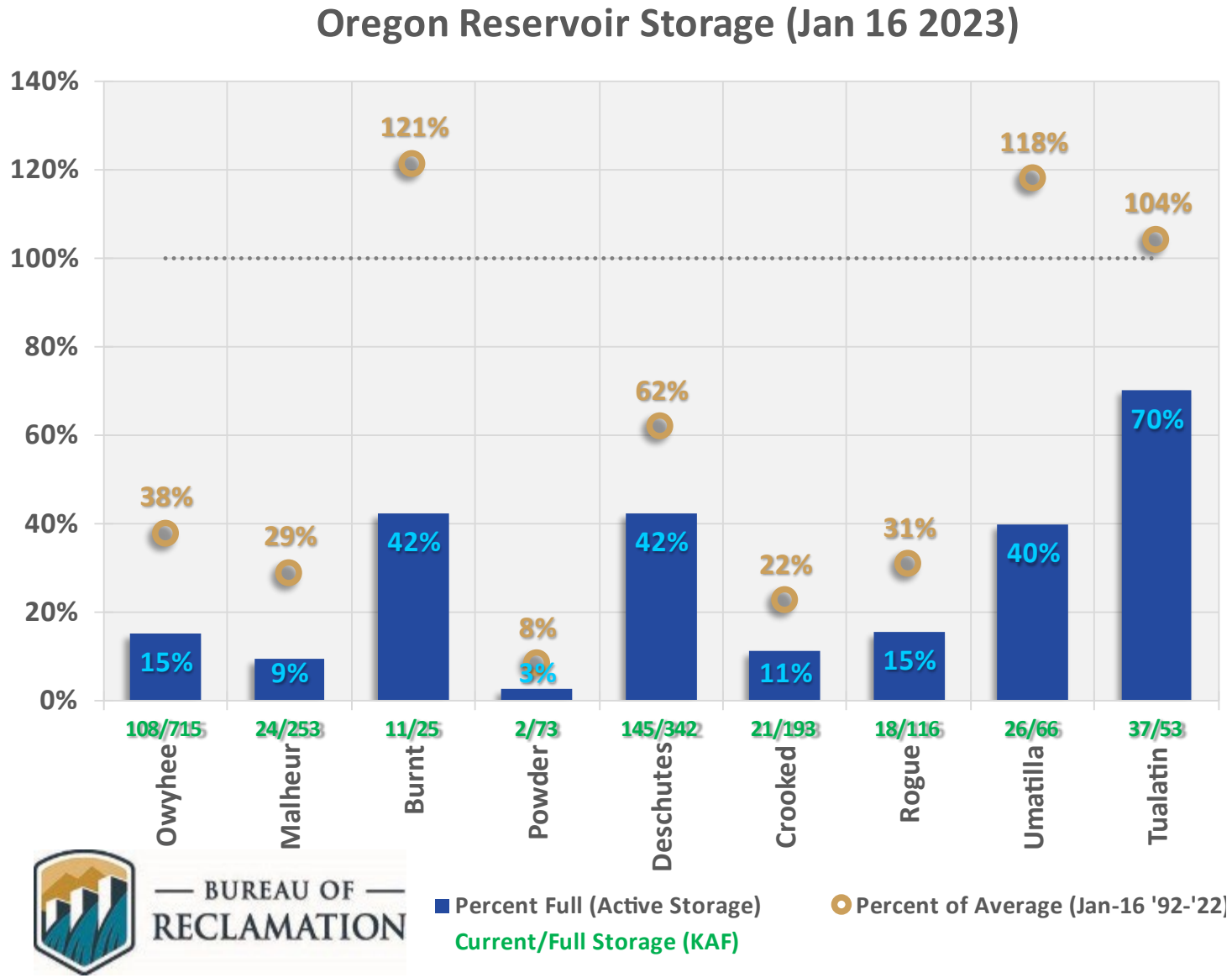
Basin Operations Summary

- Operations Activities:
  - Most reservoirs are releasing winter minimums to continue filling
  - FRM operations ongoing at Scoggins

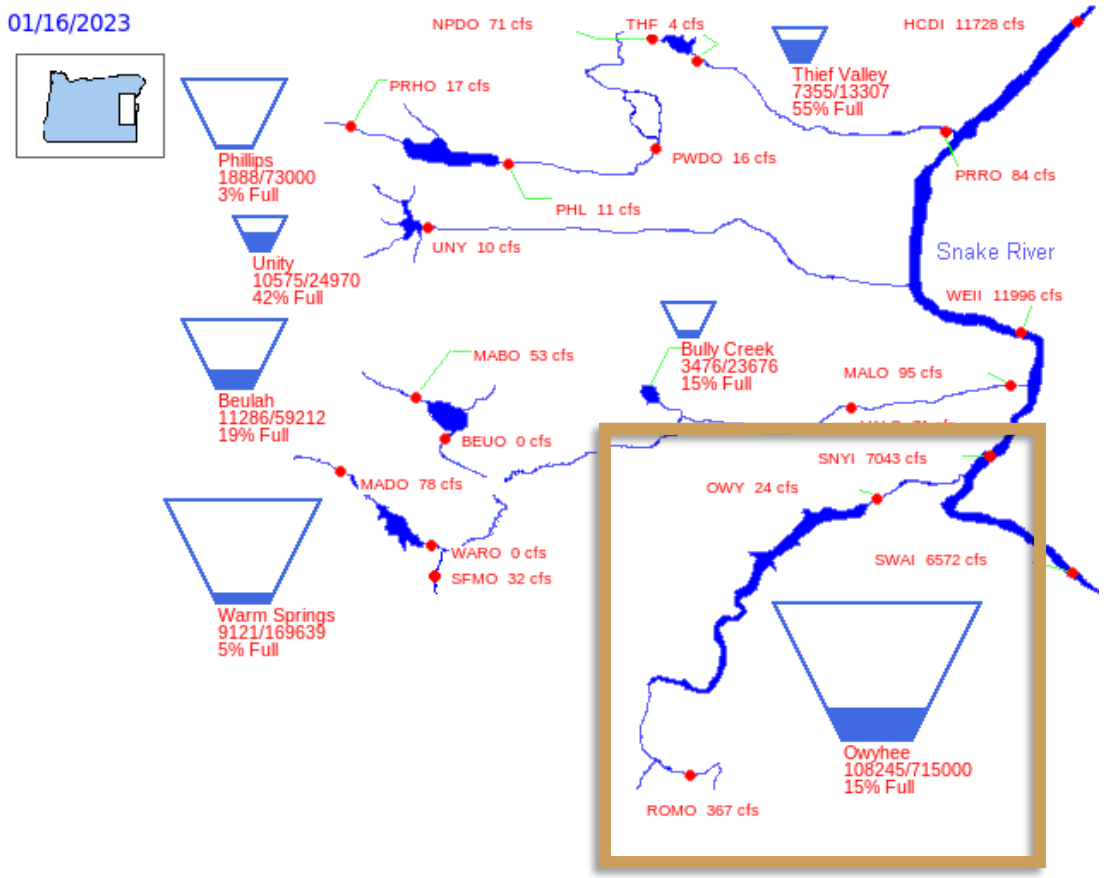
- Water Supply Notes
  - Inflows increased at most facilities with wet weather
  - Much below normal storage content in the southern, central and southeastern basins (Rogue, Deschutes, Crooked, Malheur, Powder, Owyhee) => but did see storage increases this month
  - Above normal and higher storage content than WY2022 in the northern basins (Unity, McKay, Scoggins)
  - January 1 runoff forecasts came in near average to slightly below average

Storage Conditions

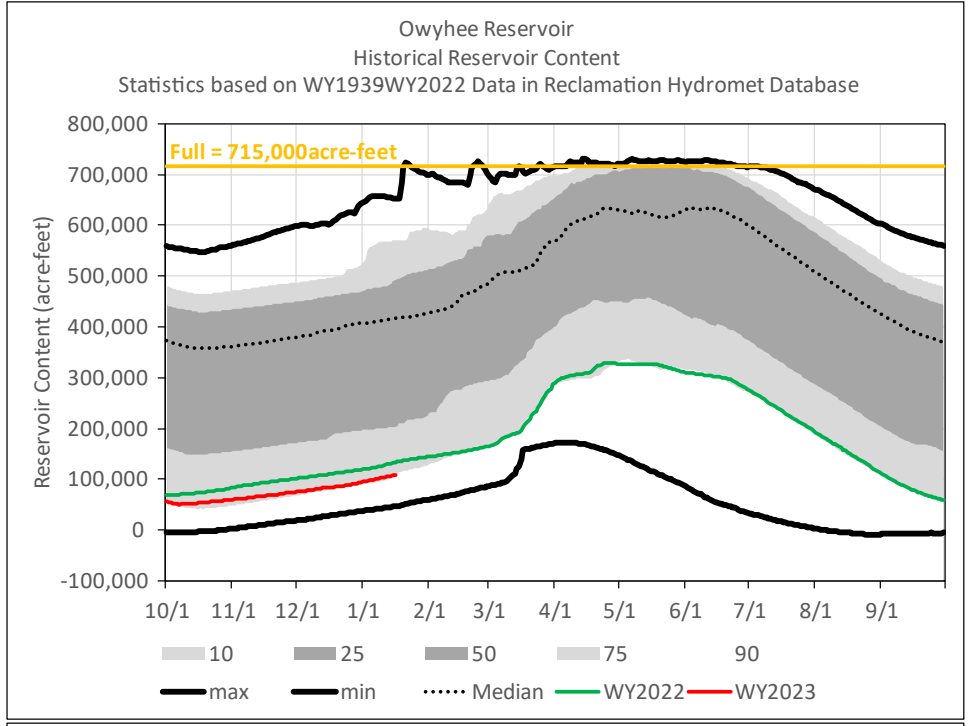


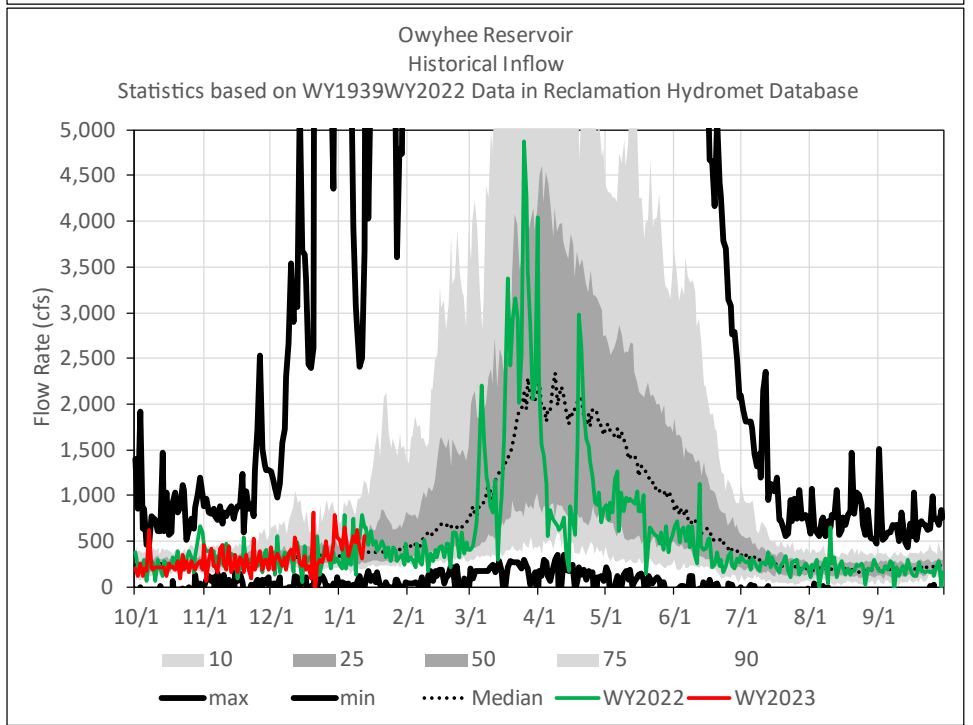


Owyhee River Basin

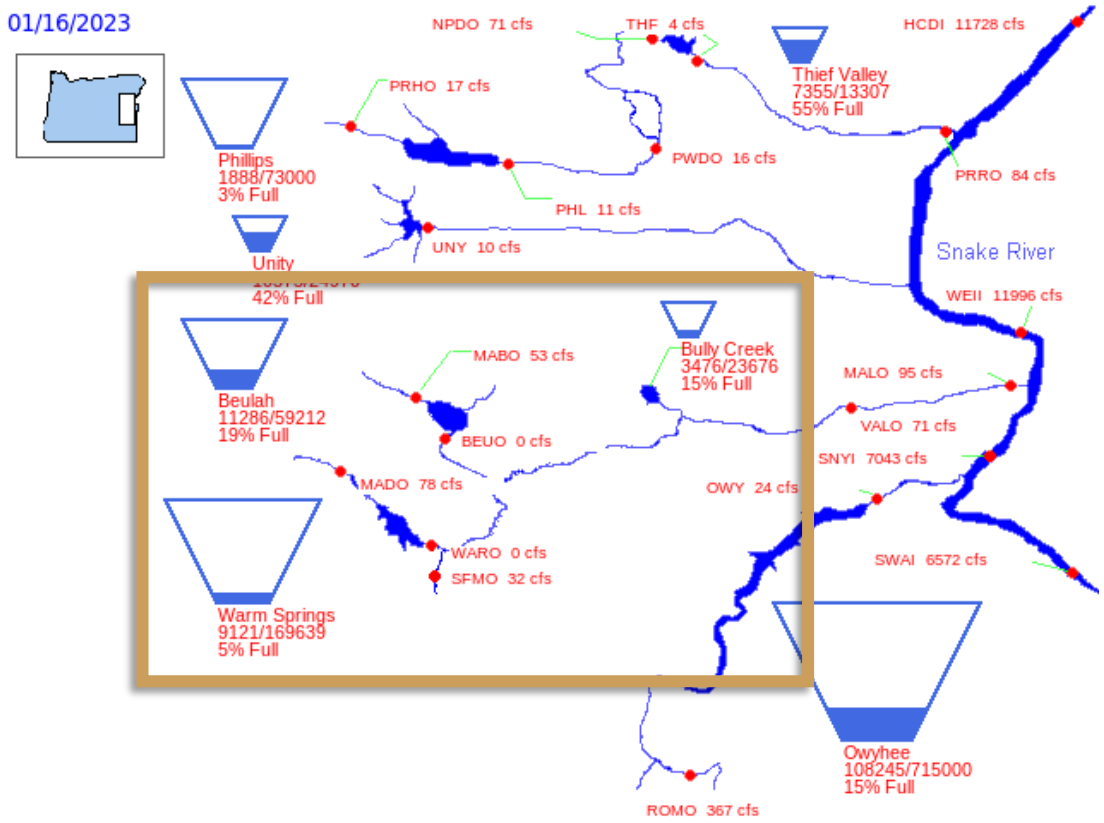


January 1 Runoff Forecast:
Jan-Jun: 572 kaf (108% of 91-20 Ave)

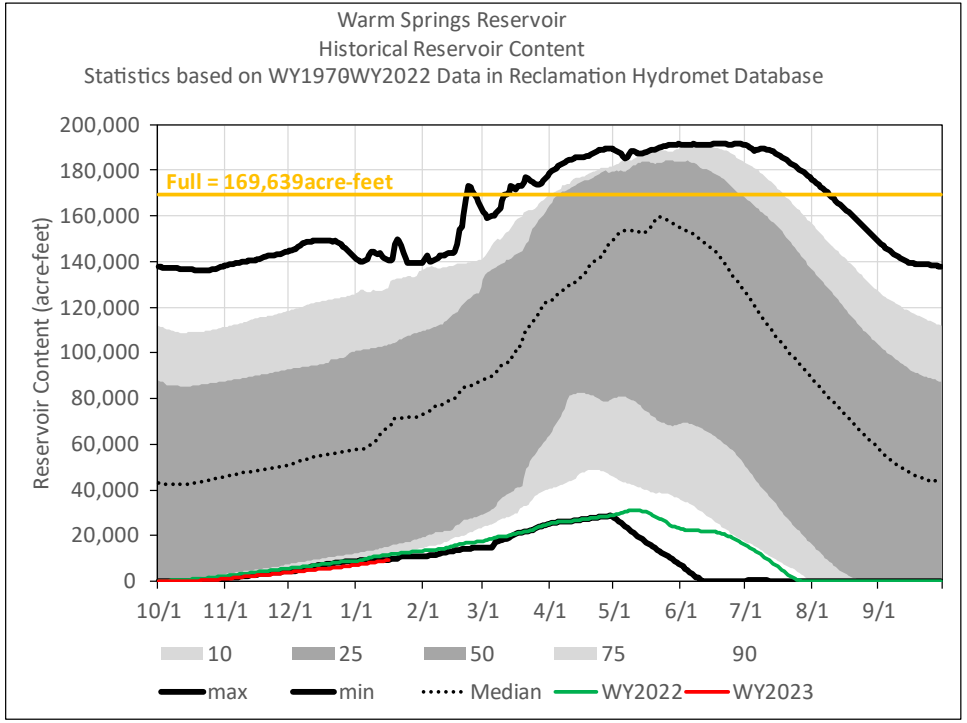


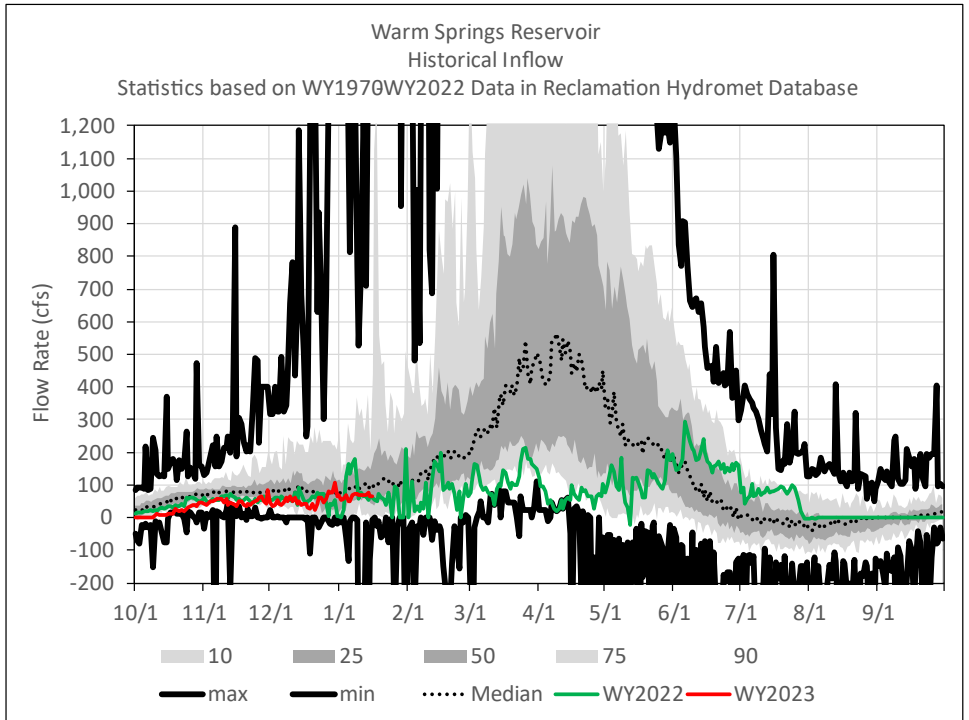


Malheur River Basin

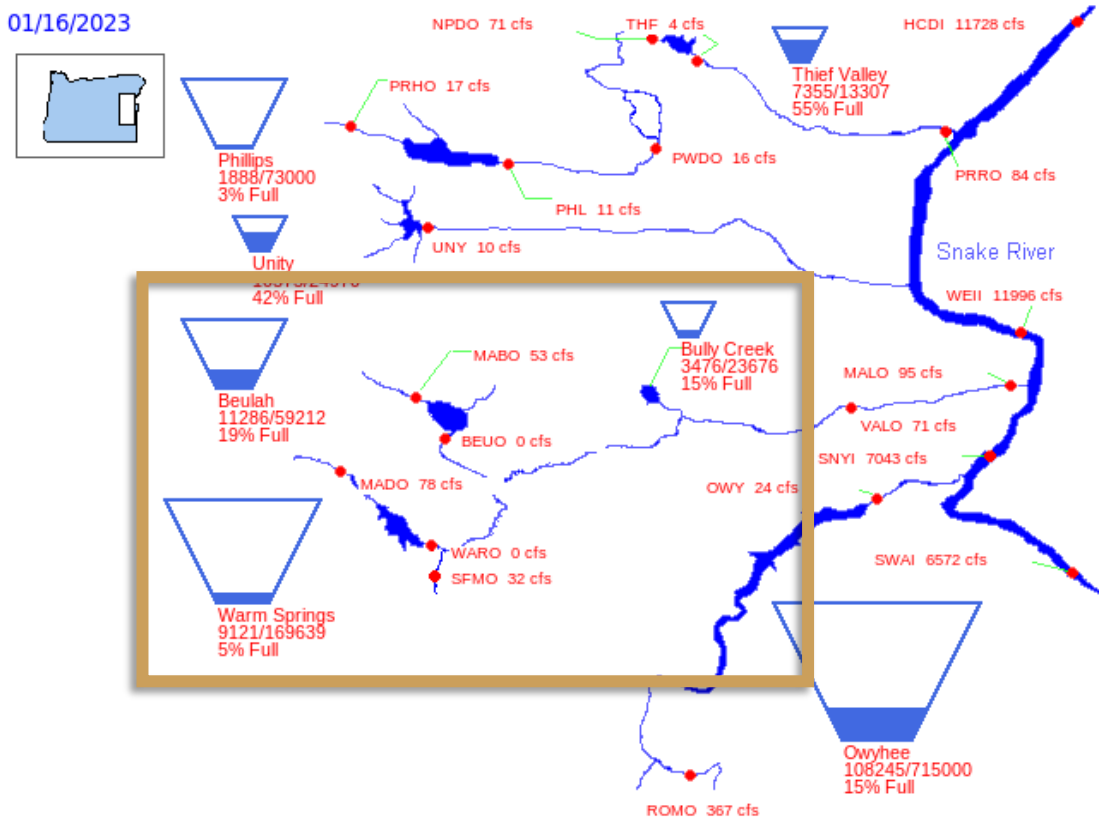


January 1 Runoff Forecast:
Jan-Jun: 109 kaf (94% of 91-20 Ave)

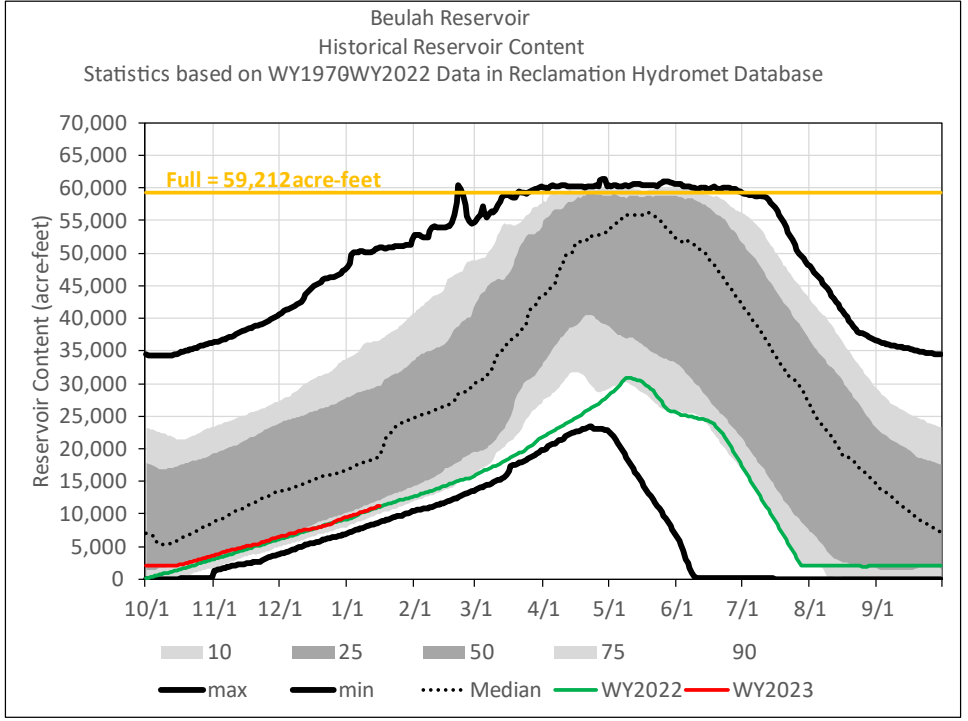


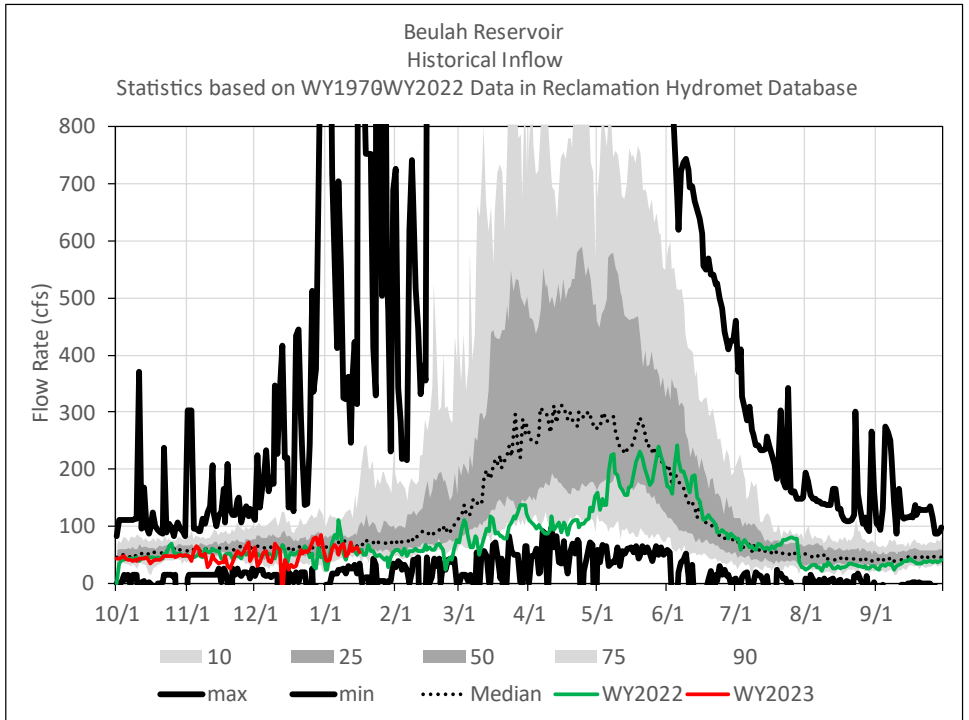


Malheur River Basin

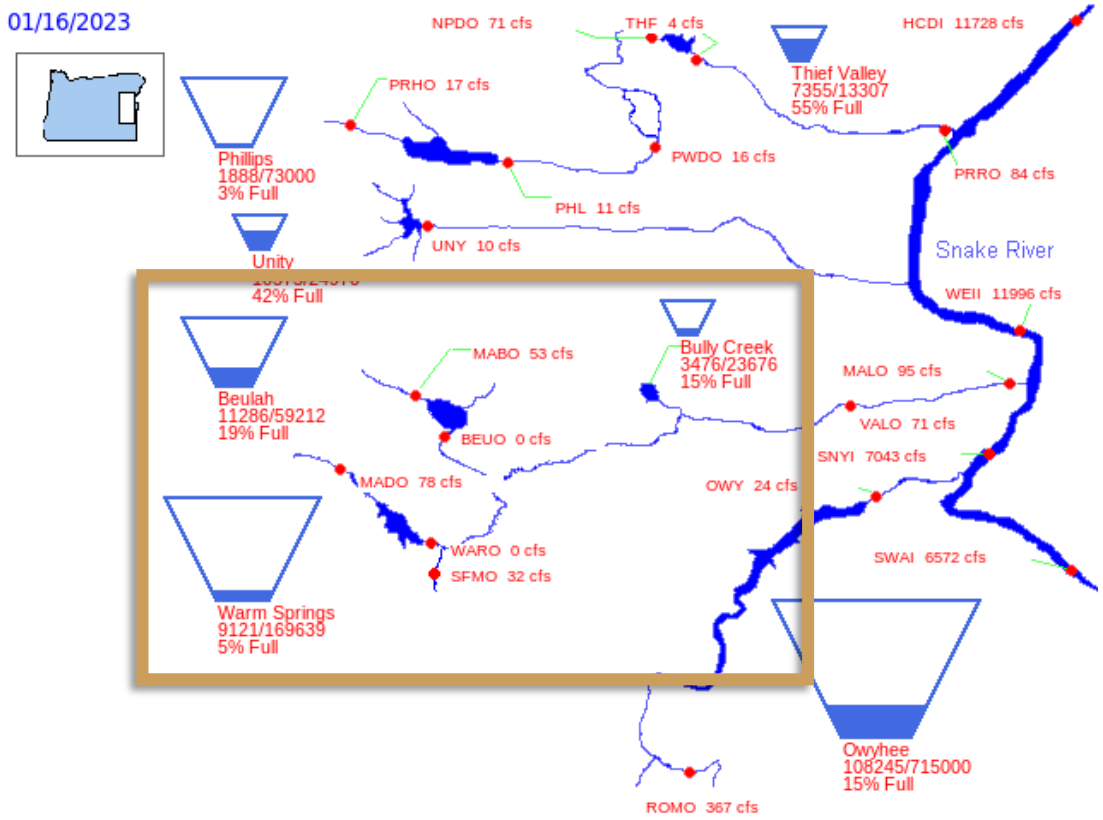


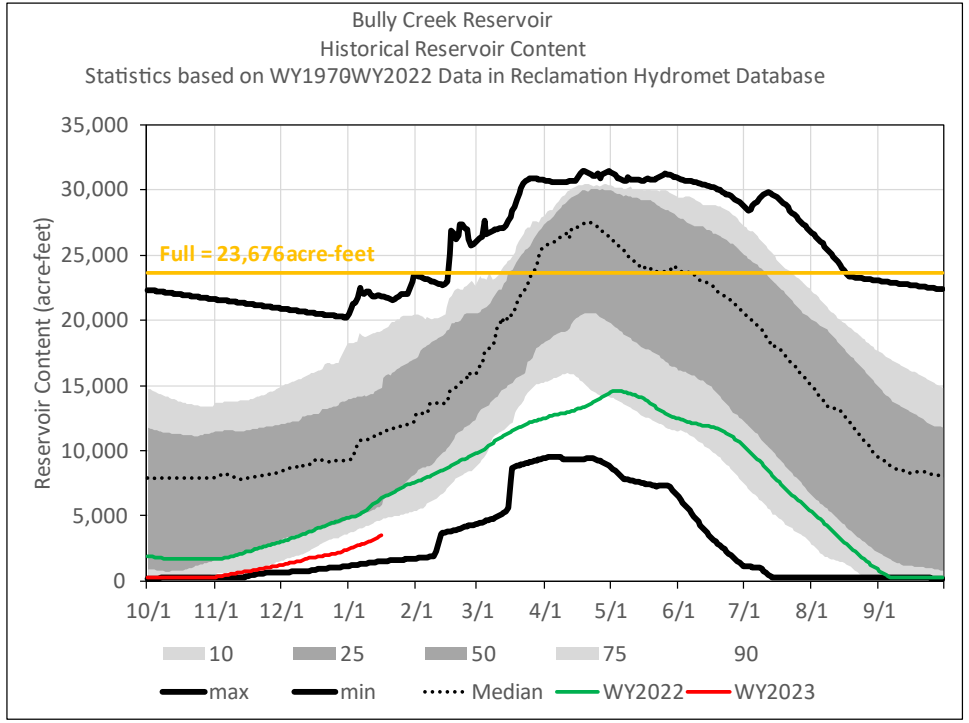
January 1 Runoff Forecast:
Jan-Jun: 84 kaf (105% of 91-20 Ave)





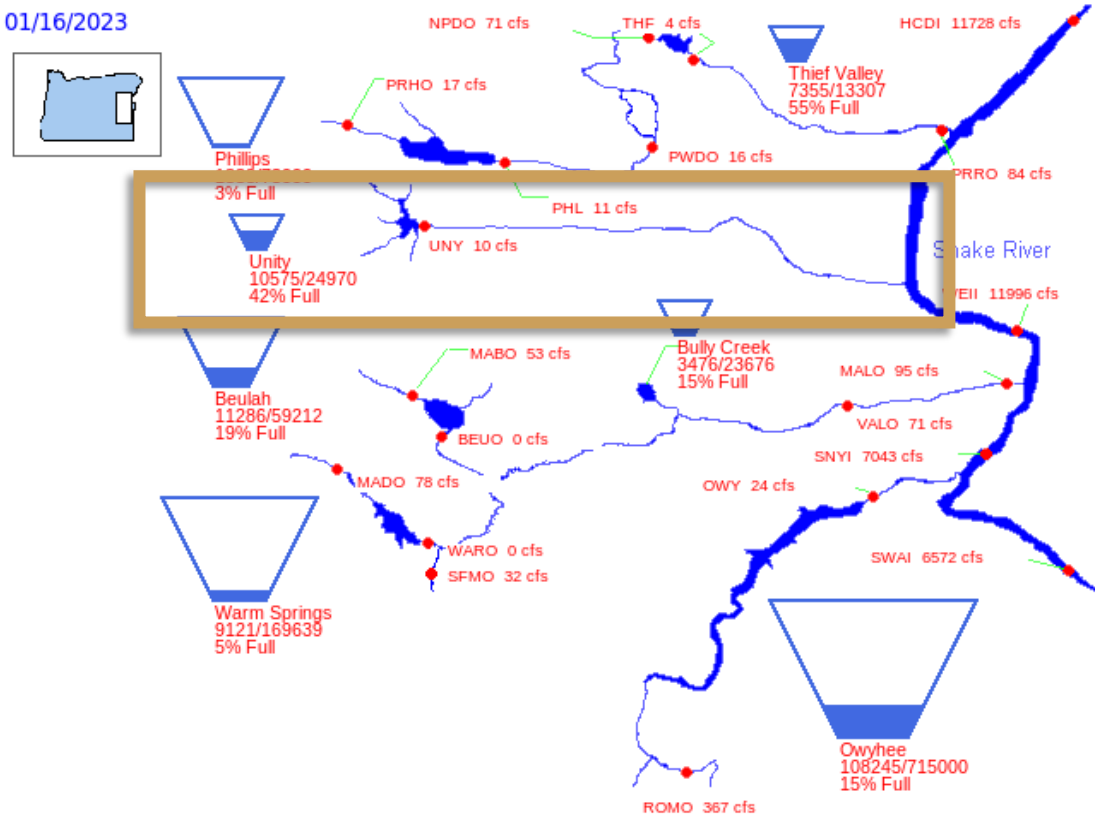
Malheur River Basin

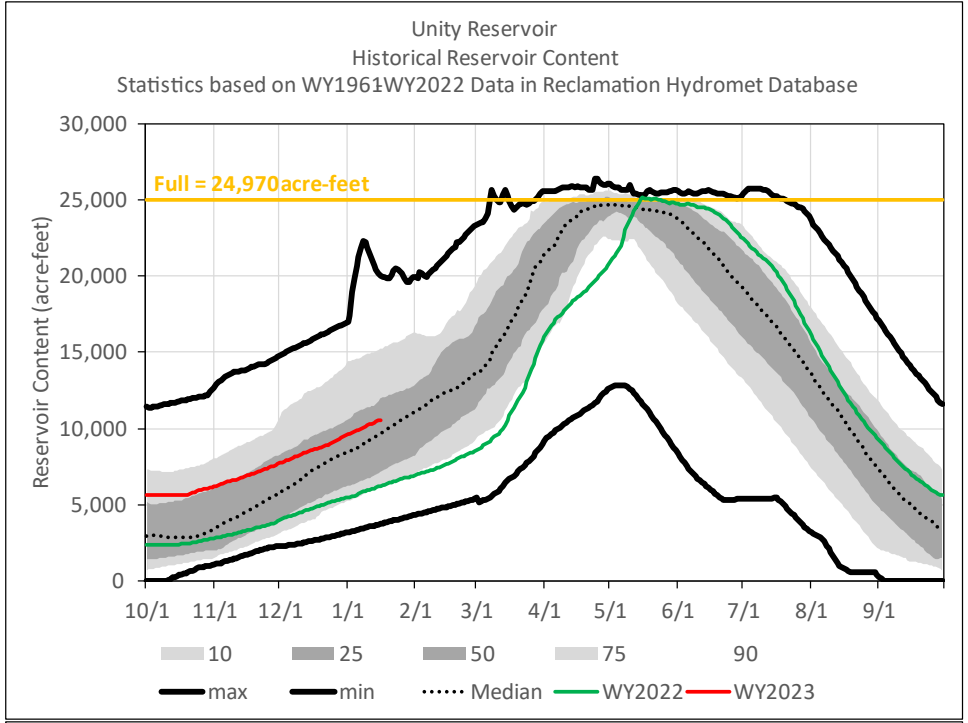


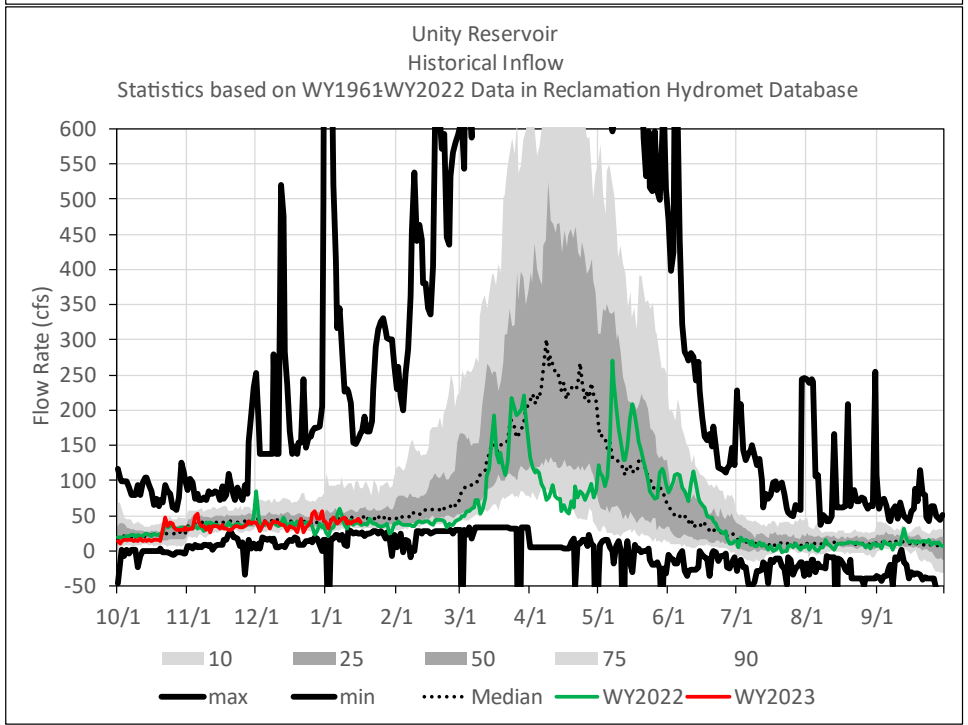


January 1 Runoff Forecast:
Jan-Jun: 31 kaf (105% of 91-20 Ave)

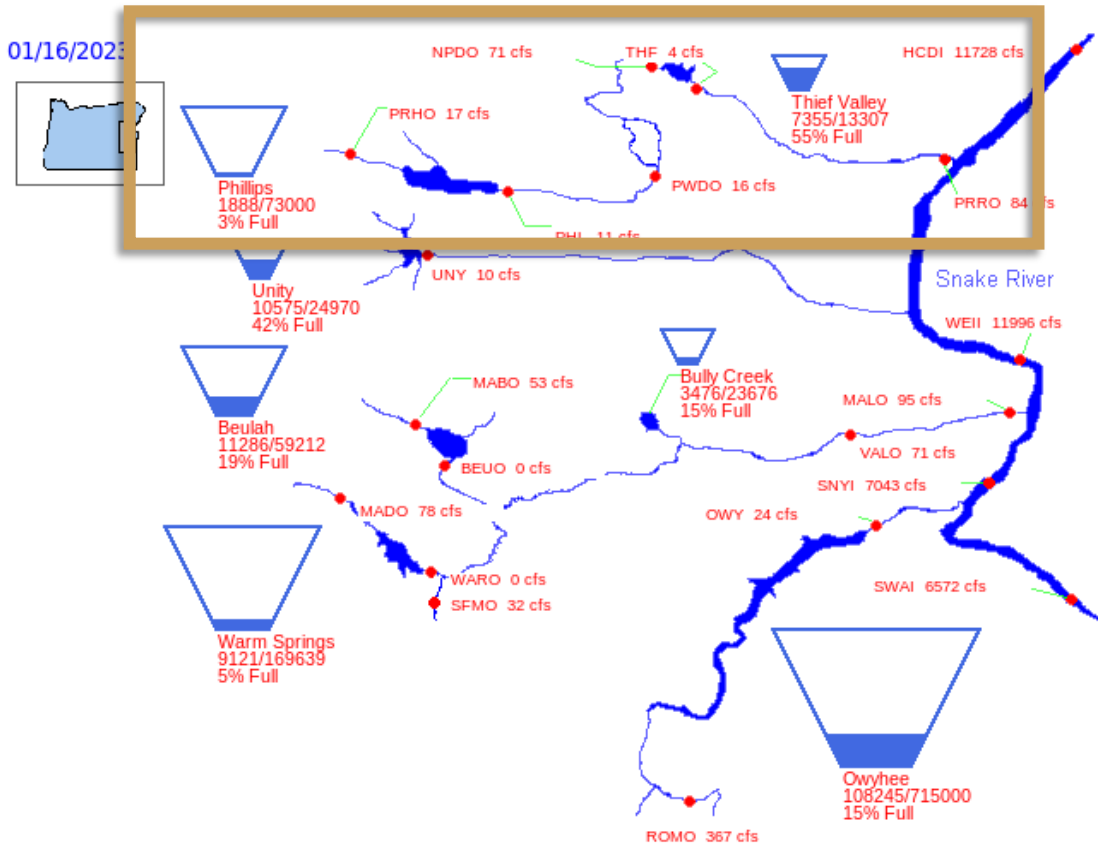
Burnt River Basin

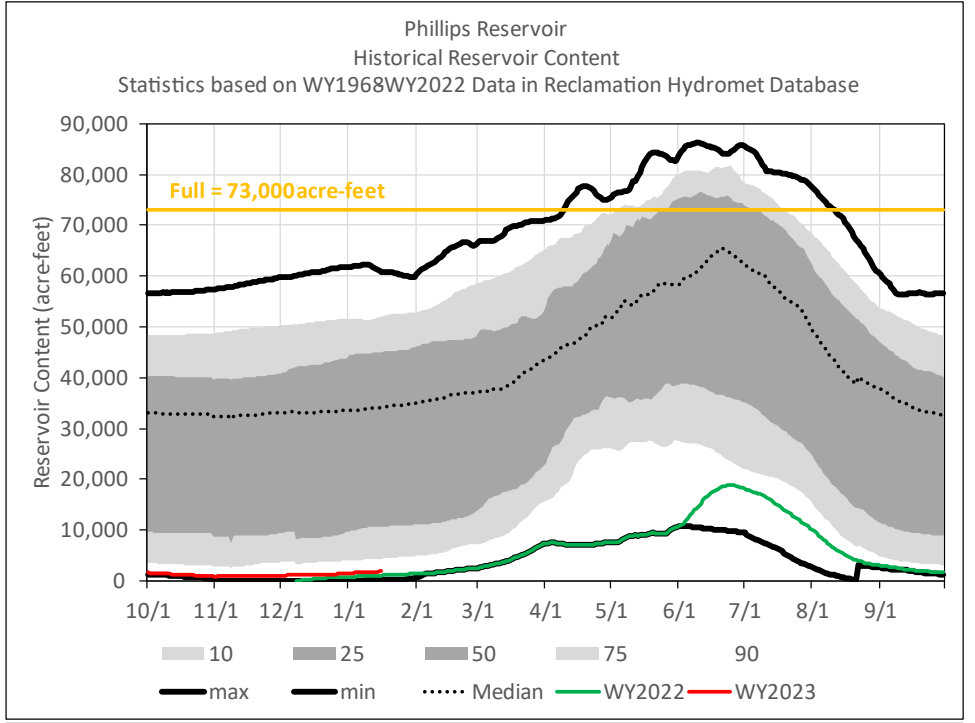


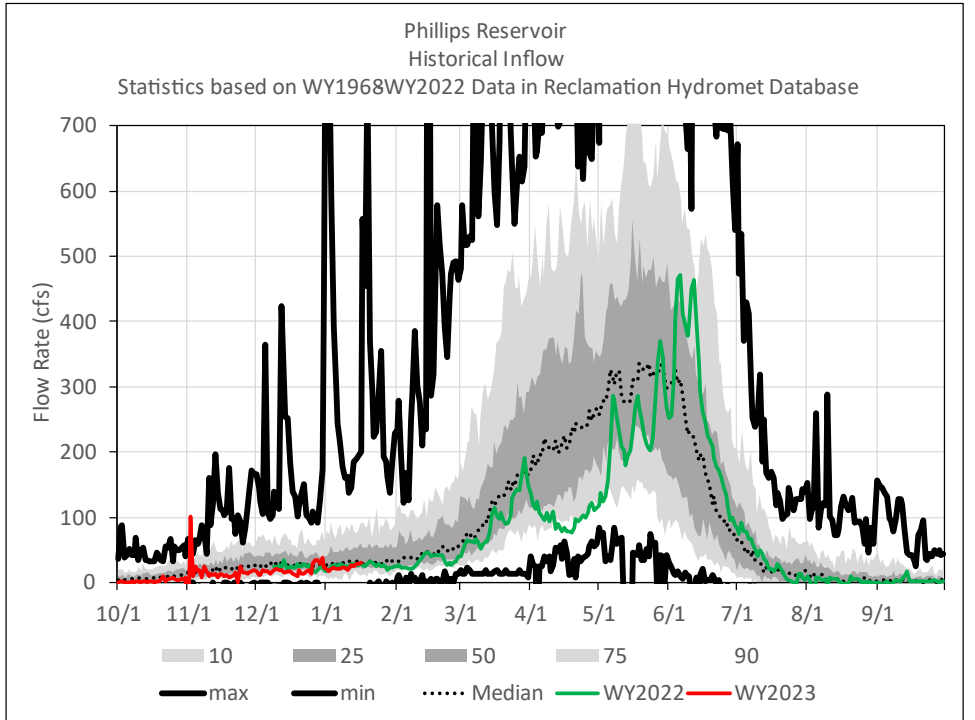




Powder River Basin

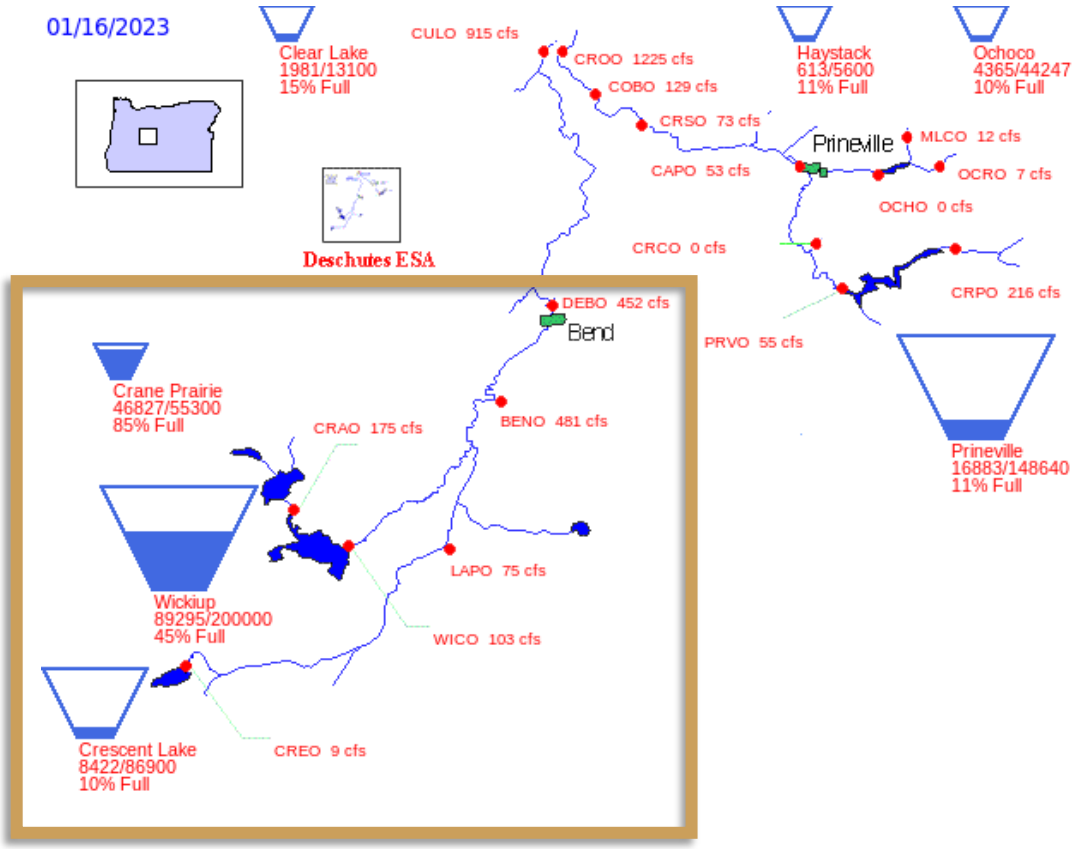


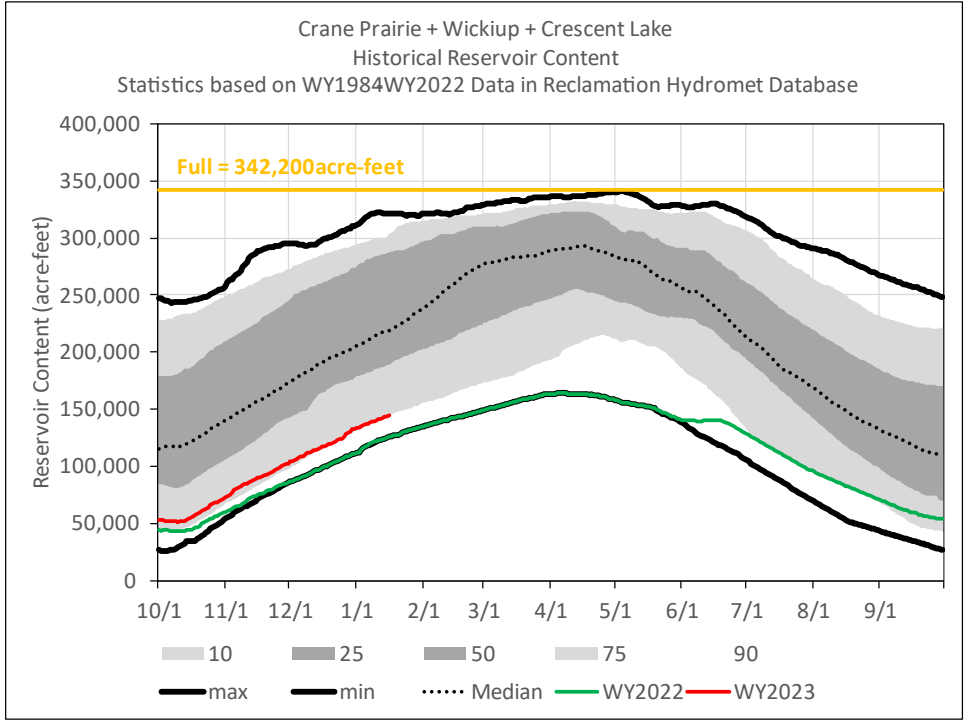




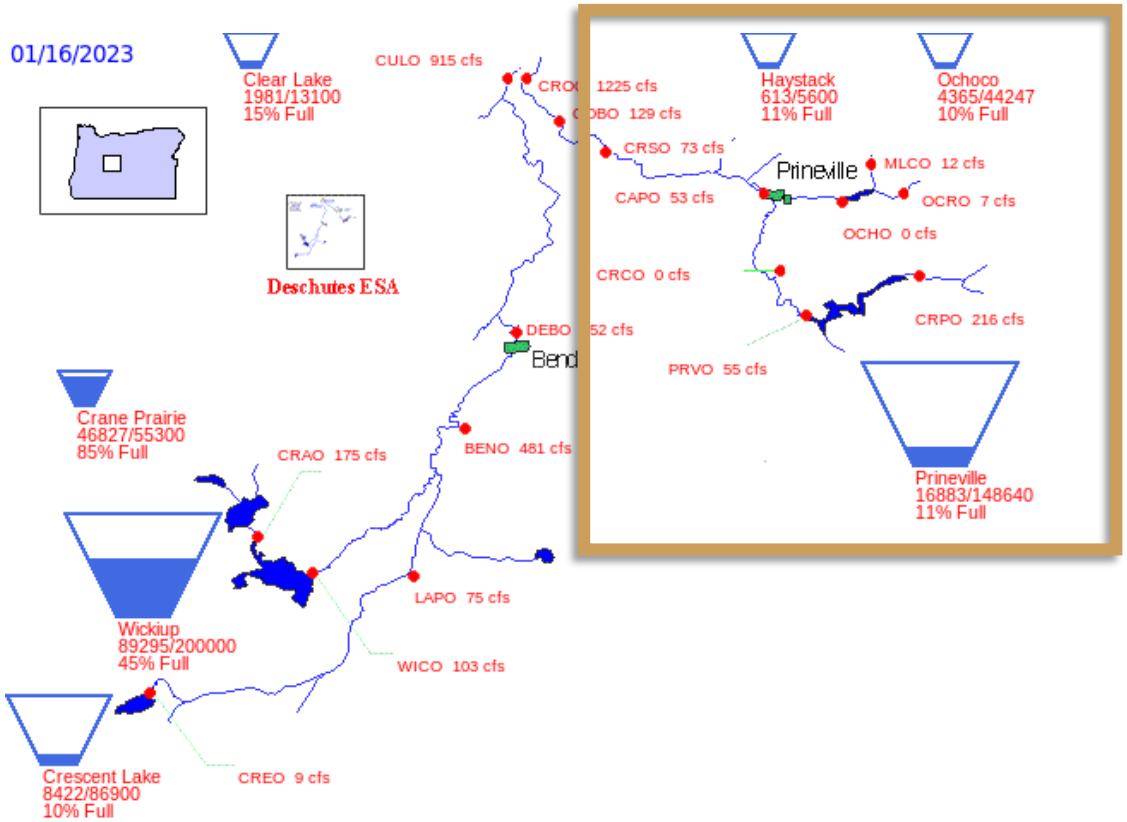
January 1 Runoff Forecast:
Jan-Jul: 69 kaf (97% of 91-20 Ave)

Deschutes River Basin

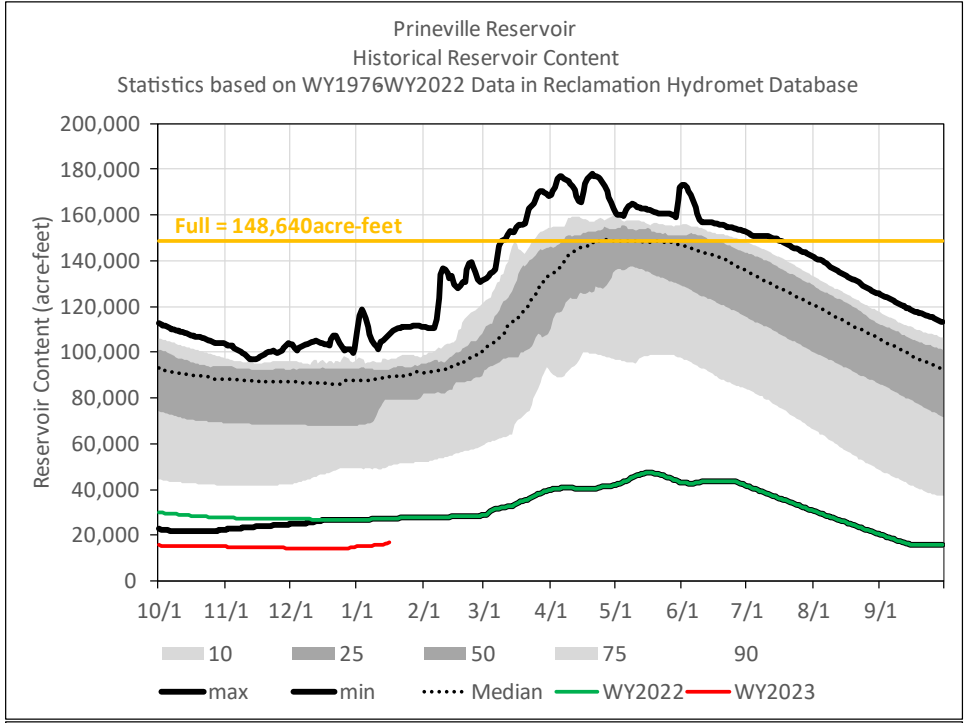


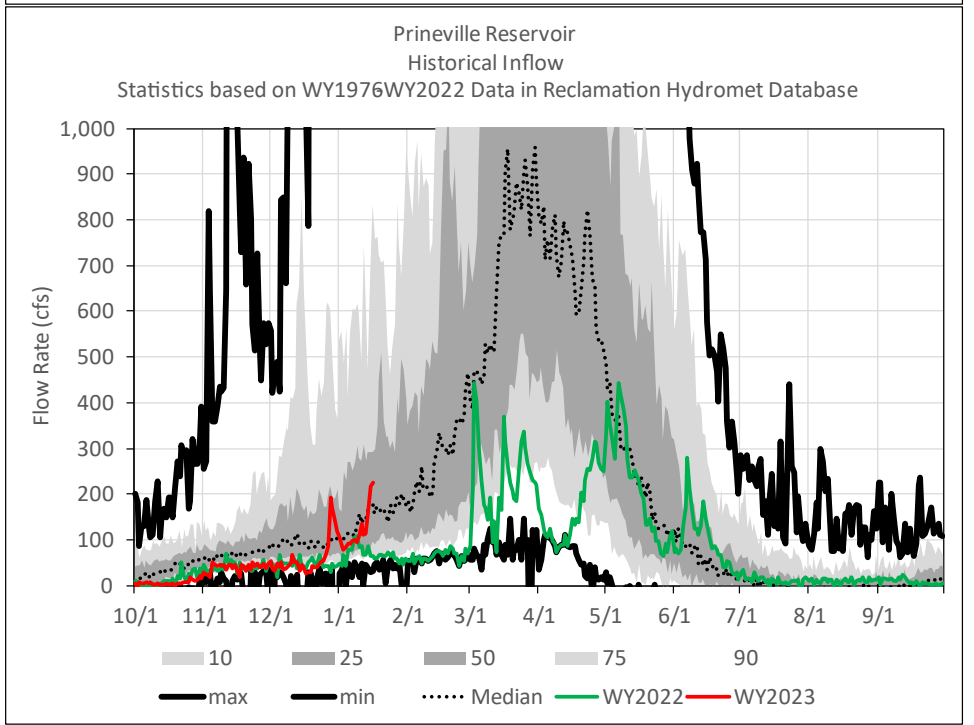


Crooked River Basin

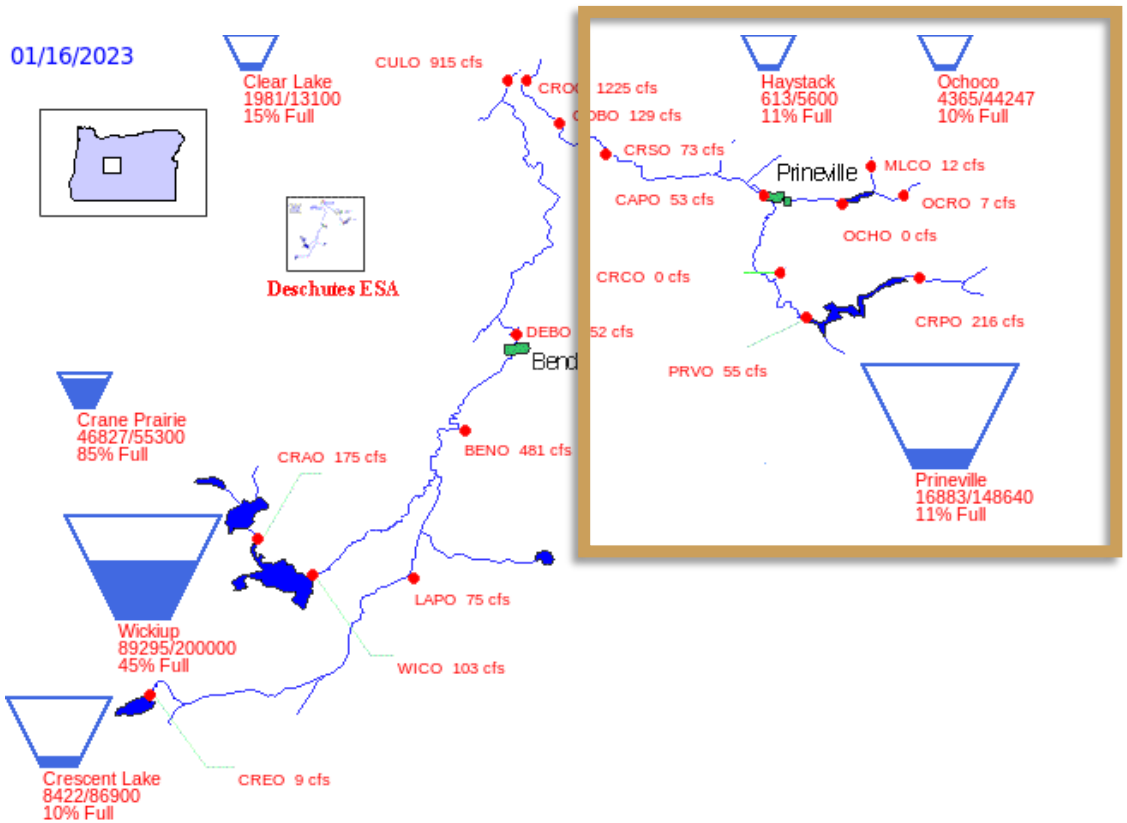


January 1 Runoff Forecast:
Jan-Aug: 155 kaf (85% of 91-20 Ave)

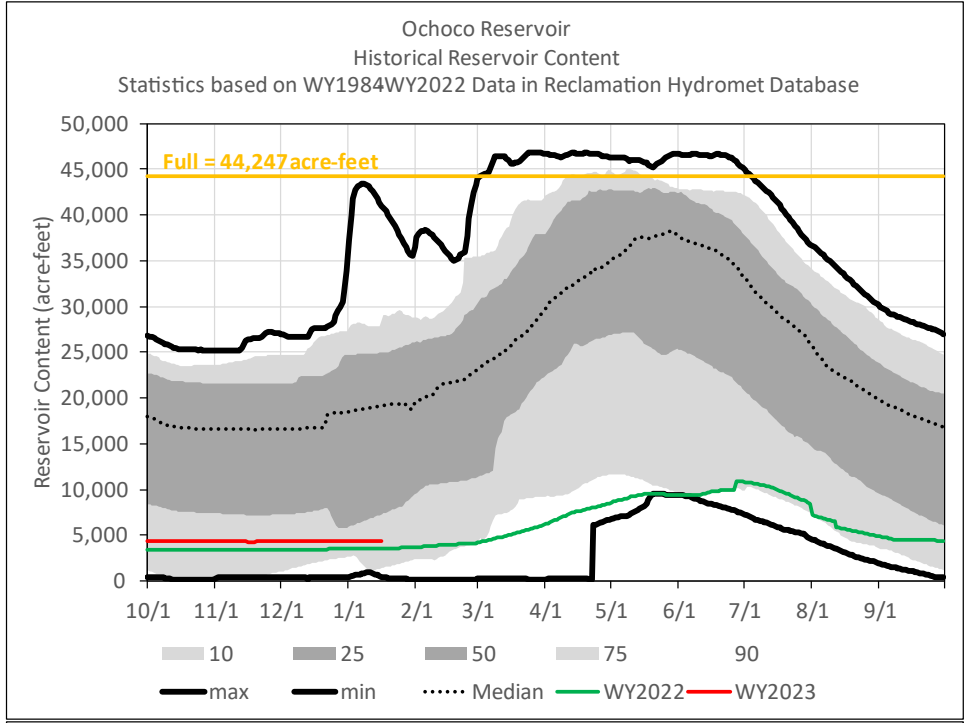


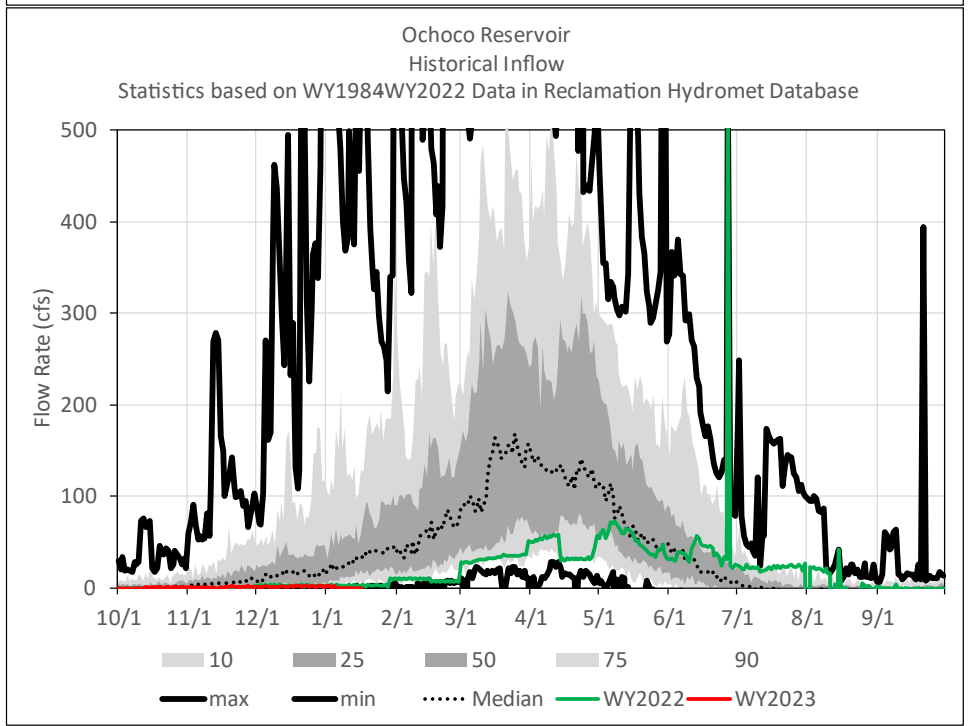


Crooked River Basin



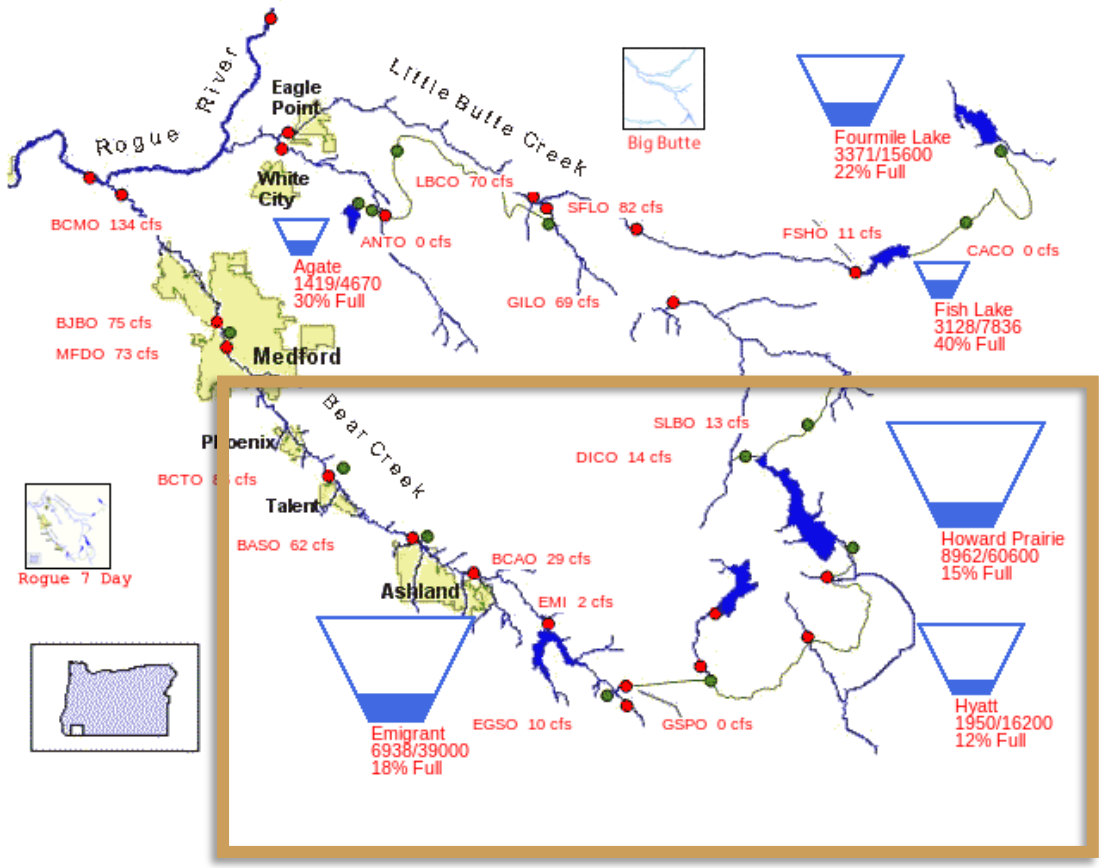
January 1 Runoff Forecast:
Jan-Jun: 35 kaf (88% of 91-20 Ave)

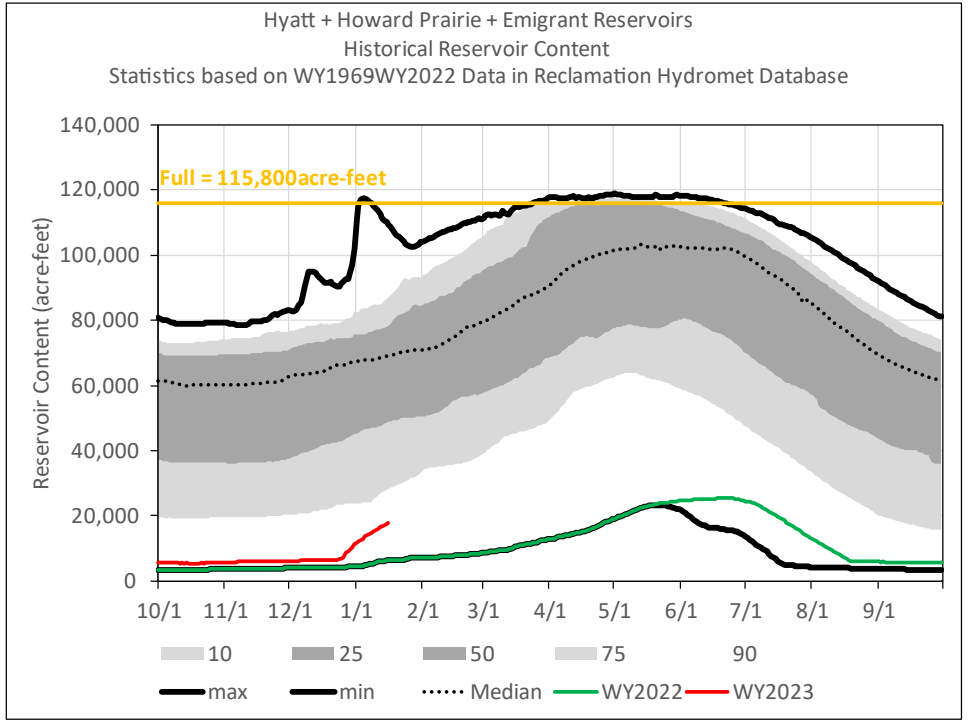




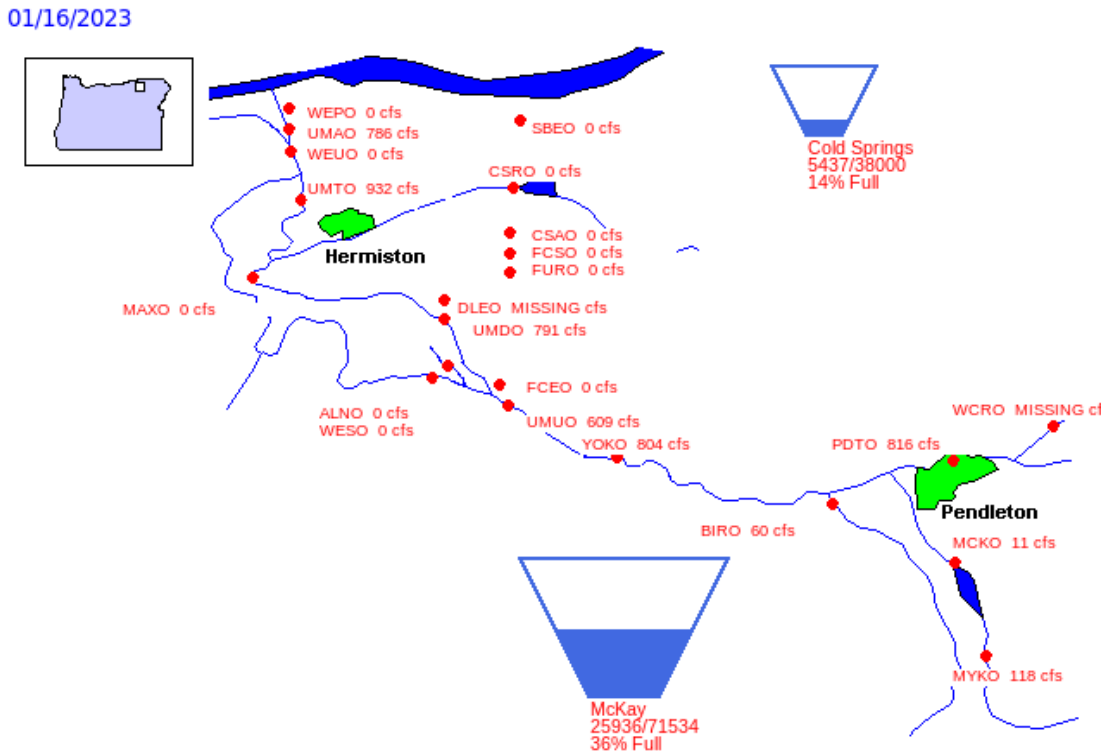
Rogue River Basin

01/16/2023

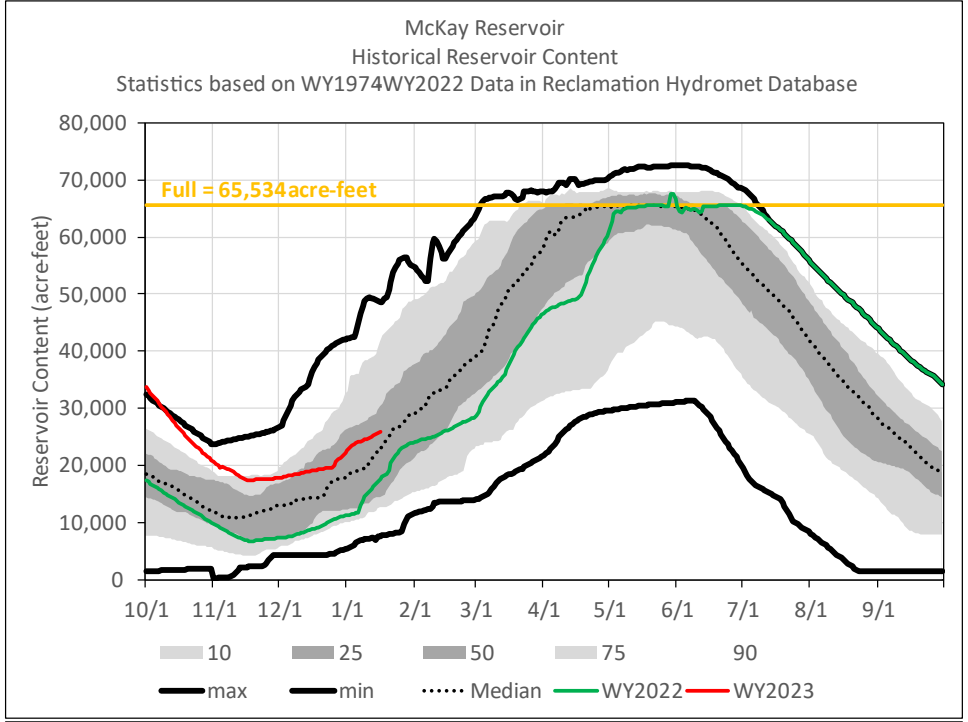


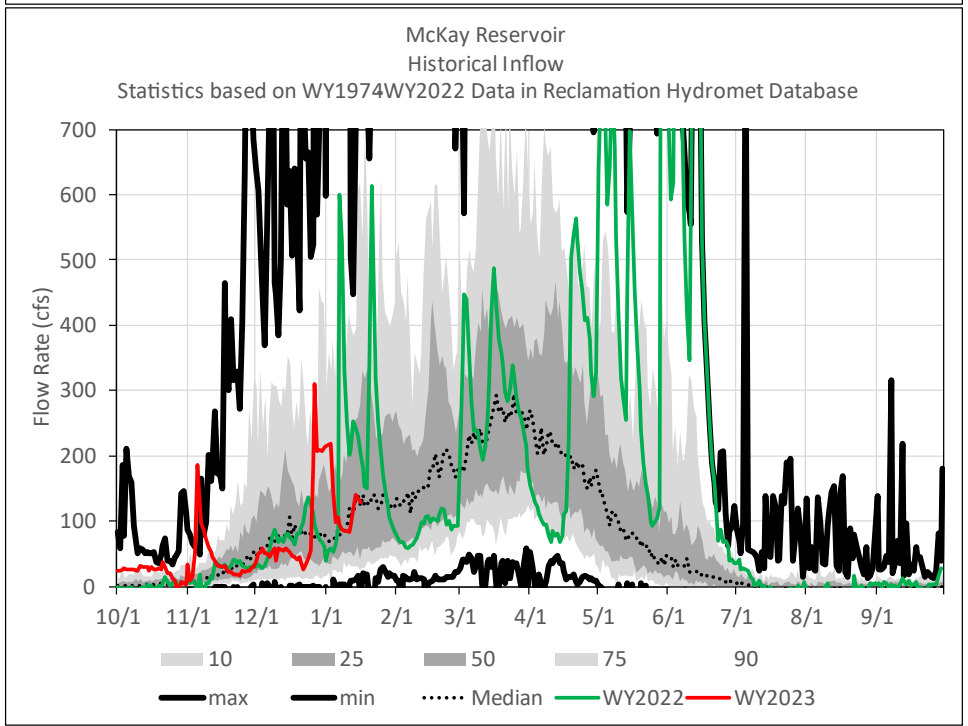


Umatilla River Basin

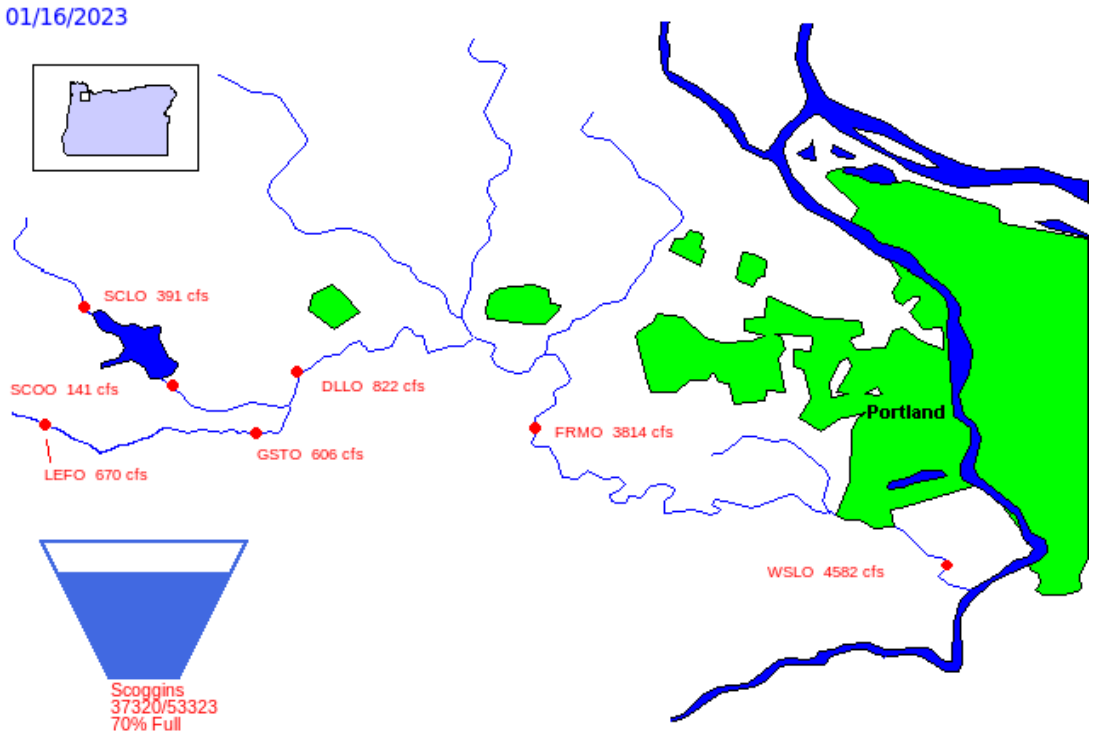


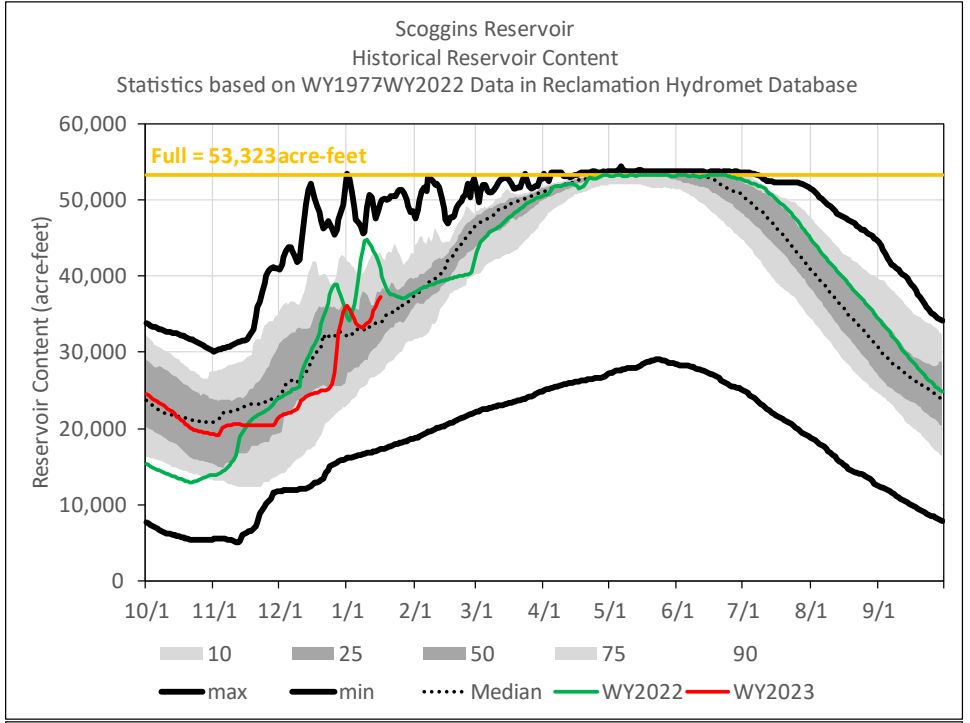
January 1 Runoff Forecast:
Jan-Jun: 70 kaf (100% of 91-20 Ave)

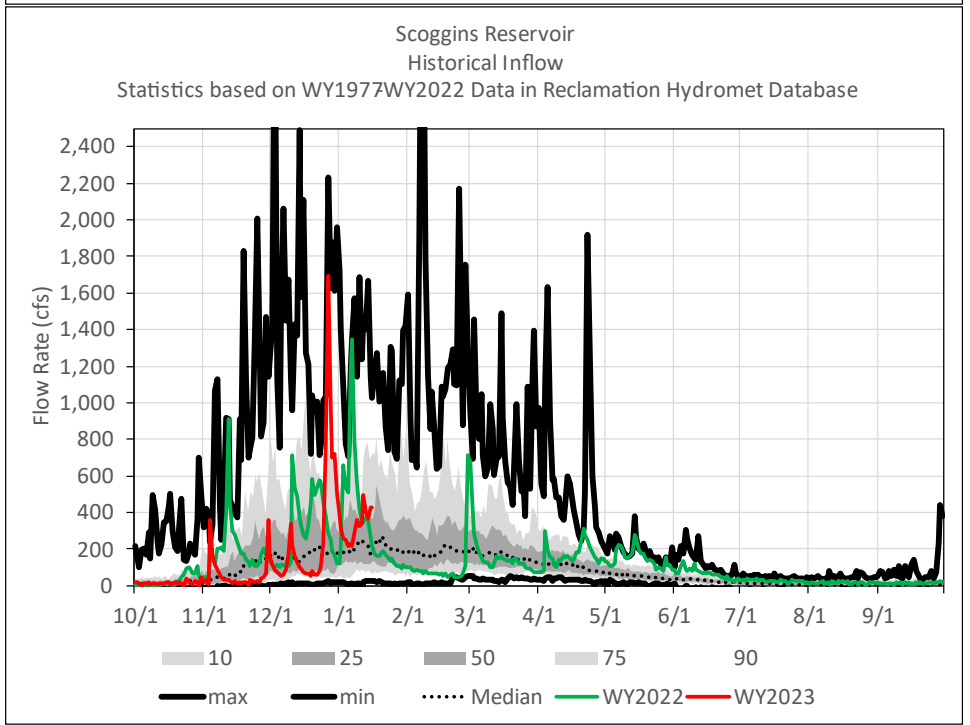




Tualatin River Basin







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208.378.5037

BUREAU OF RECLAMATION

Hyatt Dam
June 13, 2008