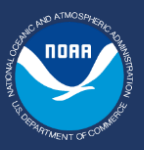




July 2023 Update for Precipitation & Temperatures

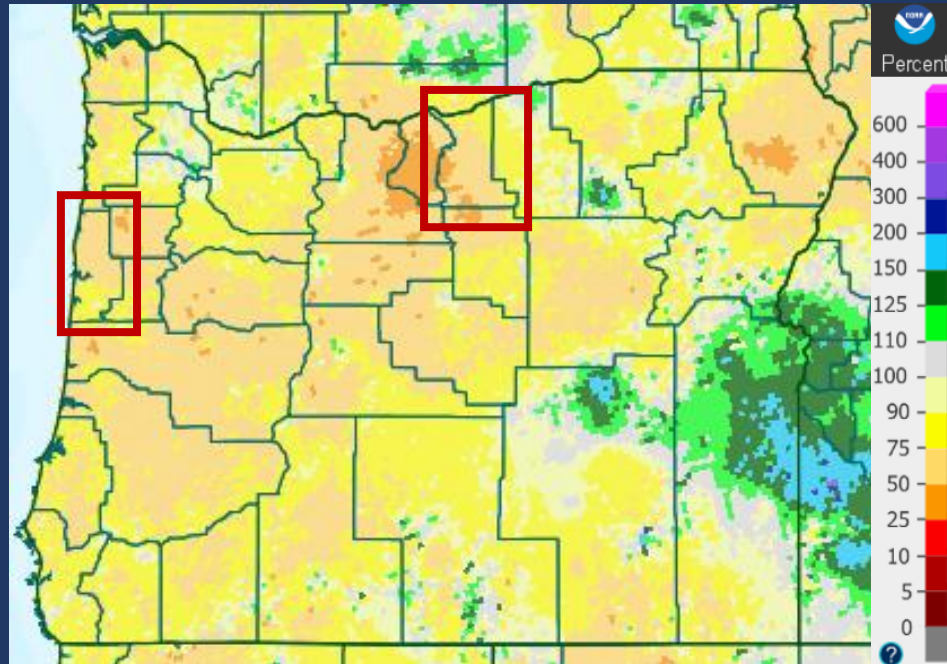
NOAA National Weather Service - Portland, Oregon



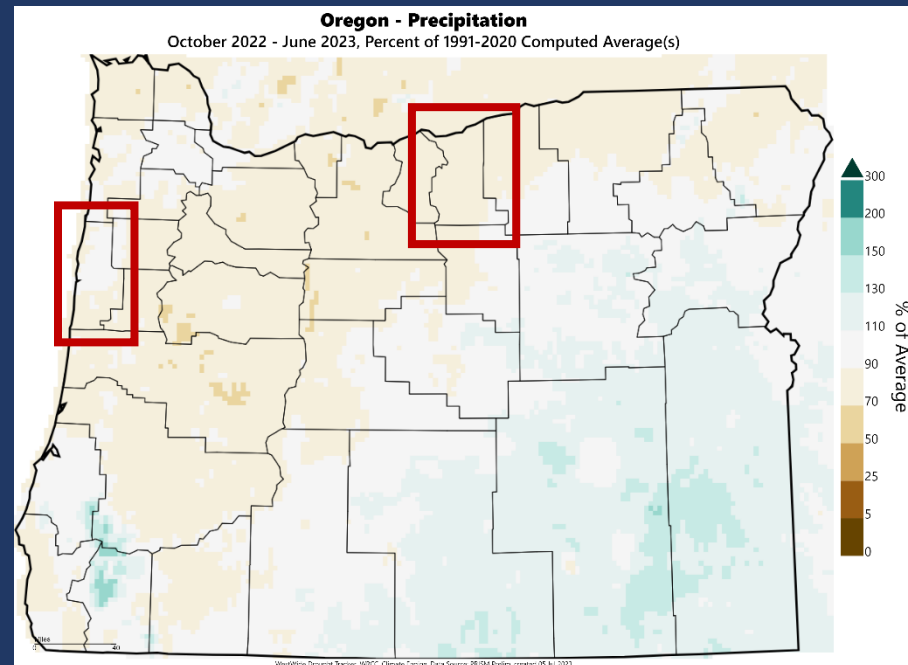
Water Year Precipitation

NWS AHPS & WRCC Comparison

AHPS % Normal



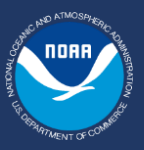
WRCC % Normal



water.weather.gov/precip/index.php

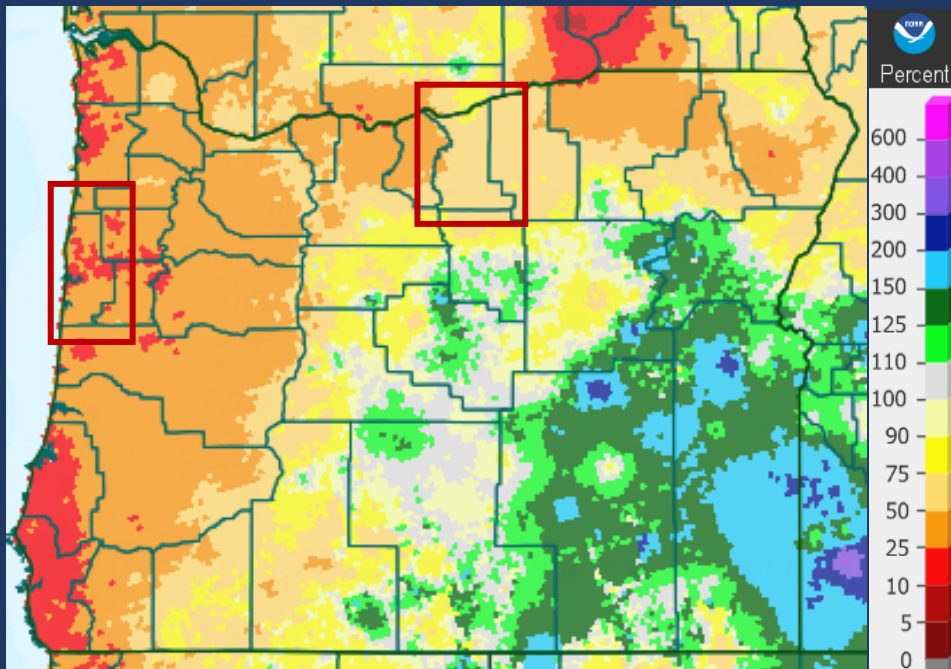
wrcc.dri.edu/my/wwdt

Precipitation Data as of July 18, 2023

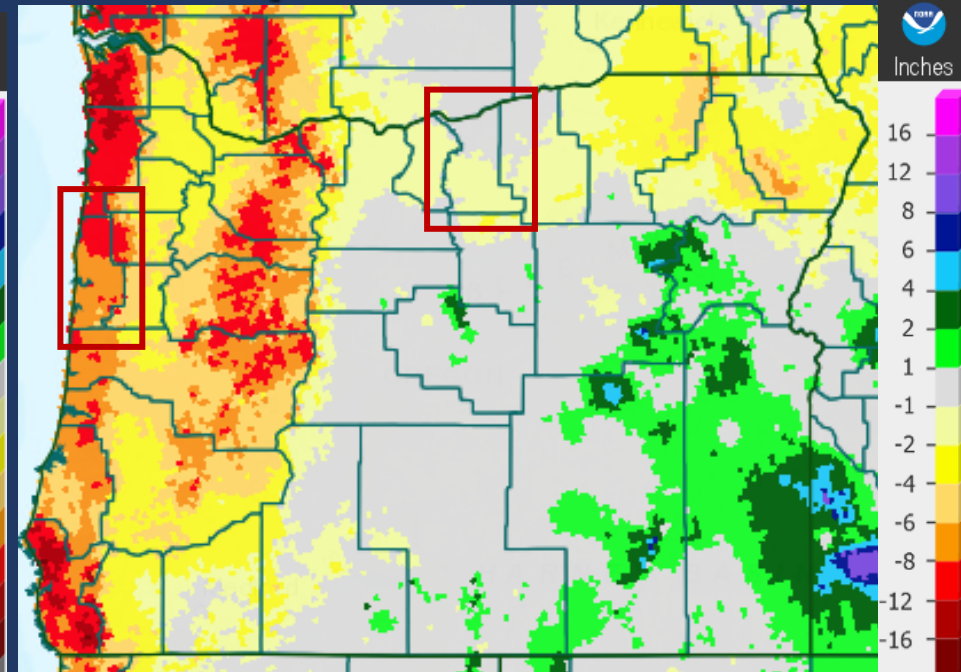


Precipitation – Past 90 Days

% Normal



Departure from Normal

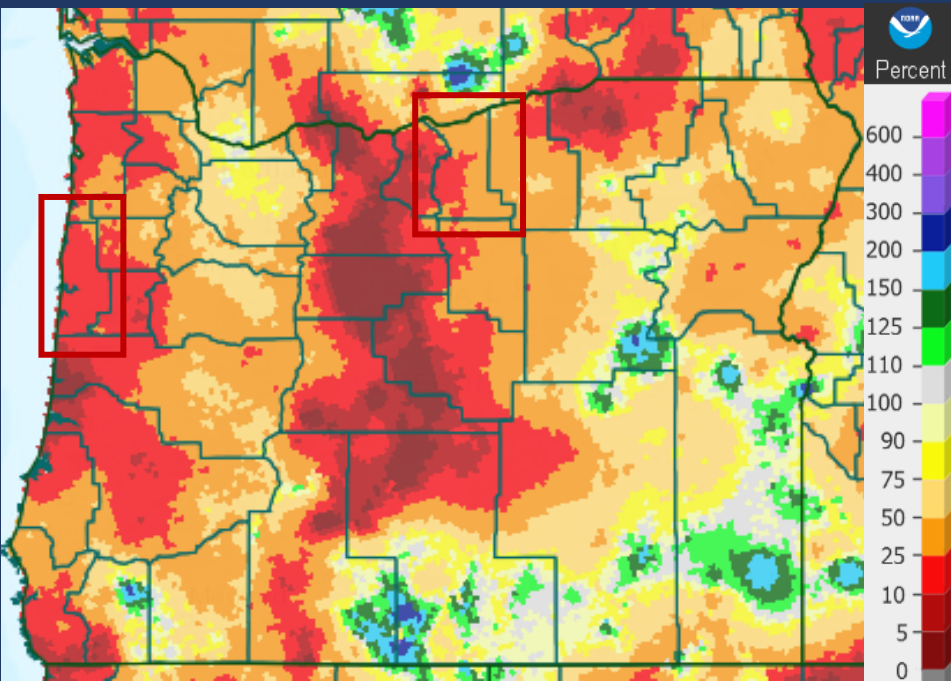


Precipitation Data as of July 18, 2023

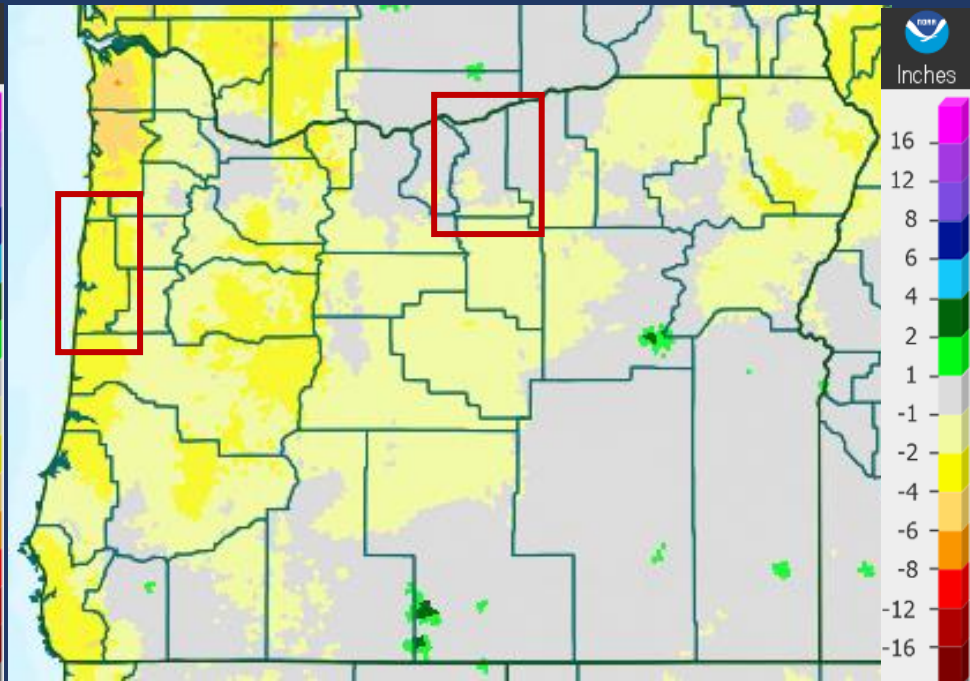
water.weather.gov/precip/index.php

Precipitation – Past 30 Days

% Normal



Departure from Normal



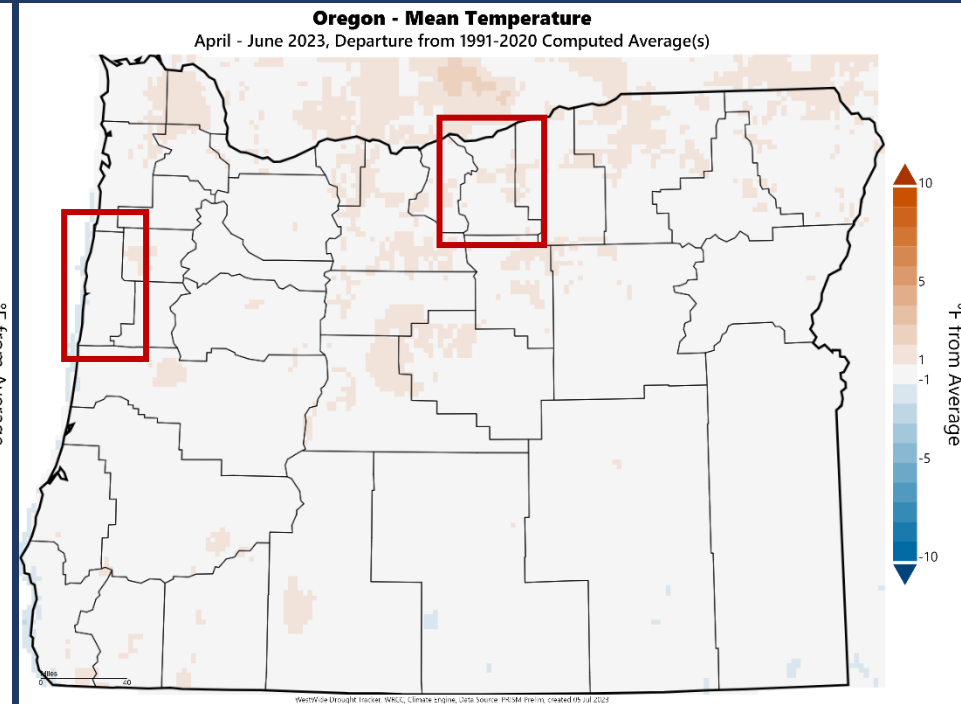
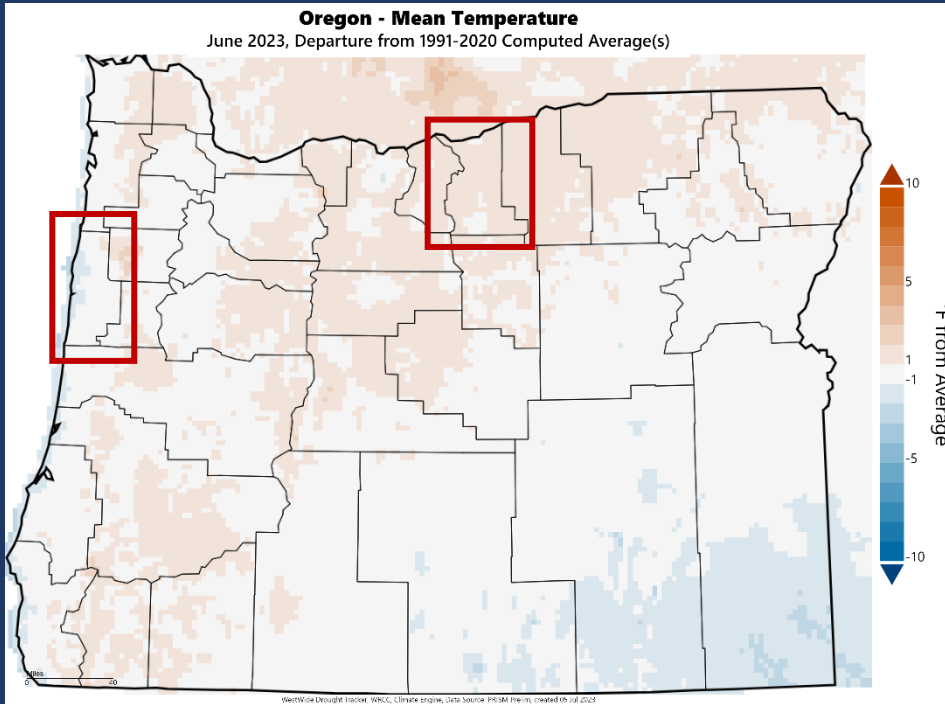
Precipitation Data as of July 18, 2023

water.weather.gov/precip/index.php

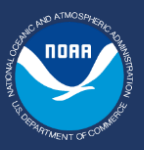
Temperatures

June Departure from Normal

Apr-Jun Departure from Norm



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

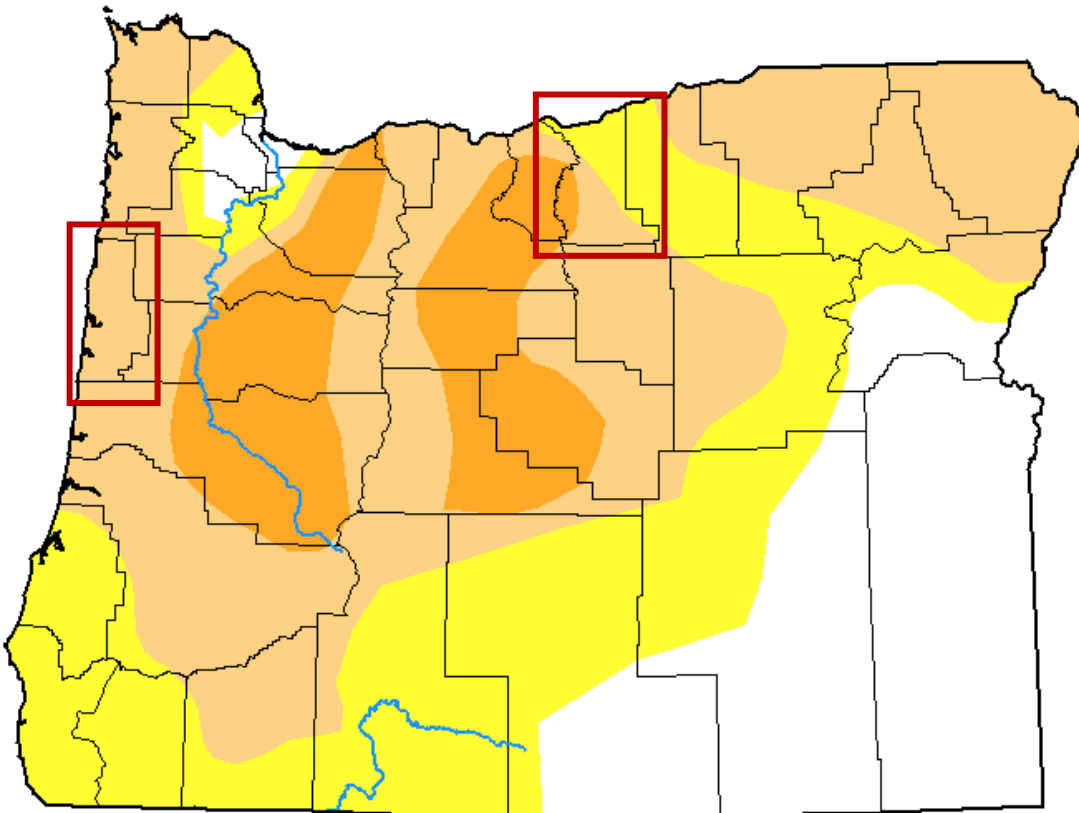


Drought Monitor

U.S. Drought Monitor Oregon

Map released: Thurs. July 13, 2023

Data valid: July 11, 2023 at 8 a.m. EDT



Intensity

- None
- D0 (Abnormally Dry)
- D1 (Moderate Drought)
- D2 (Severe Drought)
- D3 (Extreme Drought)
- D4 (Exceptional Drought)
- No Data



droughtmonitor.unl.edu

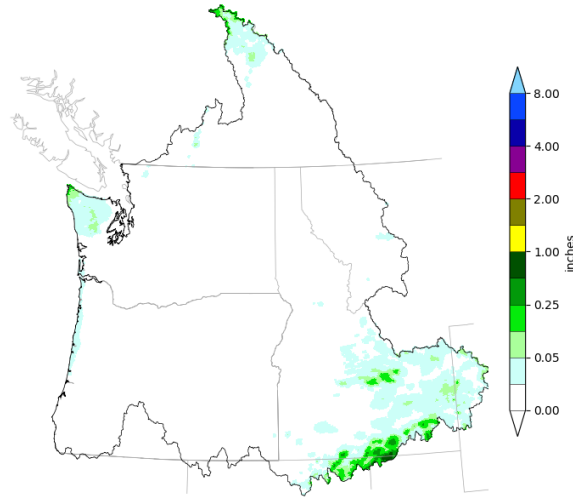


Mid June Outlook

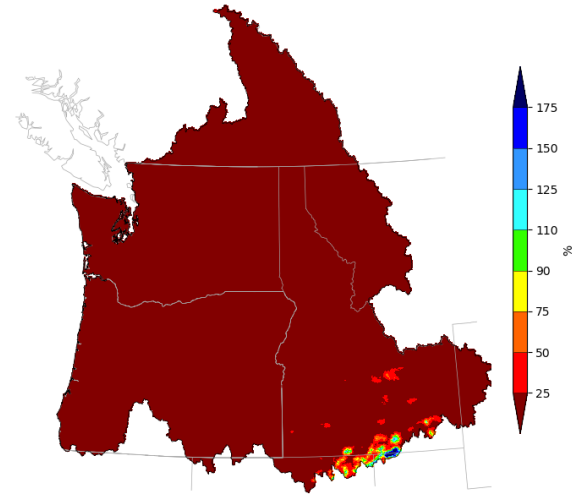
NWRFC 10-DAY PRECIPITATION FORECAST as of 7/19/2023

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

Northwest River Forecast Center
10 Day QPF, Ending 12Z, 07/29/23



Northwest River Forecast Center
10 Day QPF (Percent of Climatology), Ending 12Z, 07/29/23

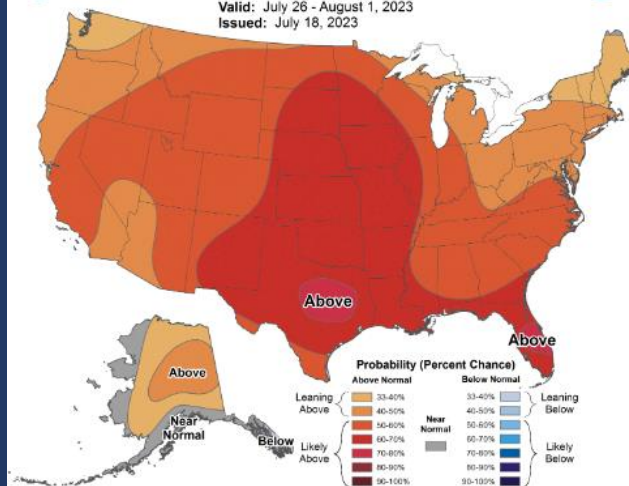


CPC 8 - 14 DAY OUTLOOK

www.cpc.ncep.noaa.gov

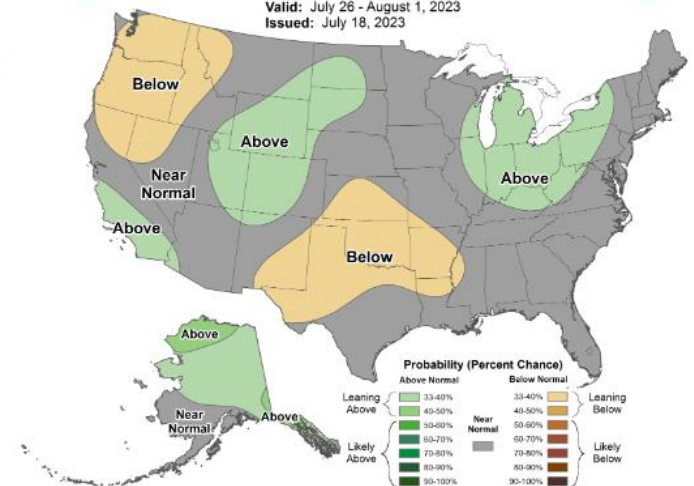
8-14 Day Temperature Outlook

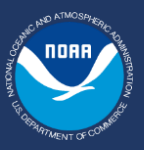
Valid: July 26 - August 1, 2023
Issued: July 18, 2023



8-14 Day Precipitation Outlook

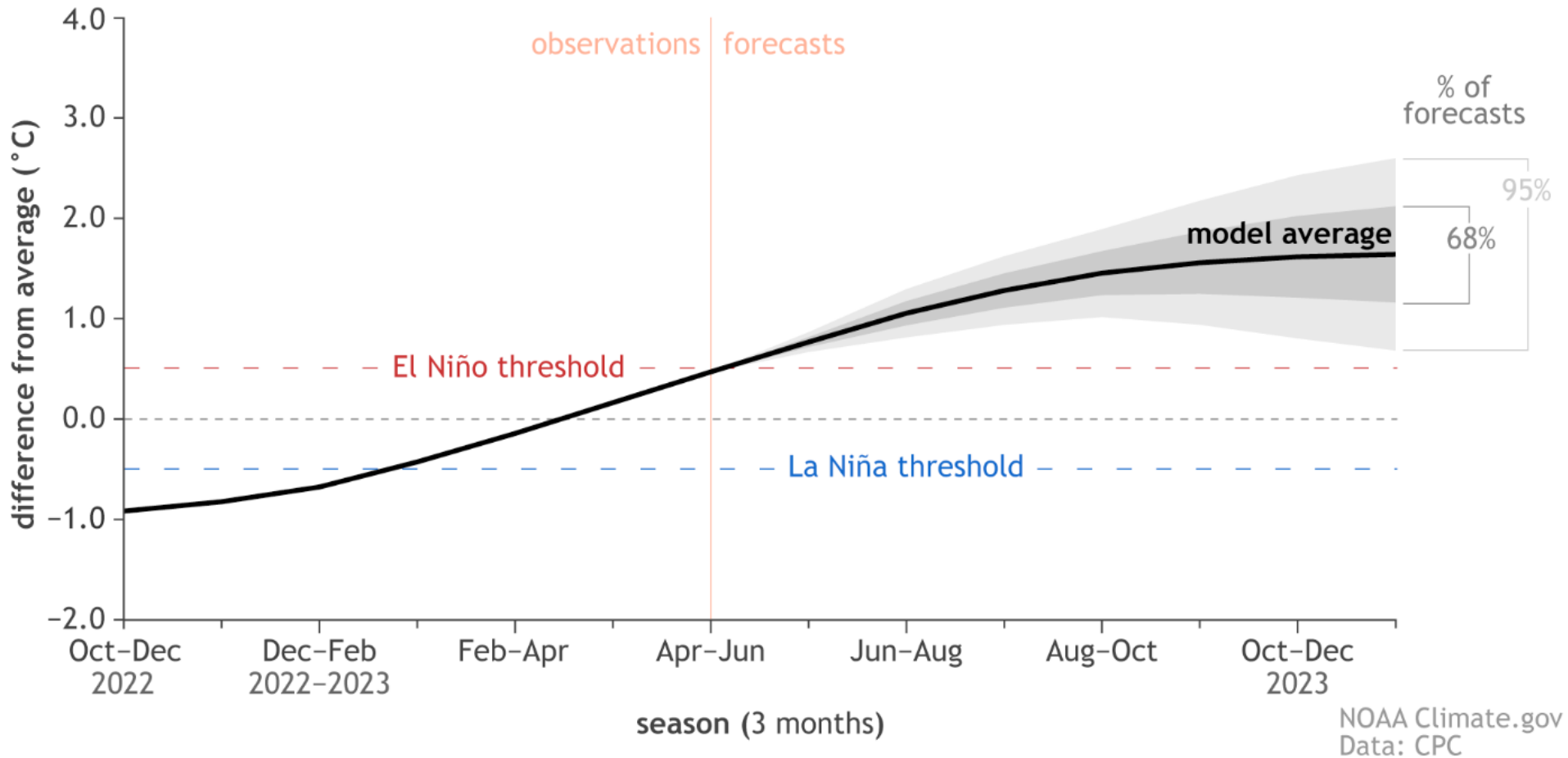
Valid: July 26 - August 1, 2023
Issued: July 18, 2023





ENSO Status & Prediction

NMME seasonal forecasts, July 2023

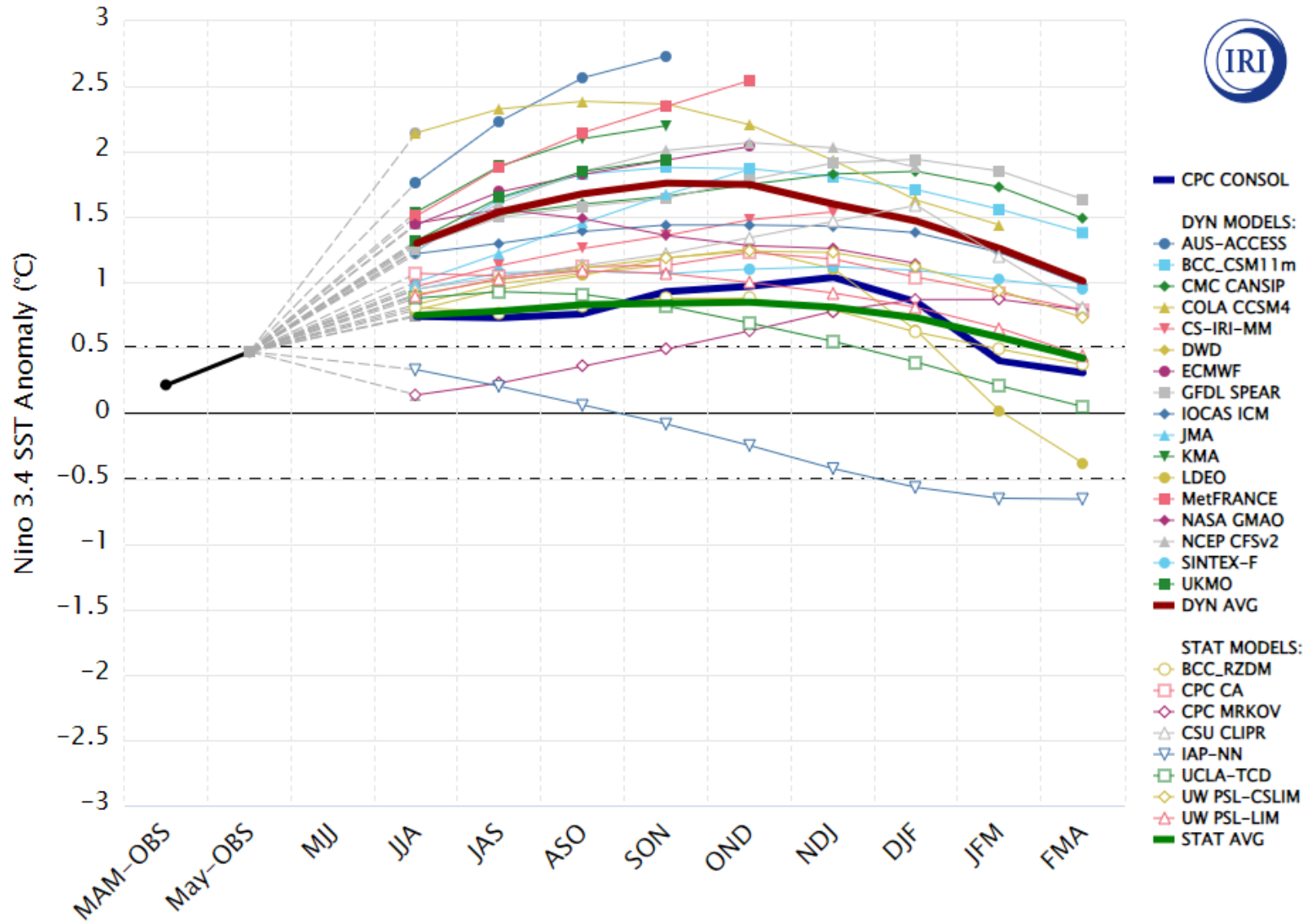


<https://www.climate.gov/news-features/blogs/july-2023-el-ni%C3%B1o-update-learning-steps>



ENSO Status & Prediction

Model Predictions of ENSO from Jun 2023

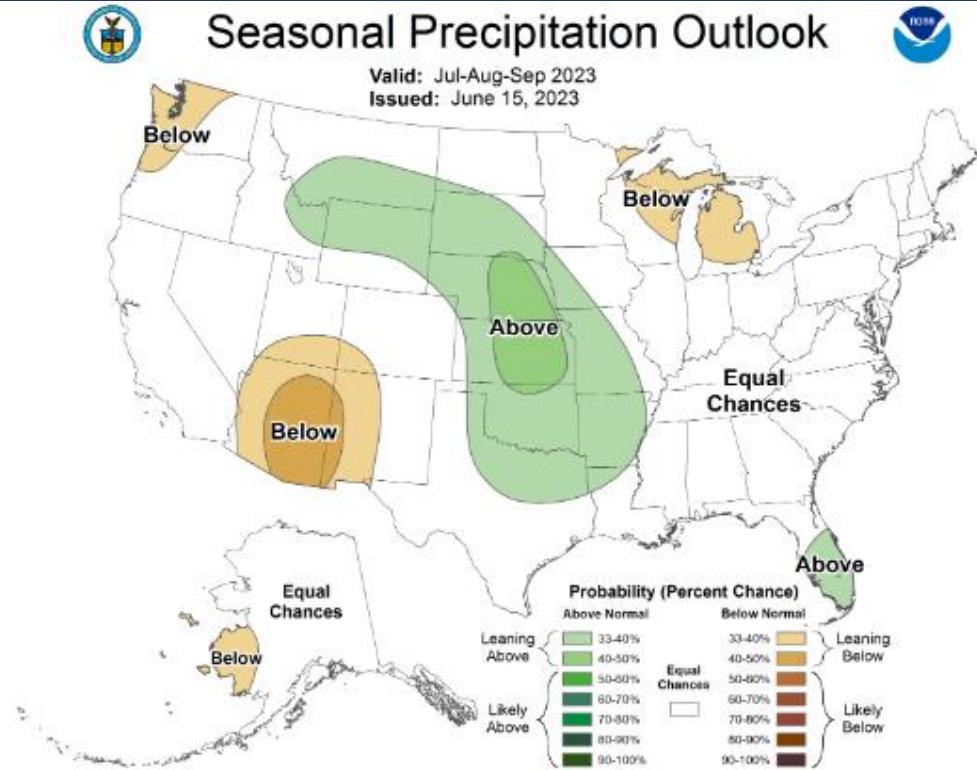
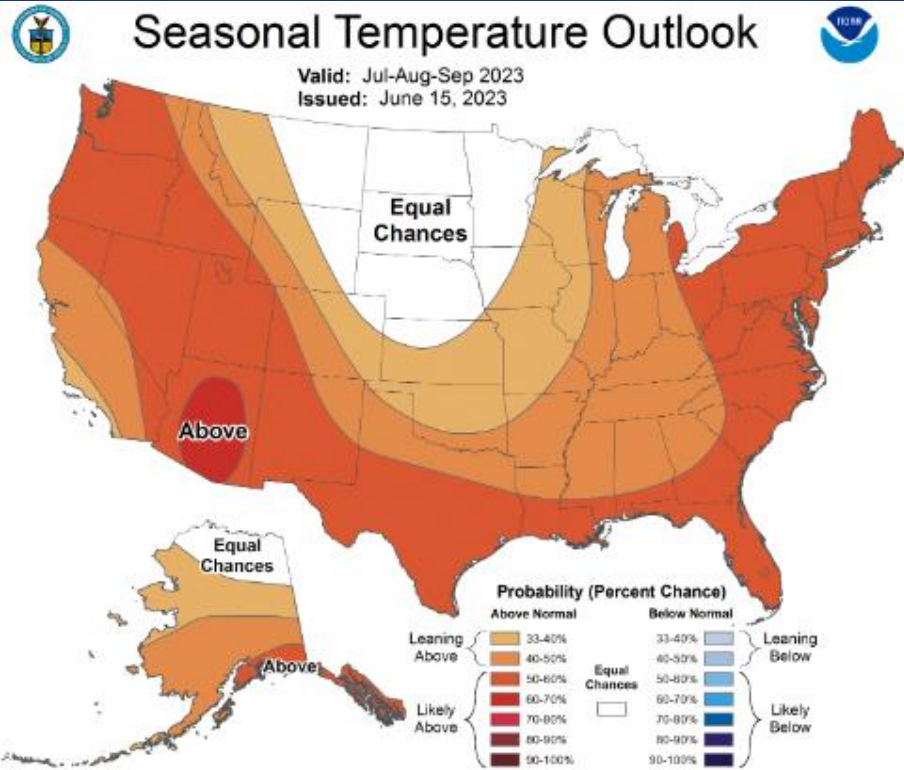


https://iri.columbia.edu/our-expertise/climate/forecasts/enso/current/?enso_tab=enso-sst_table



Climate Prediction Center Outlook

July - September 2023

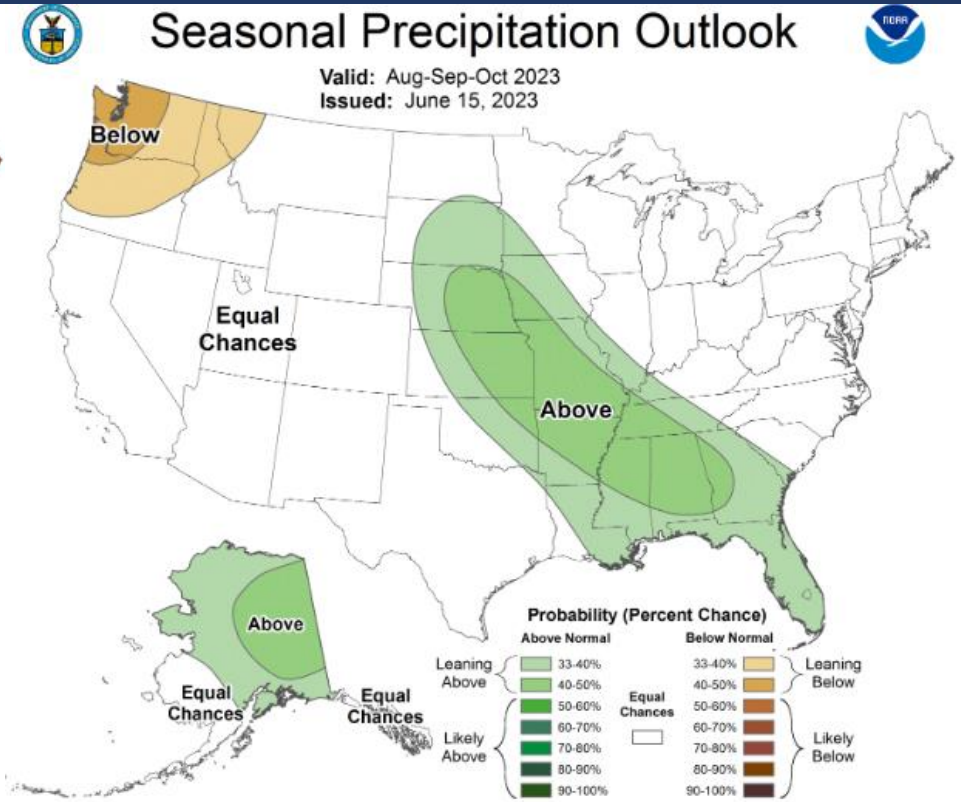
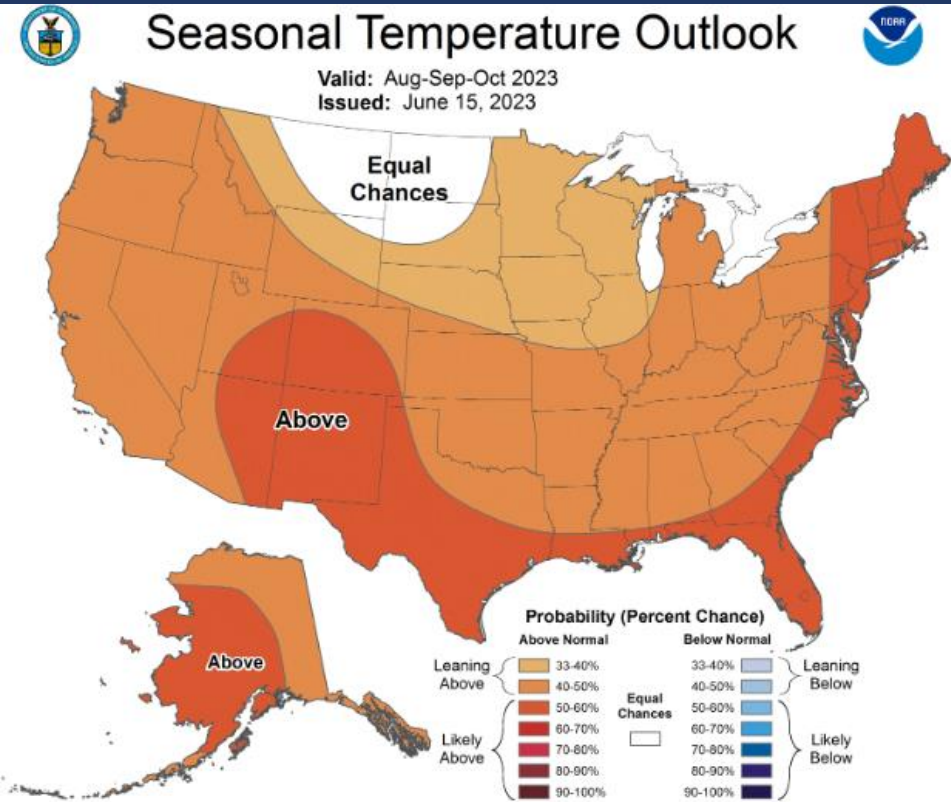


www.cpc.ncep.noaa.gov

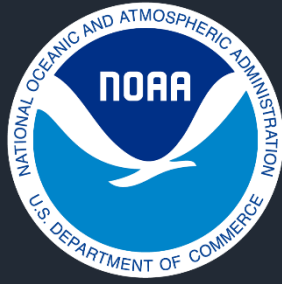


Climate Prediction Center Outlook

August - October 2023



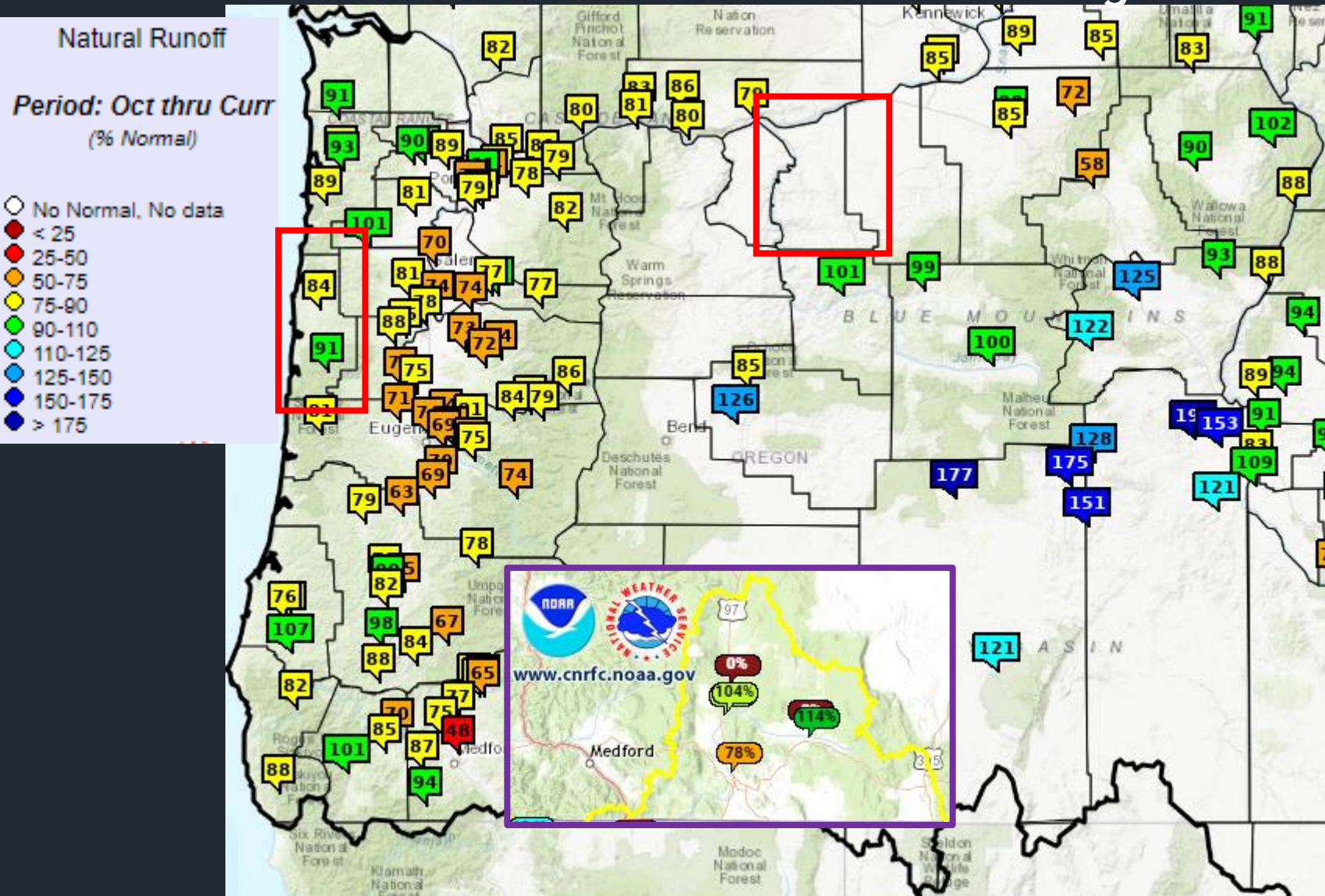
www.cpc.ncep.noaa.gov



July 2023 Update for River Forecasts

NOAA National Weather Service

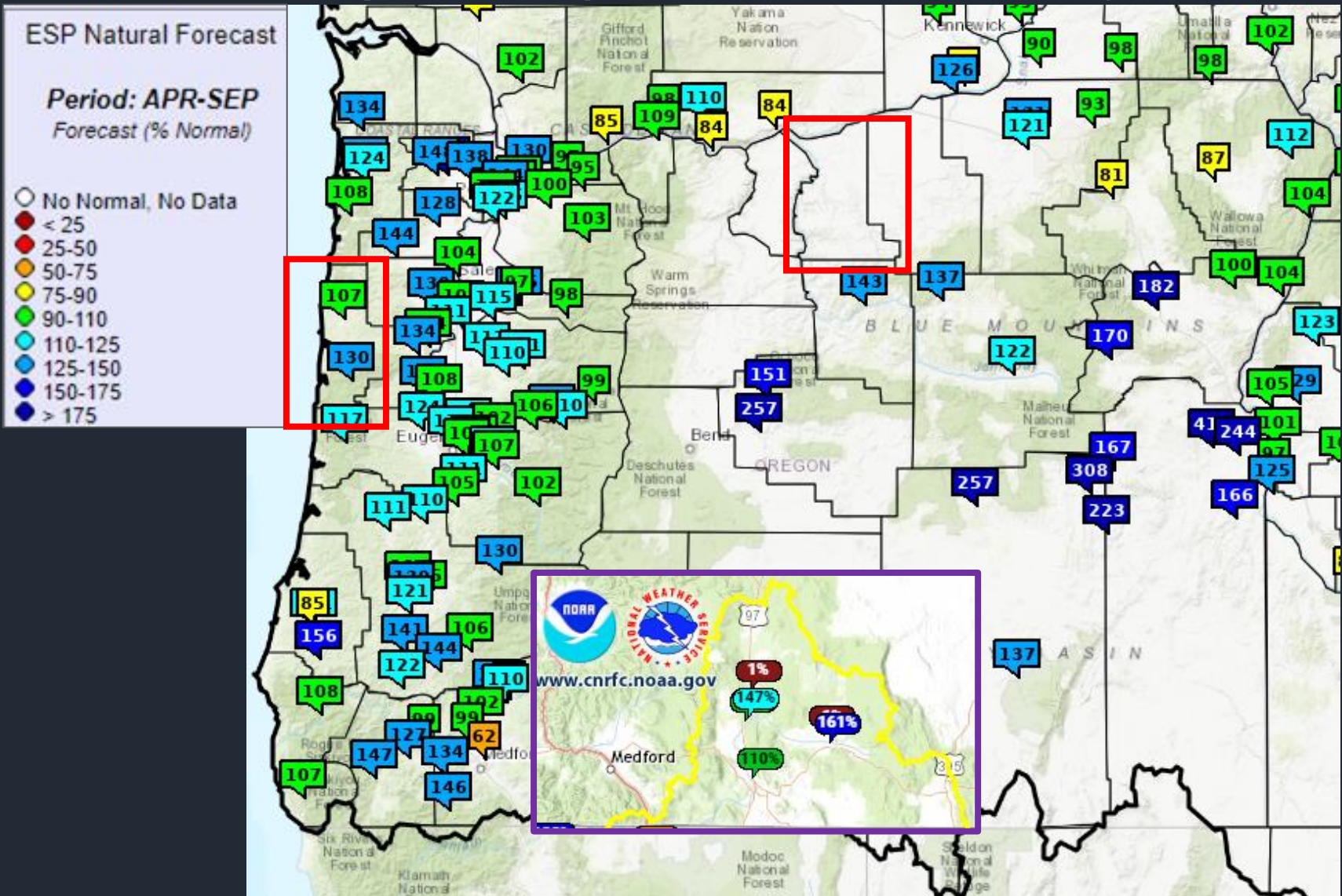
Observed Runoff October – Present % of Average





Forecast

April - September % of Average





Natural Volume Forecast

Willamette at Salem

WILLAMETTE - AT SALEM (SLMO3) Forecasts for Water Year 2023

Natural Forecast

ESP with 10 Days QPF Ensemble: 2023-07-18 Issued: 2023-07-18

Forecast Period	Forecasts Are in KAF				30 Year Average (1991-2020)
	90 %	50 %	% Average	10 %	
APR-SEP	5226	5255	104	5371	5067
APR-JUL	4876	4877	108	4877	4509
JAN-SEP	8927	8956	74	9072	12139
JAN-JUL	8578	8578	74	8578	11581
OCT-SEP	11519	11548	70	11663	16497

Experimental

HEFS with 15 days EQPF Ensemble: 2023-07-18 Issued: 2023-07-18

APR-SEP	5224	5254	104	5369	5067
APR-JUL	4875	4876	108	4878	4509
JAN-SEP	8926	8955	74	9070	12139
JAN-JUL	8577	8577	74	8579	11581
OCT-SEP	11517	11547	70	11661	16497

Reference

ESP with 0 Days QPF Ensemble: 2023-07-18 Issued: 2023-07-18

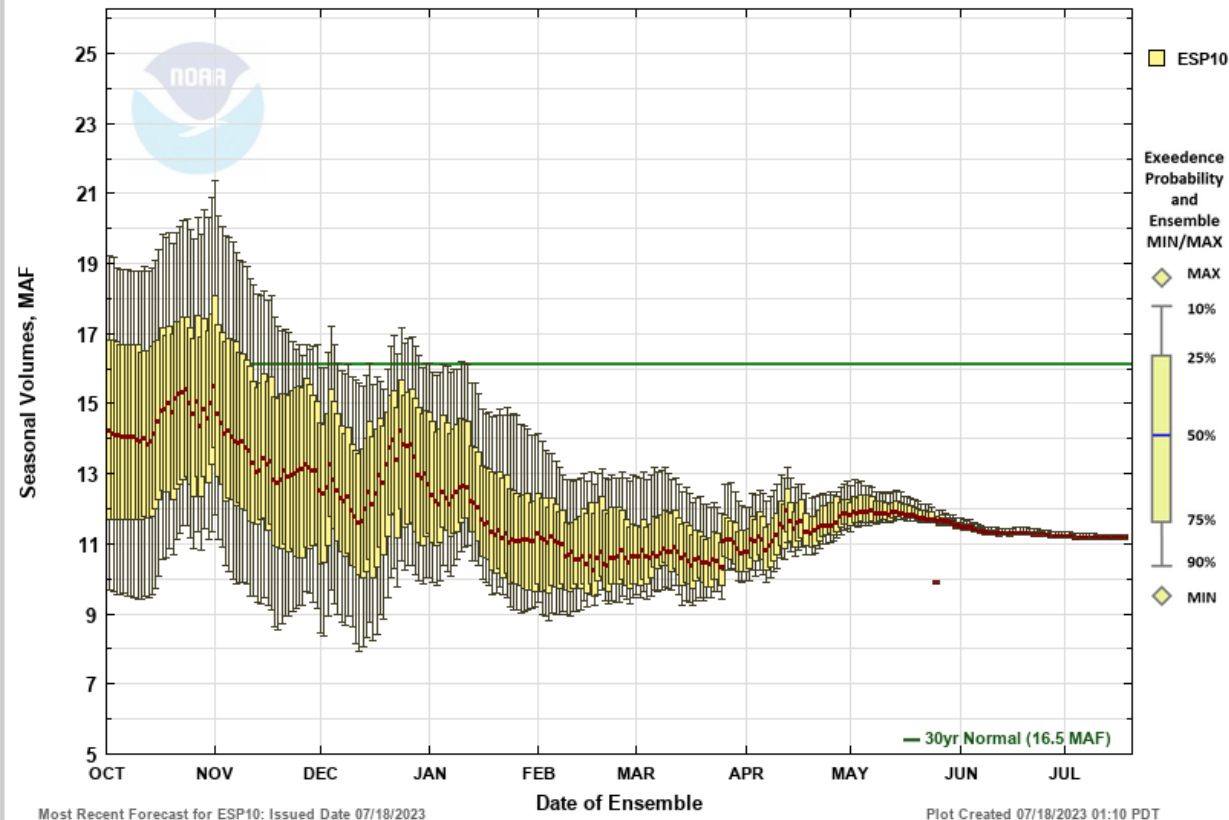
APR-SEP	5232	5265	104	5370	5067
APR-JUL	4875	4876	108	4890	4509
JAN-SEP	8933	8966	74	9071	12139
JAN-JUL	8576	8578	74	8591	11581
OCT-SEP	11524	11557	70	11662	16497

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

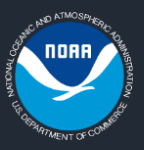
Natural Volume Forecasts

WILLAMETTE - AT SALEM

Period OCT to SEP -- Water Year 2023



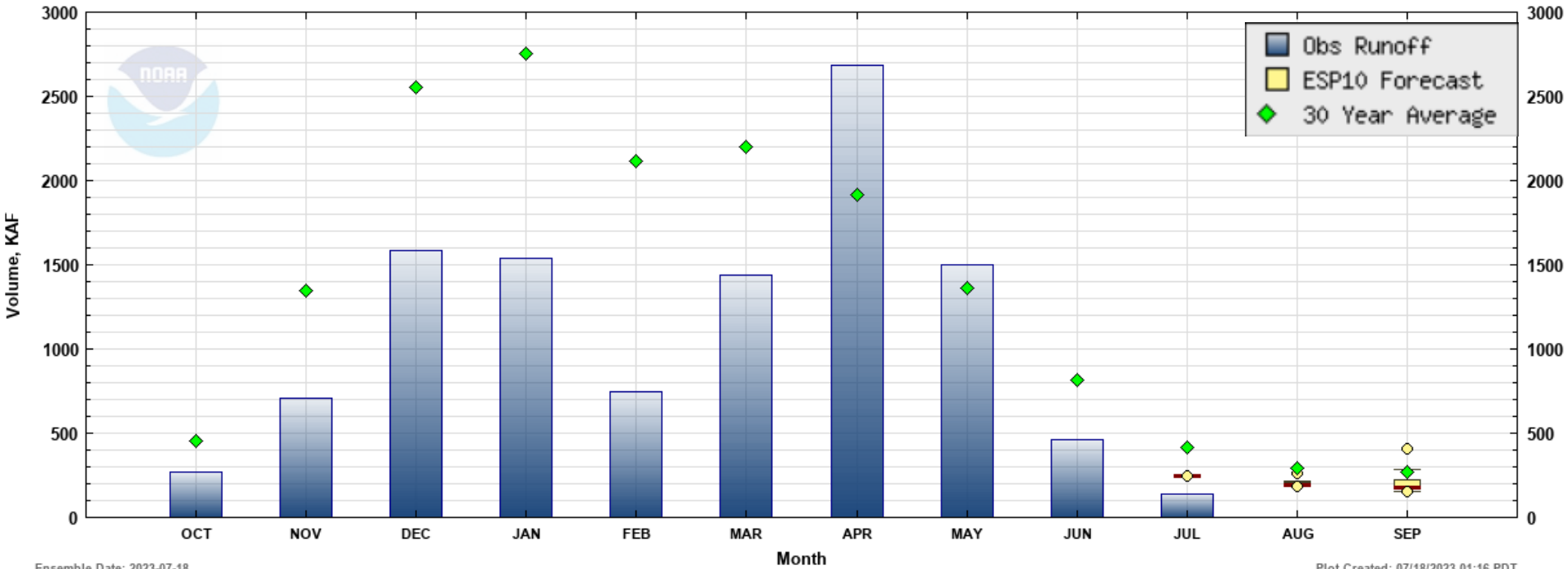
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=SLMO3



Monthly Natural Volumes Willamette R at Salem

Period	Apr 5 %	Recent %
Apr – Sep	105	104
Water Year	70	70

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(SLM03) WILLAMETTE - AT SALEM



Ensemble Date: 2023-07-18

Plot Created: 07/18/2023 01:16 PDT

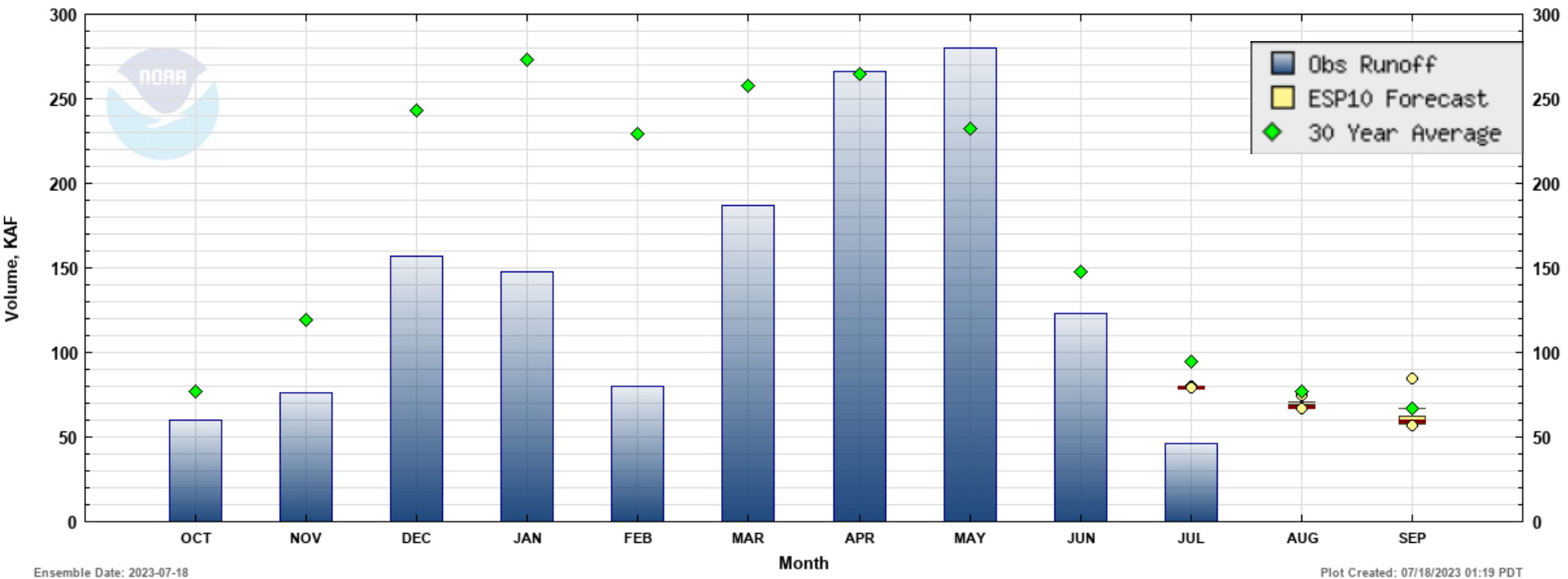
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=SLM03



Monthly Natural Volumes Rogue R near Raygold

Period	Apr 5 %	Recent %
Apr – Sep	102	99
Water Year	77	76

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(RYG03) ROGUE - AT RAYGOLD



Ensemble Date: 2023-07-18

Plot Created: 07/18/2023 01:19 PDT

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

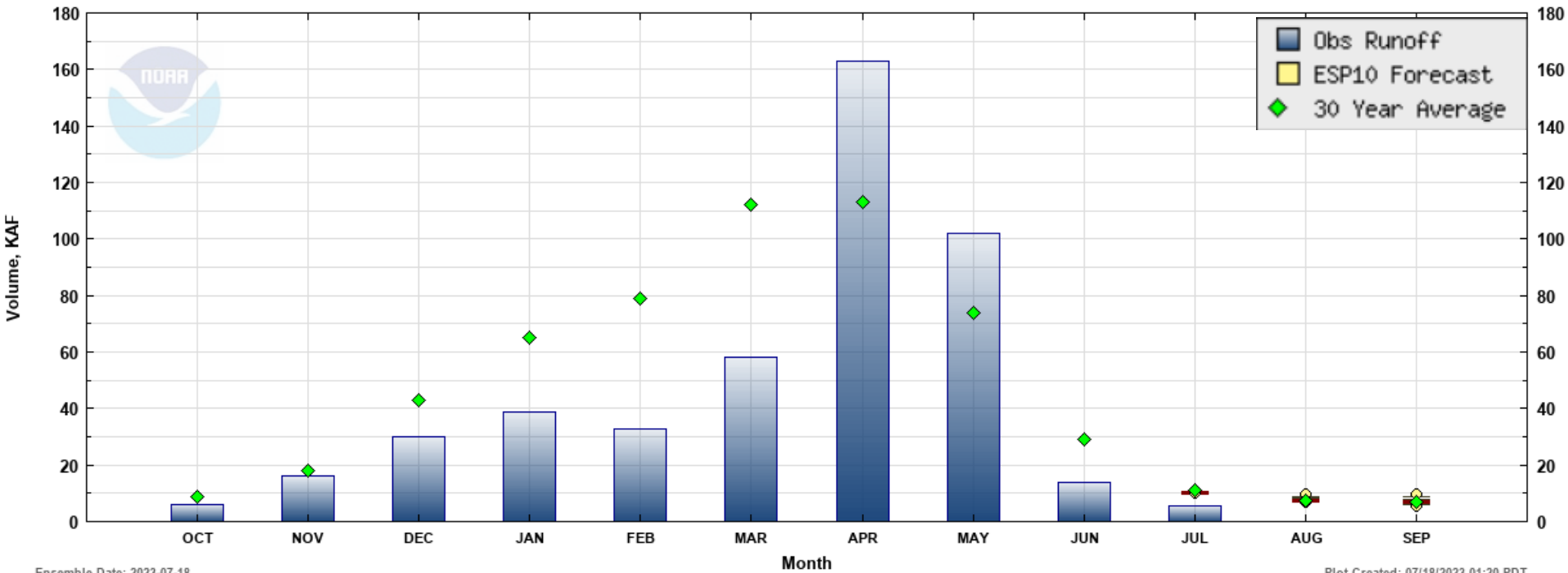


Monthly Natural Volumes

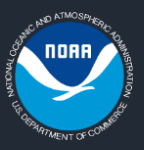
Umatilla R near Umatilla

Period	Apr 5 %	Recent %
Apr – Sep	115	126
Water Year	81	86

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(UMAO3) UMATILLA - NEAR UMATILLA



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

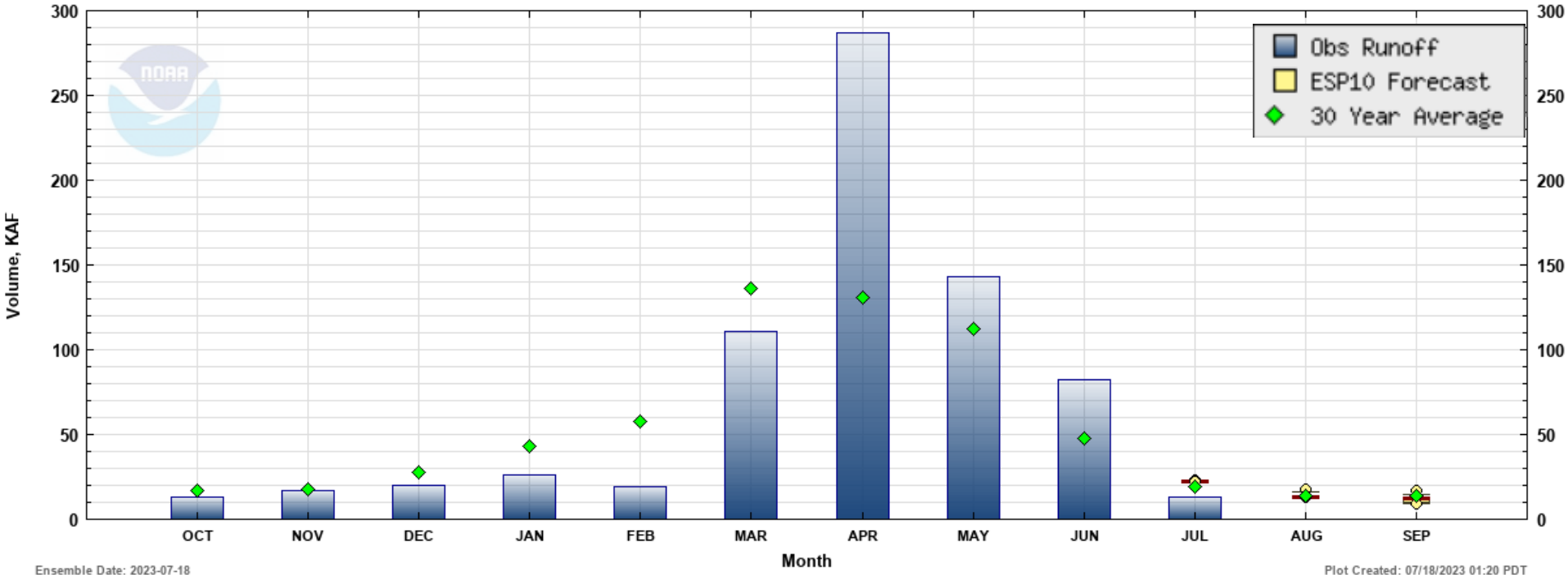


Monthly Natural Volumes

Owyhee R at Owyhee Dam

Period	Apr 5 %	Recent %
Apr – Sep	87	166
Water Year	78	120

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(OWYO3) OWYHEE - OWYHEE DAM



Ensemble Date: 2023-07-18

Plot Created: 07/18/2023 01:20 PDT

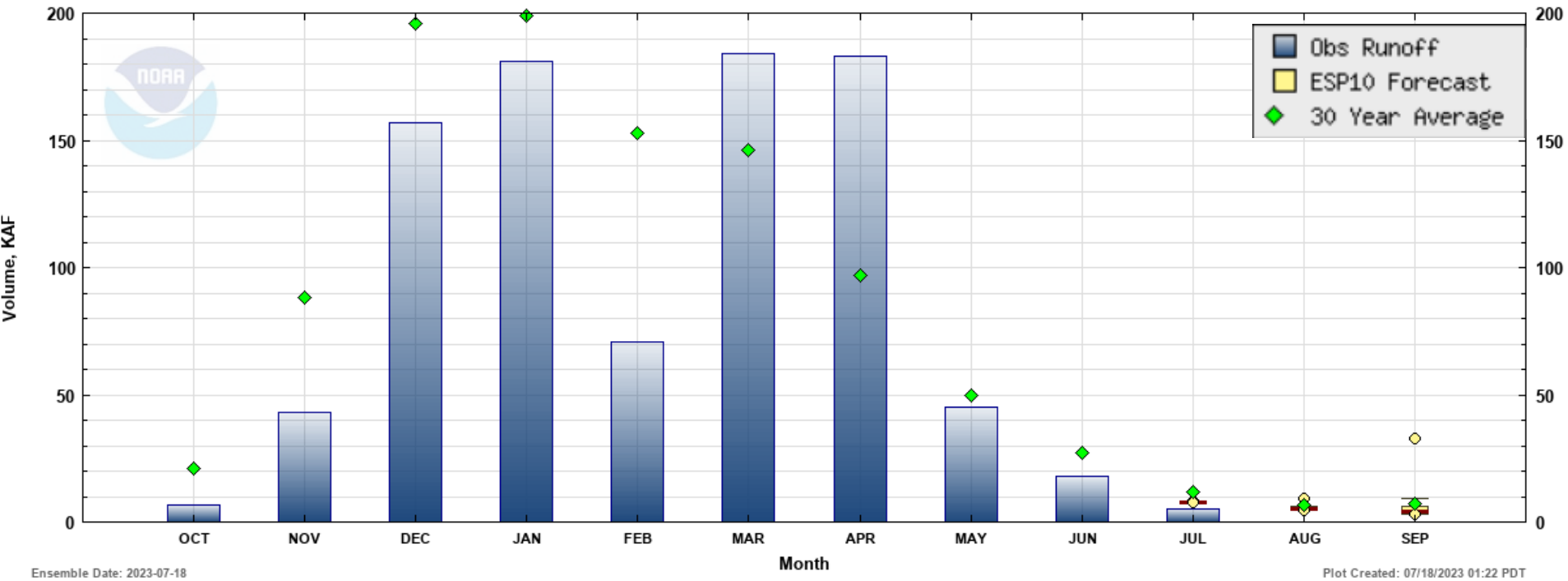
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=OWYO3



Monthly Natural Volumes Alsea River Tidewater (Lincoln County)

Period	Apr 5 %	Recent %
Apr – Sep	127	130
Water Year	90	90

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(TIDO3) ALSEA - NEAR TIDEWATER



Ensemble Date: 2023-07-18

Plot Created: 07/18/2023 01:22 PDT

https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=SERO3



Oregon Water Supply Availability Meeting

July 2023

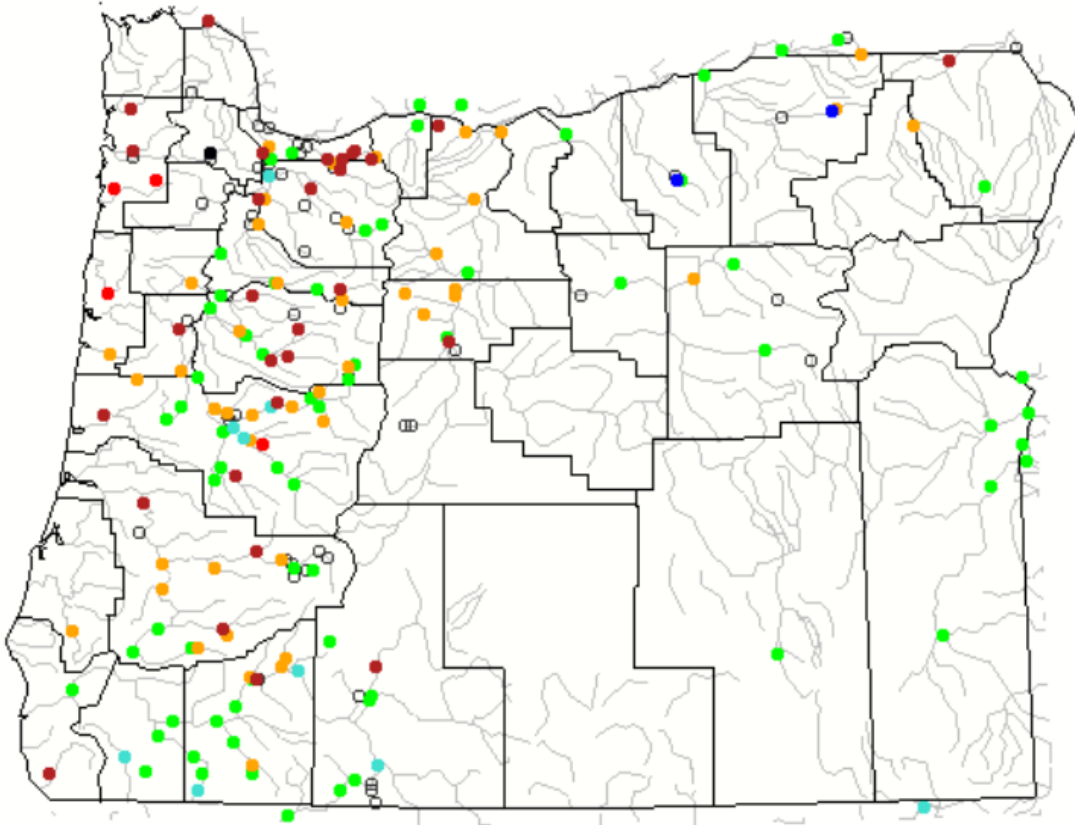
U.S. Department of the Interior
U.S. Geological Survey

USGS Update on Surface Water Conditions
Carrie Boudreau & Marc Stewart
Oregon Water Science Center

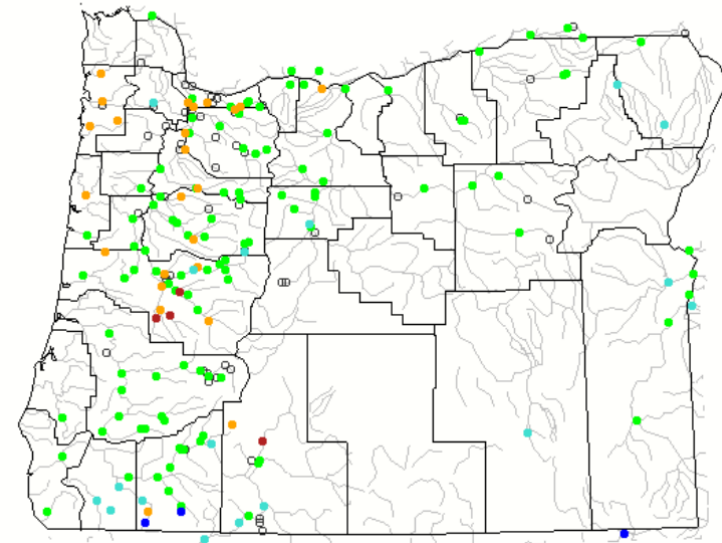
Streamflow Conditions

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

Monday, July 17, 2023



Monday, June 12, 2023



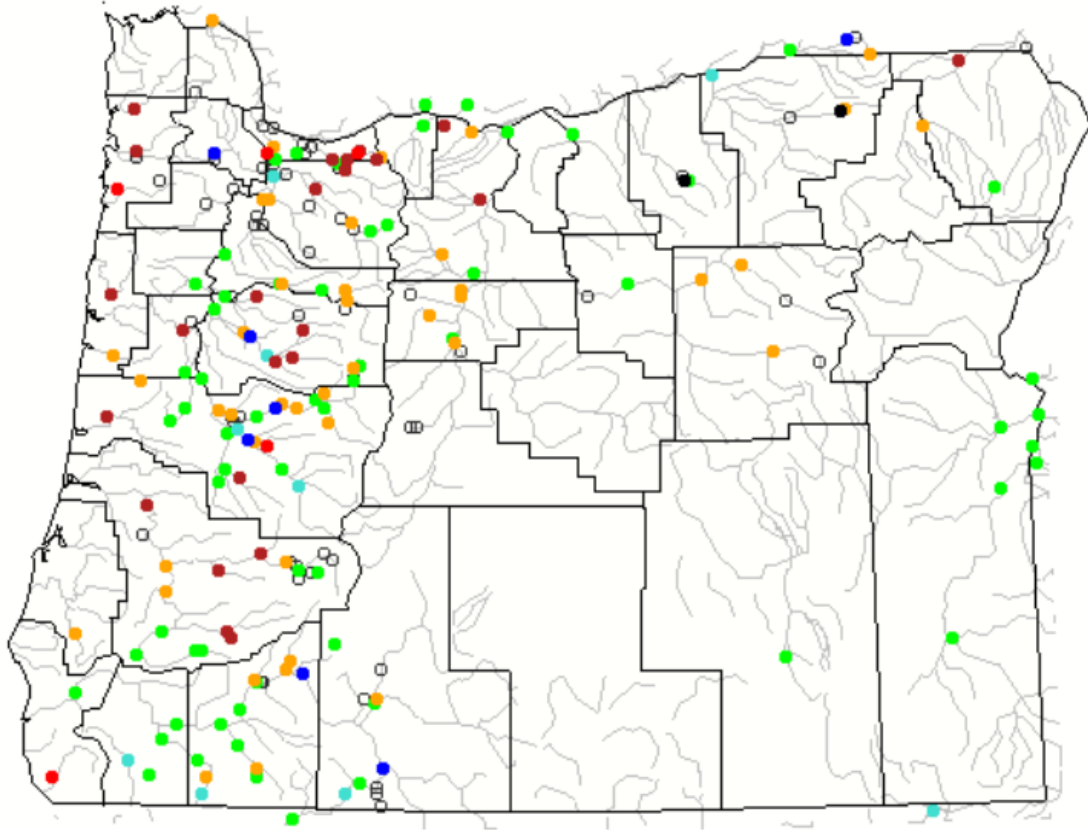
Explanation - Percentile classes

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

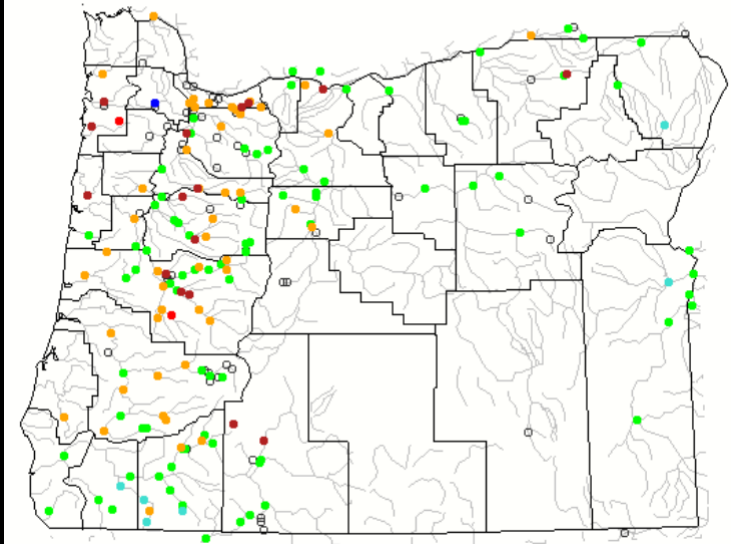
Streamflow Conditions

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

Monday, July 17, 2023



Monday, June 12, 2023

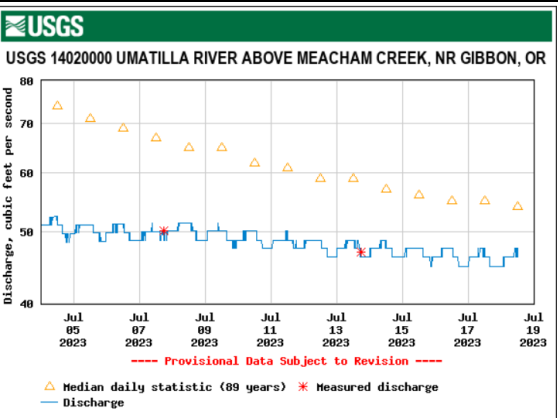
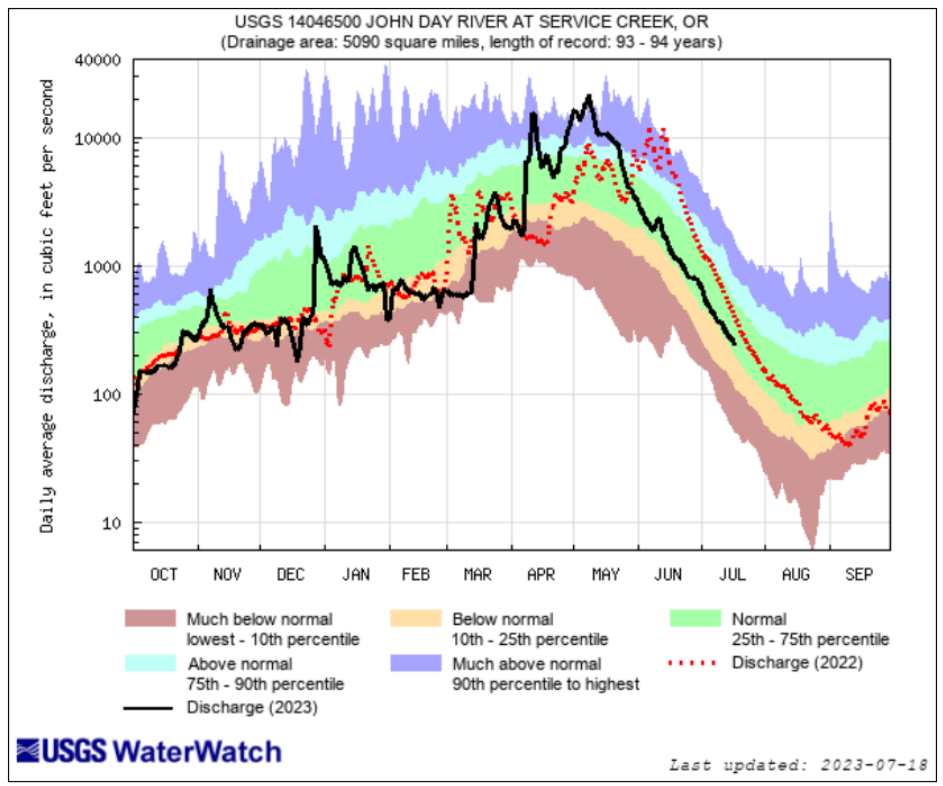
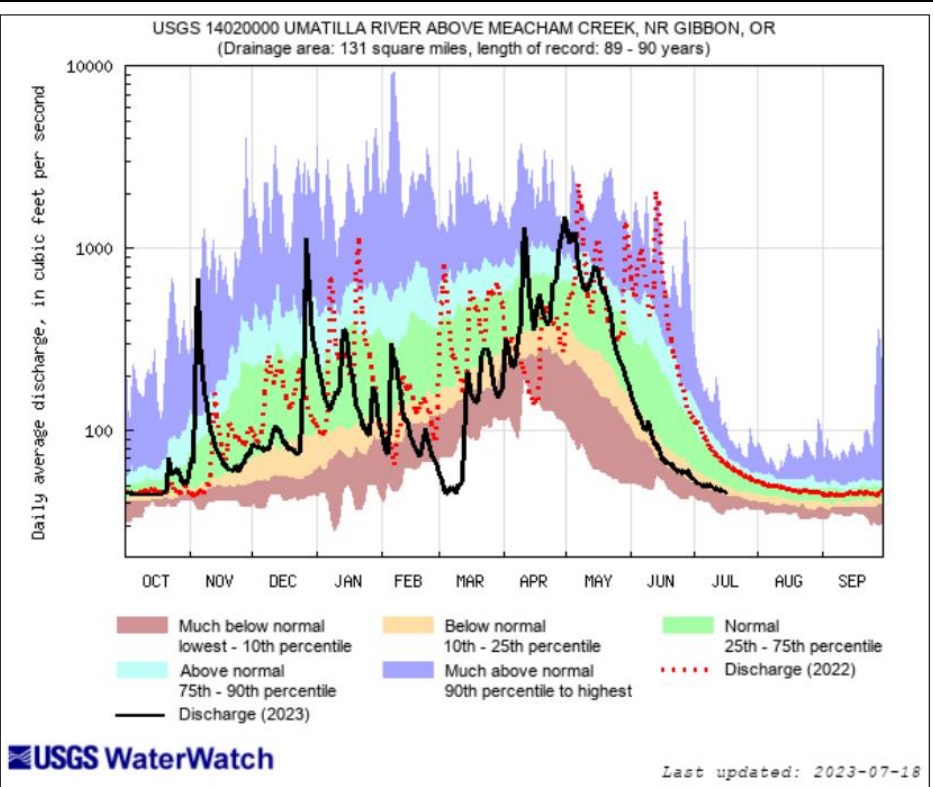
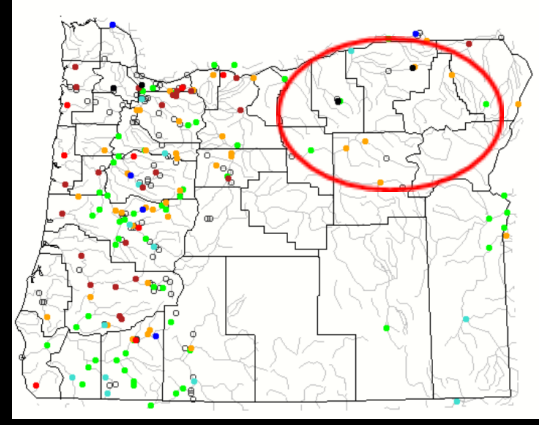


Explanation - Percentile classes

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



Northeastern OR

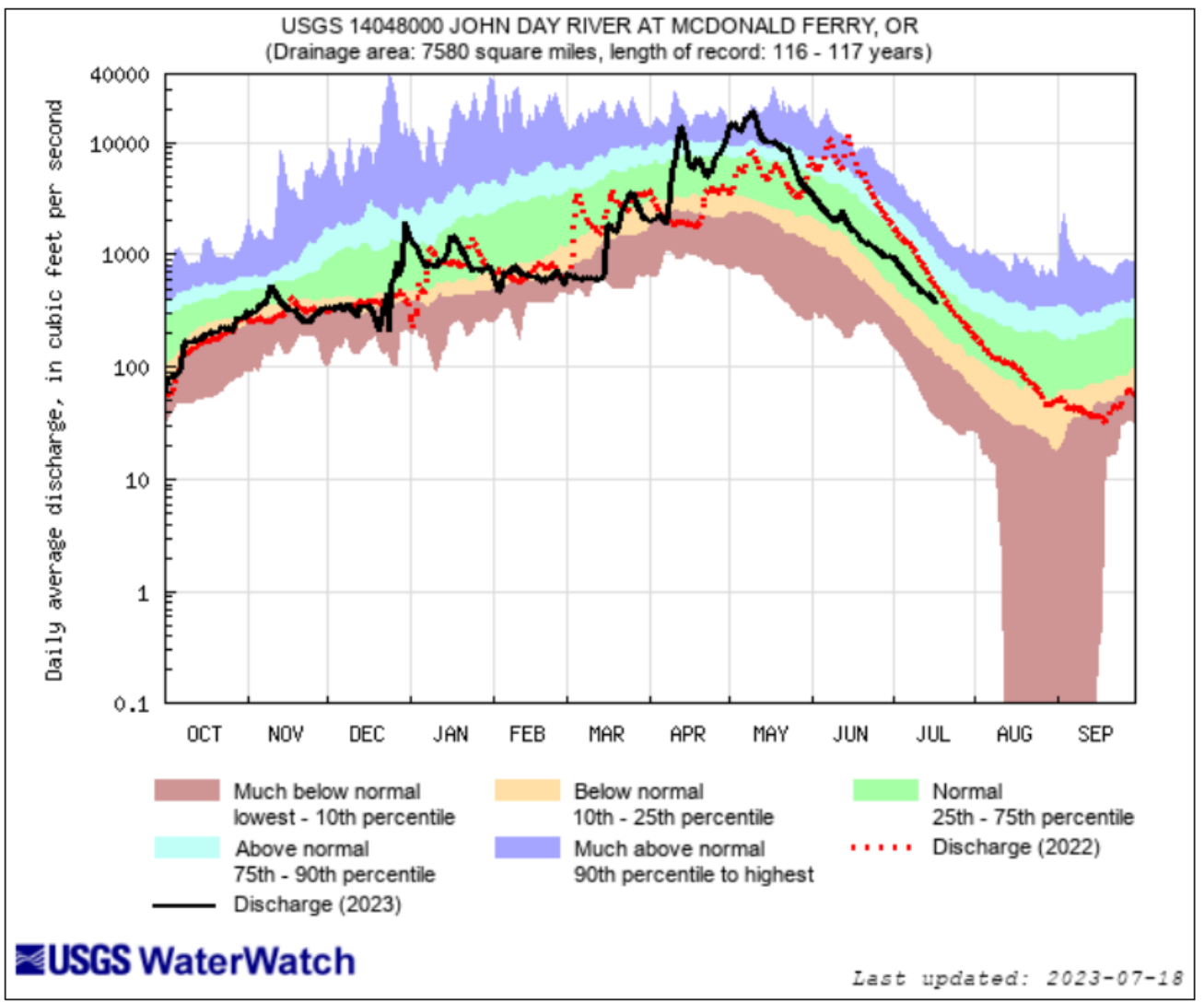
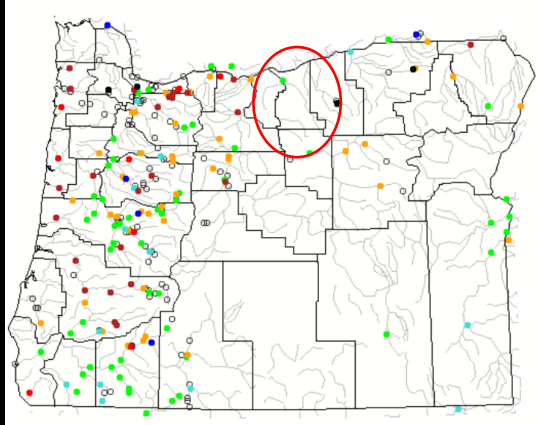


Explanation - Percentile classes

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



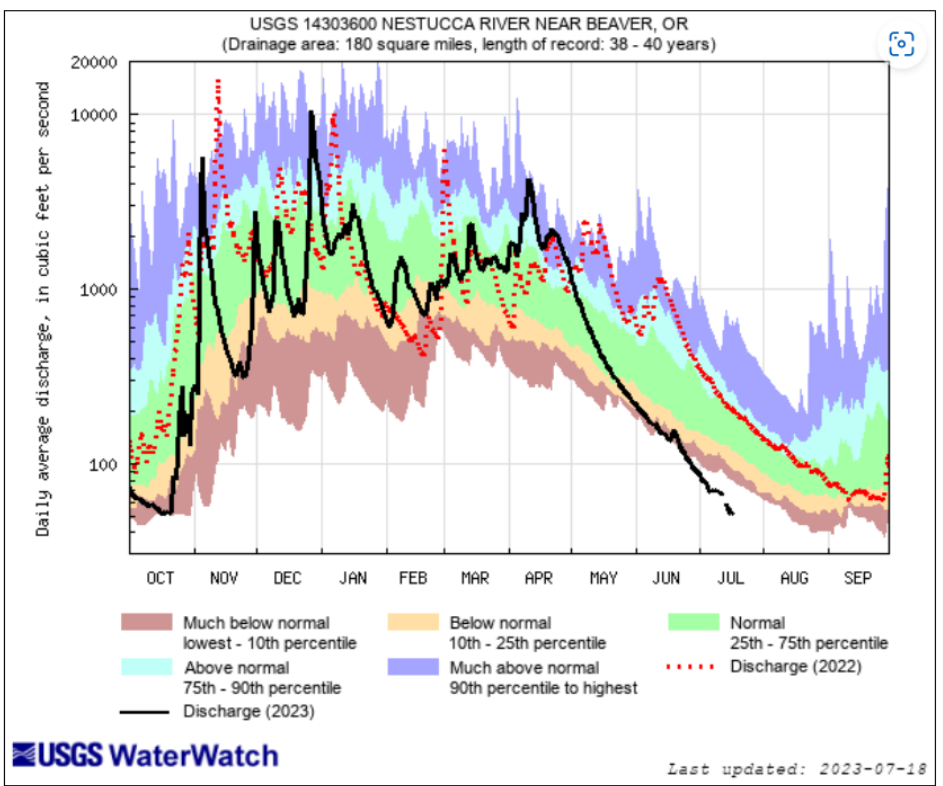
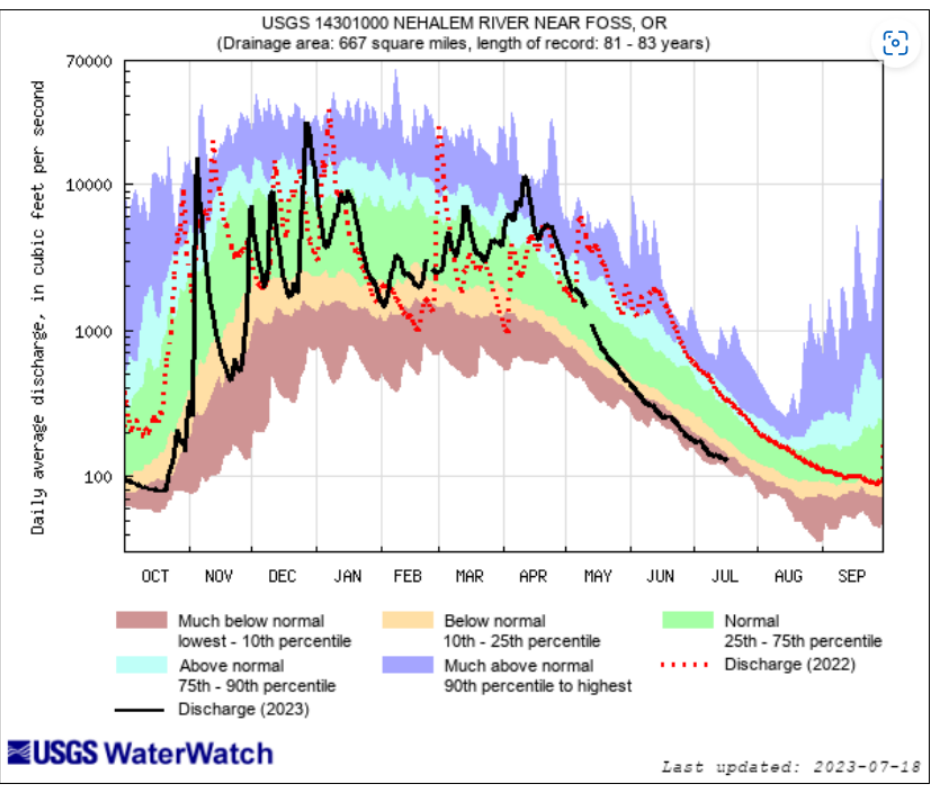
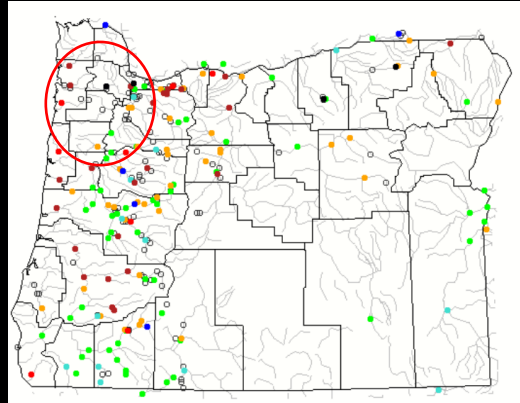
USGS gages – Gilliam Co.



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	



Northwestern OR

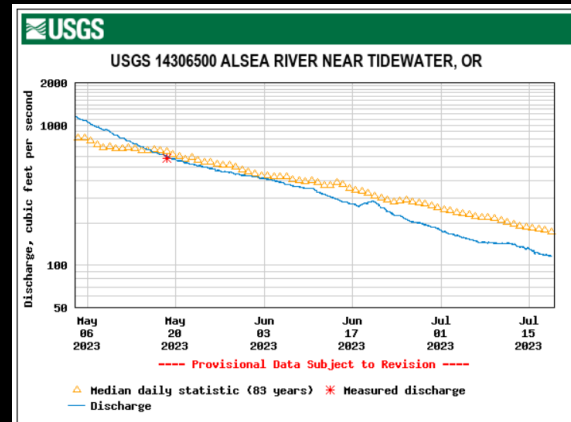
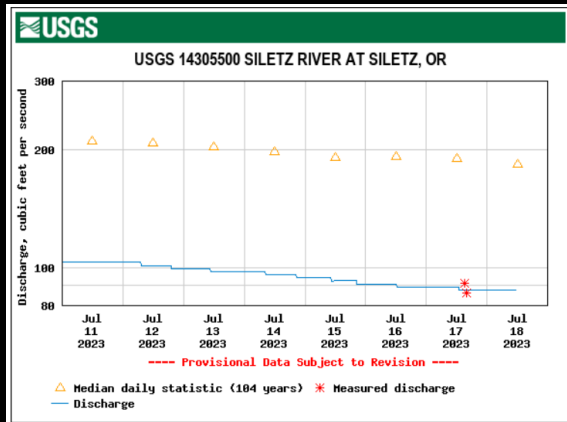
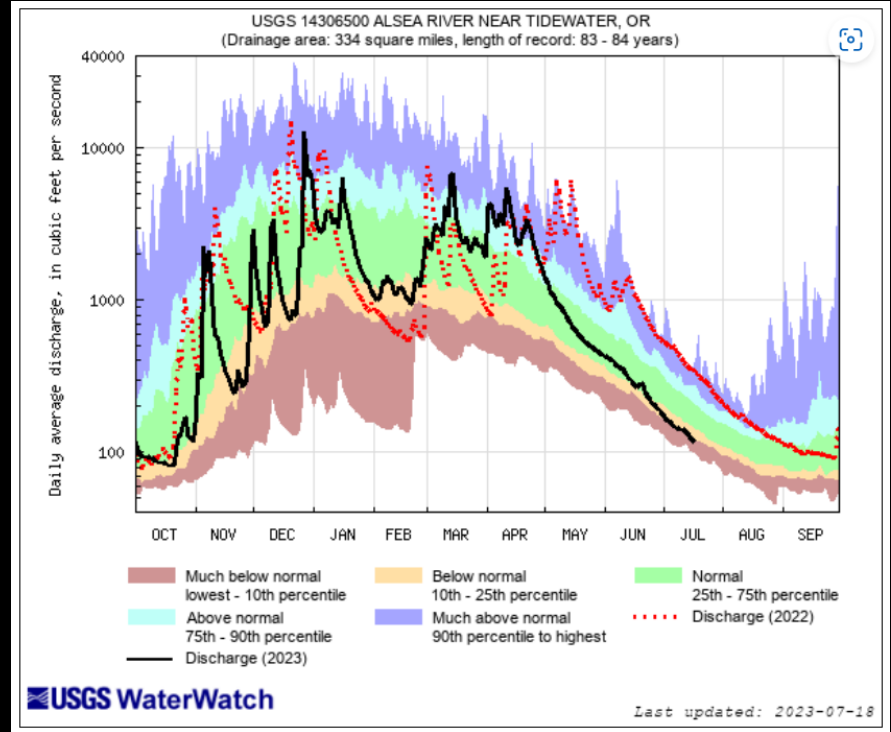
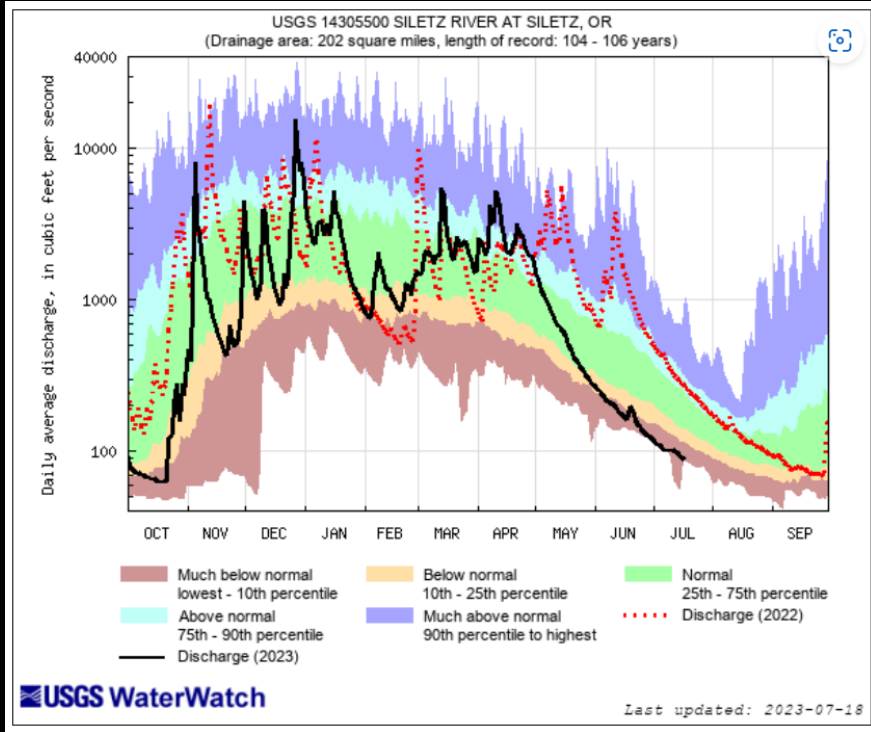


Explanation - Percentile classes

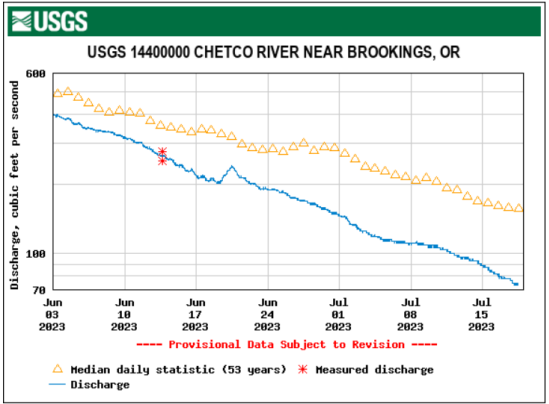
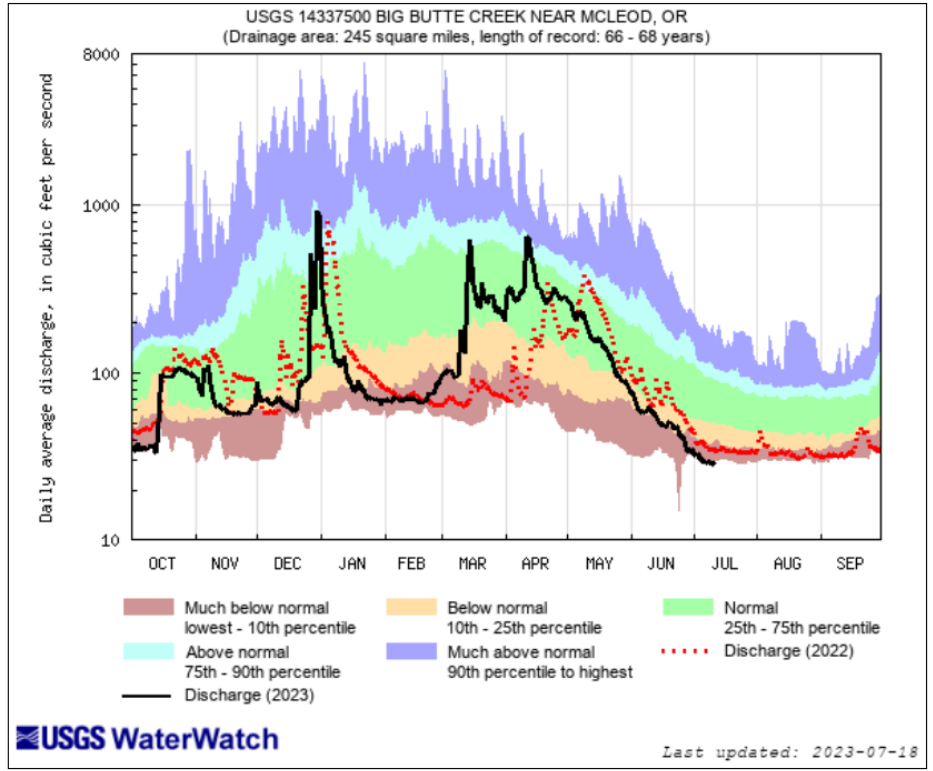
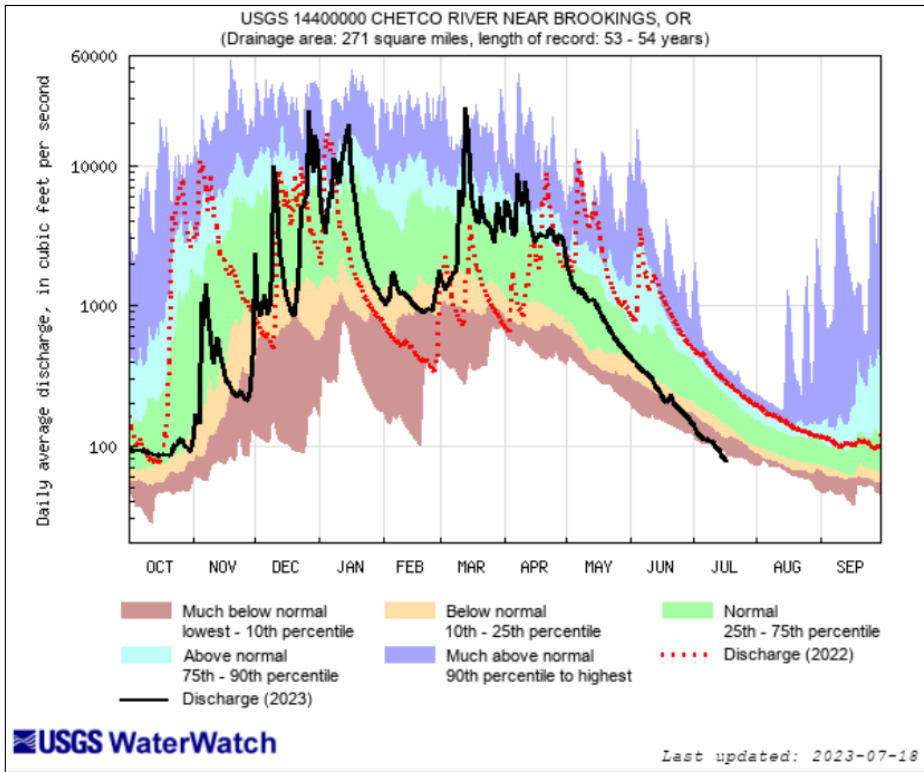
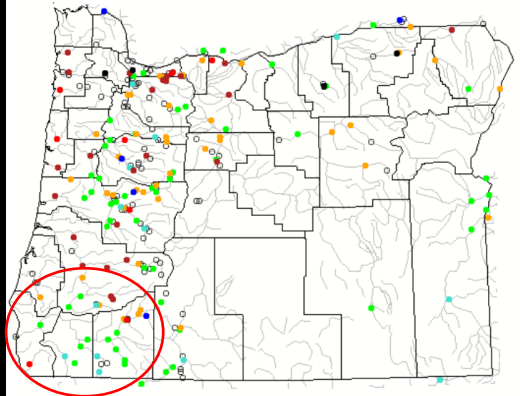
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	



USGS gages - Lincoln Co.



Southwestern OR



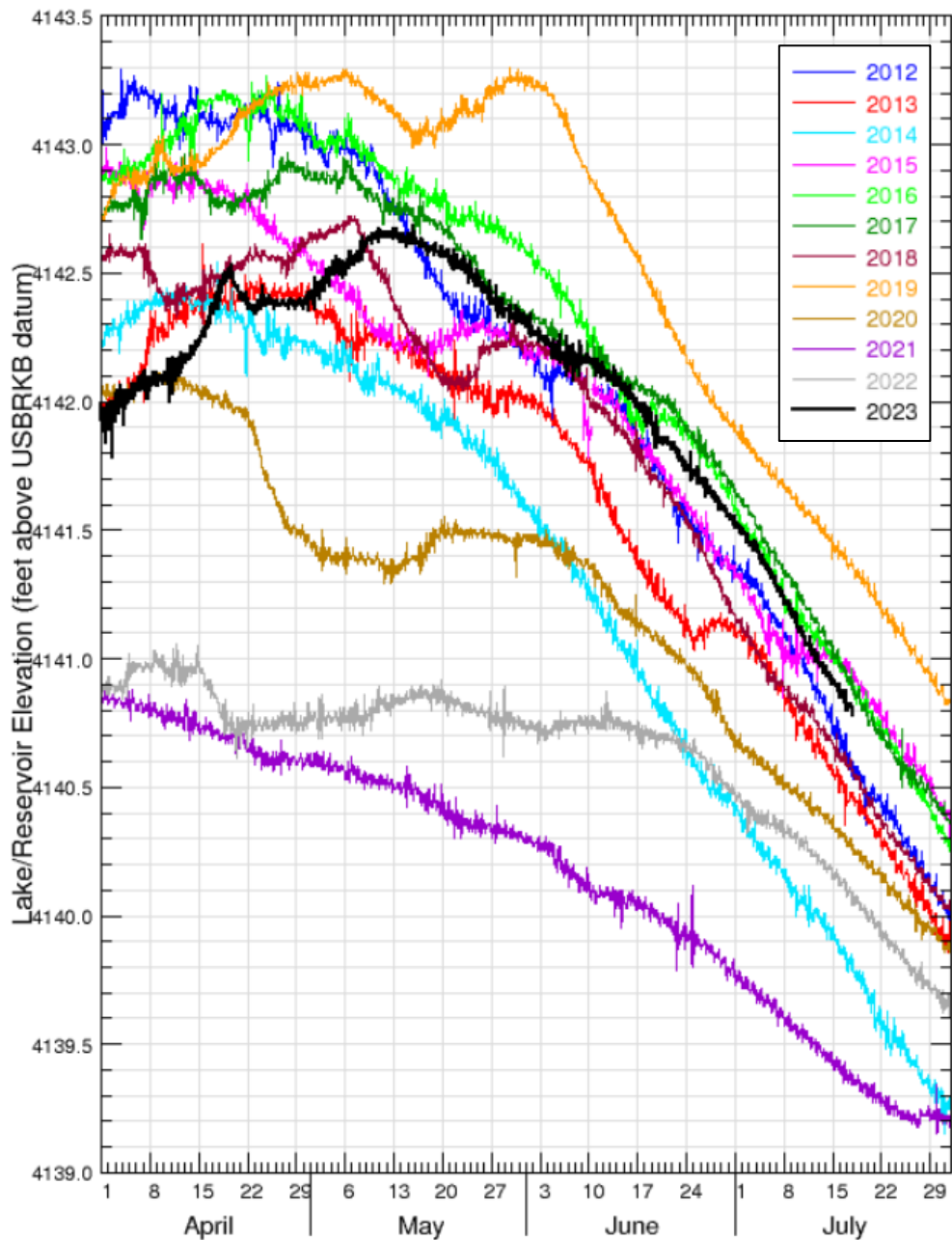
Explanation - Percentile classes

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



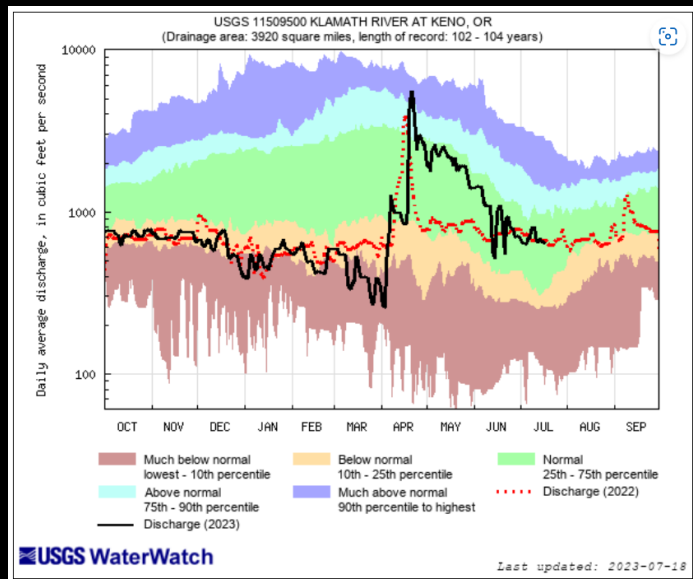
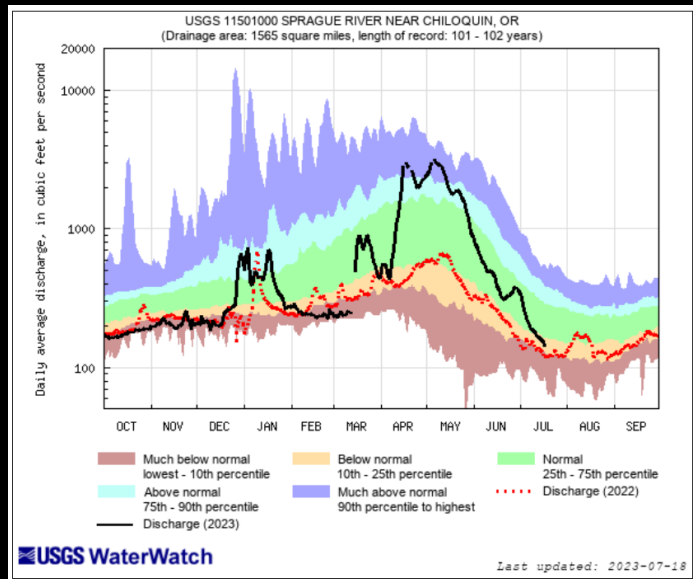
Upper Klamath Lake nr Klamath Falls, OR [weighted/mean] (11507001)

Data from U.S. Geological Survey



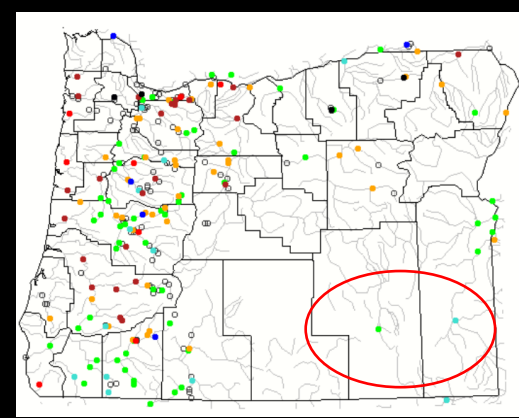
Tue Jul 18 16:05:28 2023

Klamath

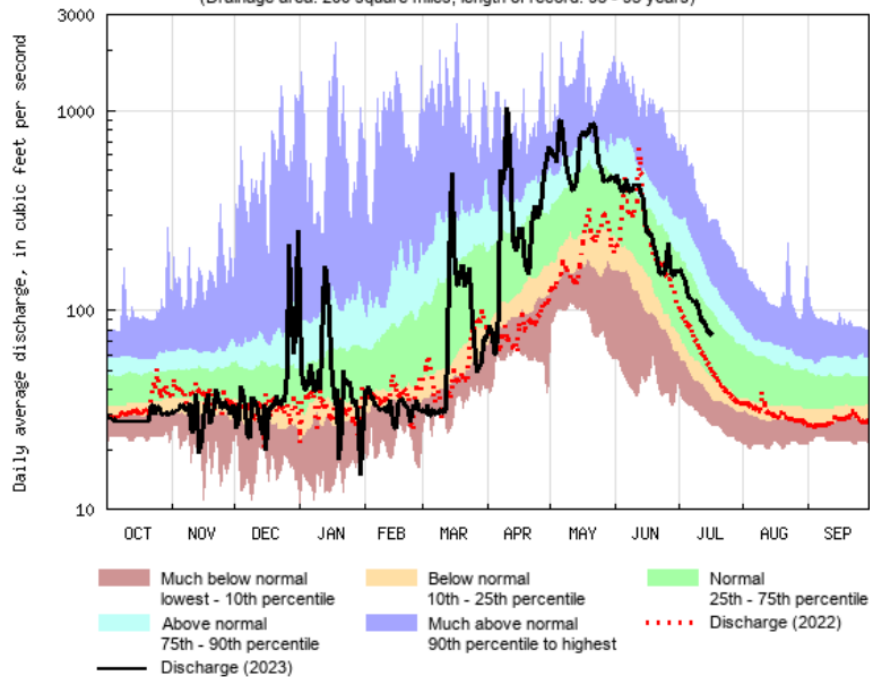


Explanation - Percentile classes					
lowest-10th percentile	10-24	25-75	76-90	90th percentile-highest	Flow
Much below normal	Below normal	Normal	Above normal	Much above normal	

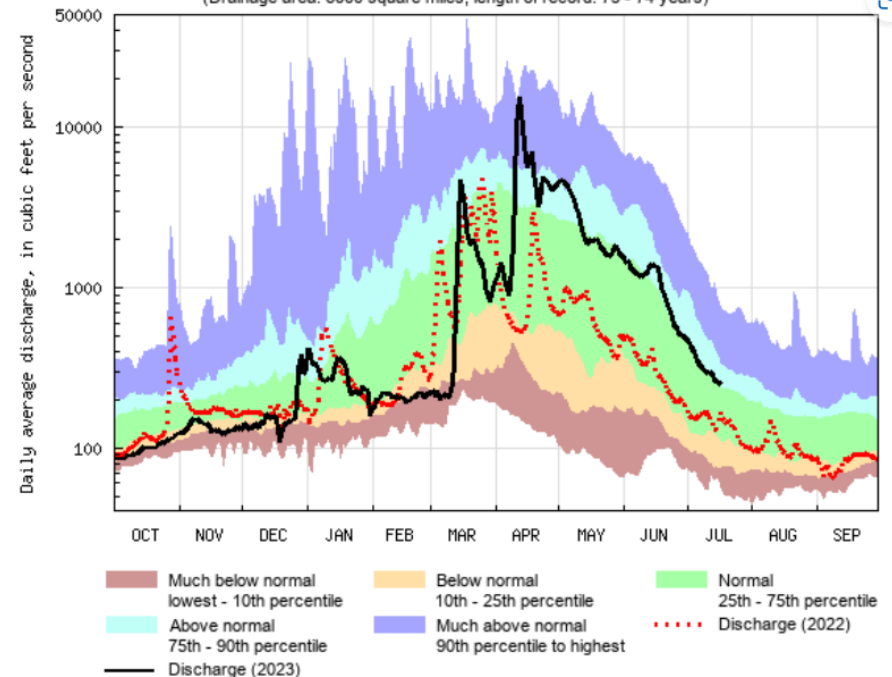
Southeastern OR



USGS 10396000 DONNER UND BLITZEN RIVER NR FRENCHGLEN OR
(Drainage area: 200 square miles, length of record: 93 - 95 years)



USGS 13181000 OWYHEE RIVER NR ROME OR
(Drainage area: 8000 square miles, length of record: 73 - 74 years)



USGS WaterWatch

Last updated: 2023-07-18

USGS WaterWatch

Last updated: 2023-07-18

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	



US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR JUNE 2023

Station	NRCS SWSI Basin	Monthly mean discharge		Change in dis- charge from	Accumulated Runoff For the Period Oct. to June
		Cubic feet per second	Percent of average	previous month (percent)	Percent of average
Donner Und Blitzen nr Frenchglen	Harney	296	109	-52	120
(*)Deep Creek above Adel	Lake County	209	115	-74	119
(*)Chewaucan River near Paisley	Lake County	183	80	-83	141
Williamson River near Chiloquin	Klamath	782	93	-68	97
Owyhee River near Rome	Owyhee	1,070	157	-58	121
(*)NF Malheur River near Beulah	Malheur	202	134	-78	141
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	3,610	69	-64	85
Umatilla River nr Gibbon	Umatilla Lower John Day	84	49	-85	73
John Day River at Service Crk	Upper John Day	1,560	68	-85	102
(*)Little Deschutes River nr LaPine	Upper Deschutes	174	82	-52	61
Hood River nr Hood River	Lower Deschutes Mt.Hood	668	83	-63	81
Willamette River at Salem	Willamette	10,000	71	-55	79
Wilson River near Tillamook	North Coast	158	45	-70	85
Umpqua River near Elkton	Rogue/Umpqua	1,860	53	-70	79
Rogue River near Agness	Rogue/Umpqua	3,540	91	-46	81
SF Coquille River at Powers	South Coast	76	44	-83	108
Chetco River near Brookings	South Coast	261	42	-75	88

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

07/06/2023

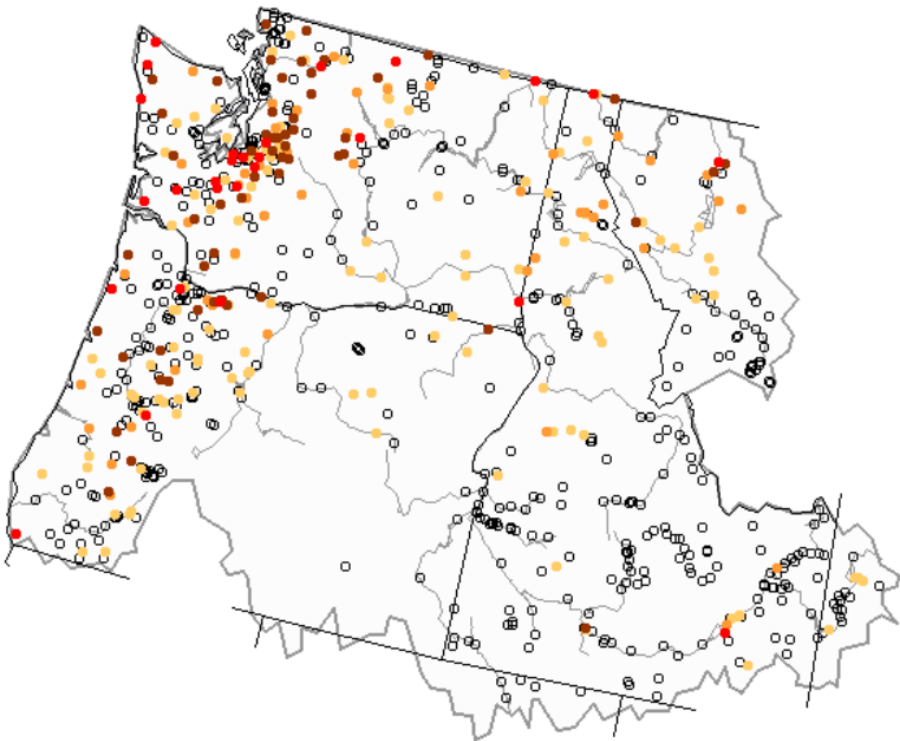


Maps of the below normal streamflow compared to historical stream flow for the day of year (PNW)

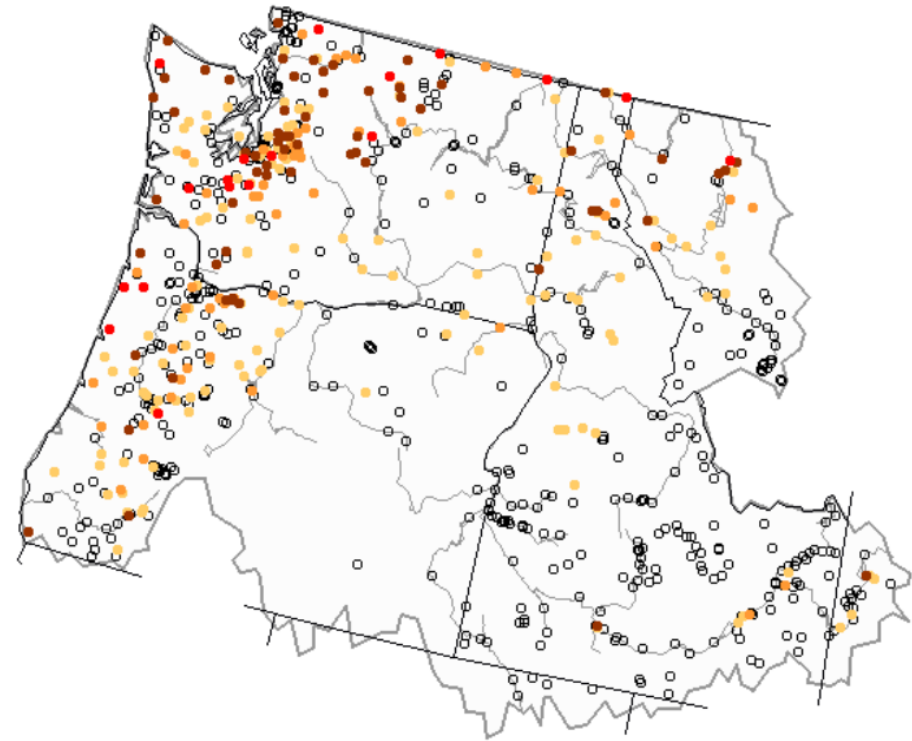
7-day Average

28-day Average






Monday, July 17, 2023



Monday, July 17, 2023



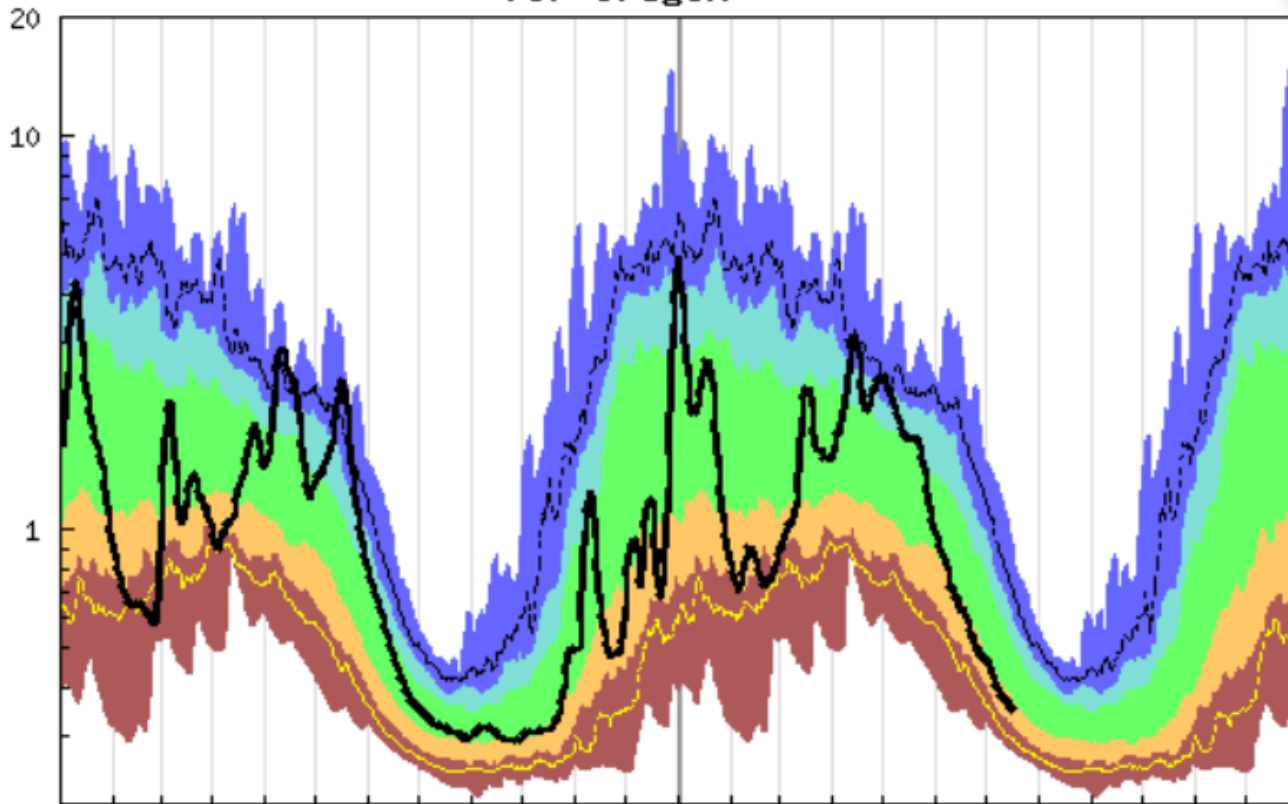
Explanation - Percentile classes

				
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



7-day Average Runoff, in millimeters



USGS WaterWatch

2022

2023

Last updated: 2023-07-18

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

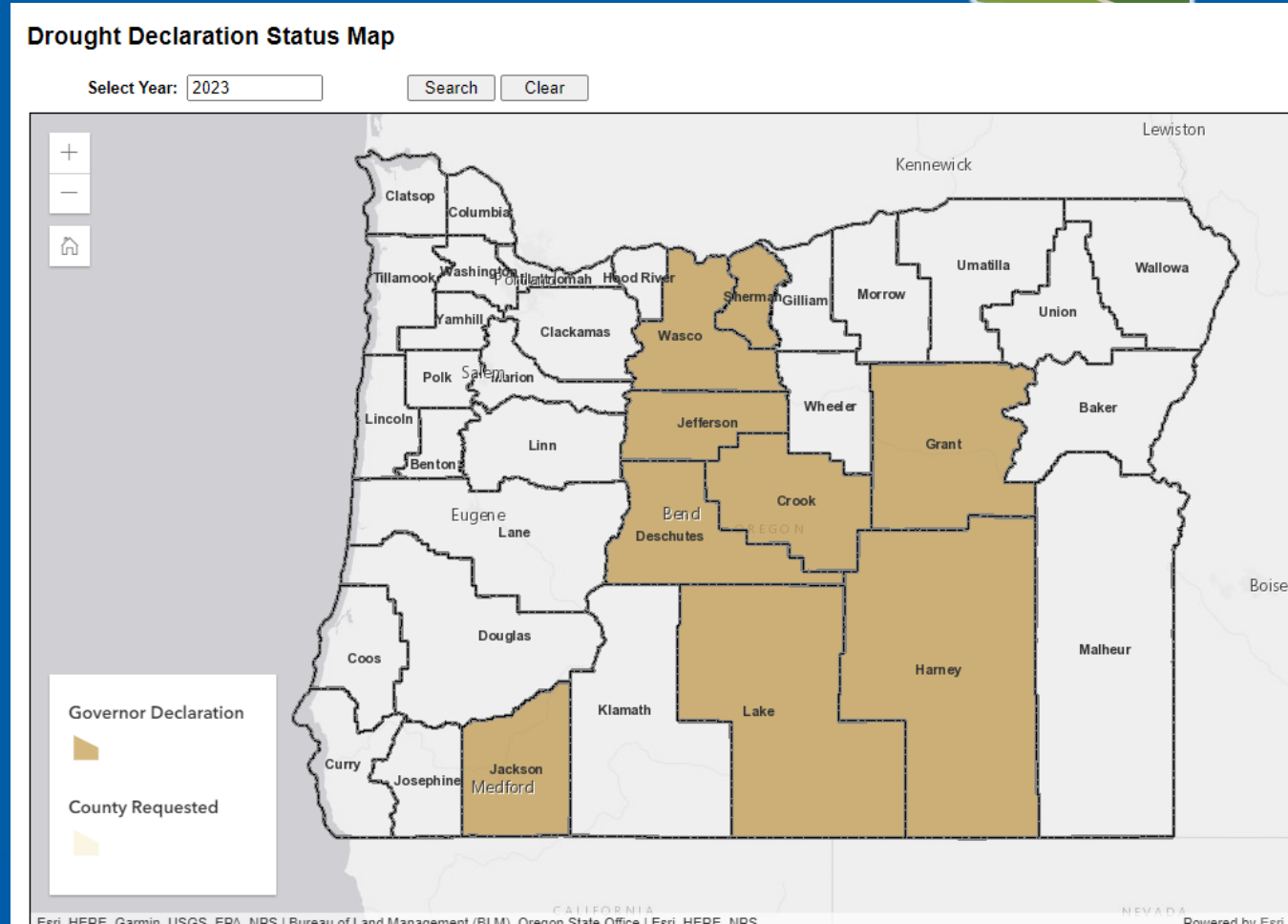


Water Supply Availability
Committee
Oregon Water Resources
Department
Ryan Andrews
July 19th, 2023

Drought Declarations



- Nine counties with Executive Orders for drought declarations under ORS 536
- No official requests
 - Lincoln and Gilliam discussing



June % of Average Streamflow - WY 2023

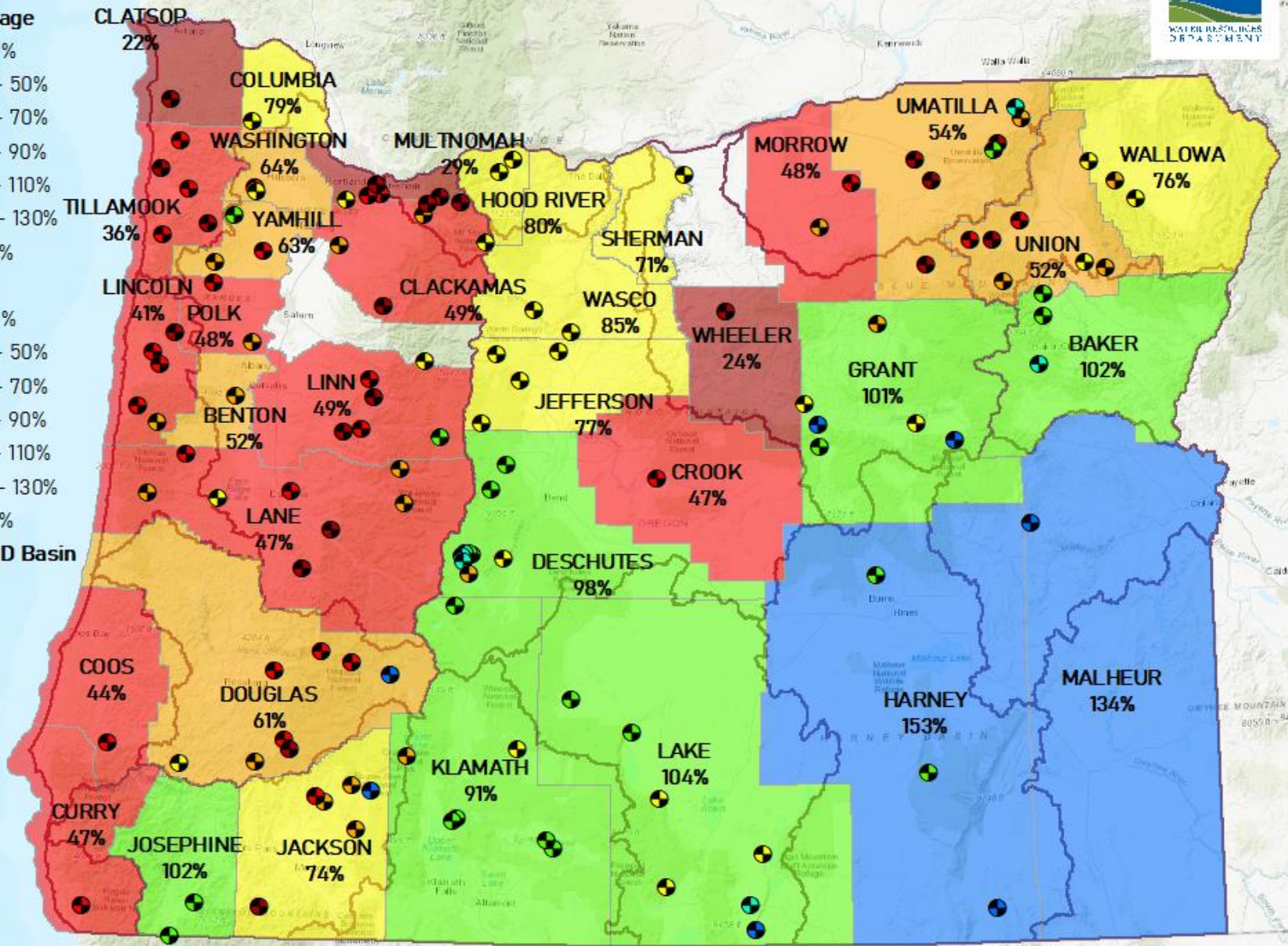


Stream Gage

- ≤ 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: 7/17/2023

Water Year To Date % of Average Streamflow - July 16, 2023



Stream Gage

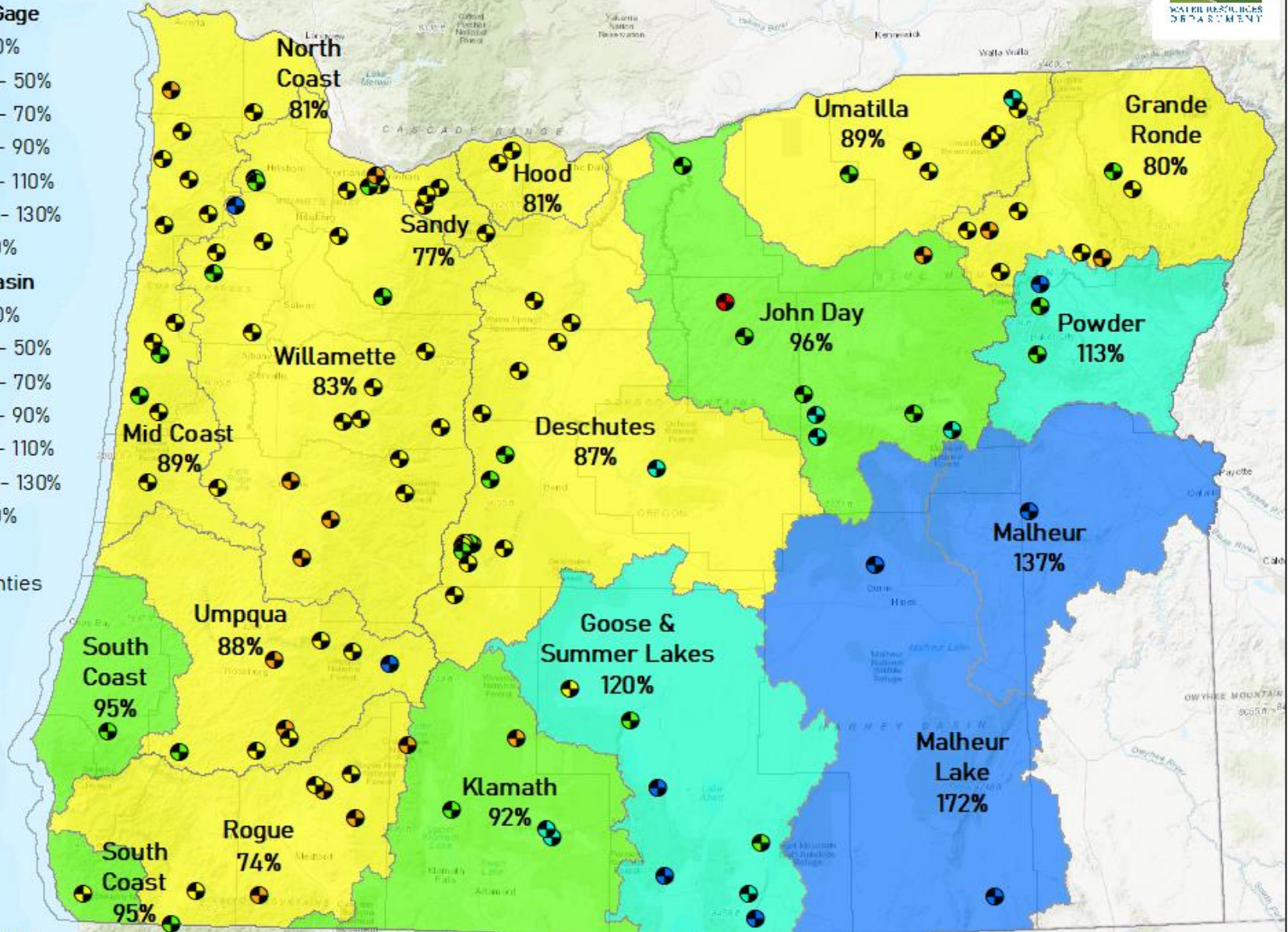
- <= 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- 111% - 130%
- > 130%

OWRD Basin

- <= 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- 111% - 130%
- > 130%

Counties

- Counties



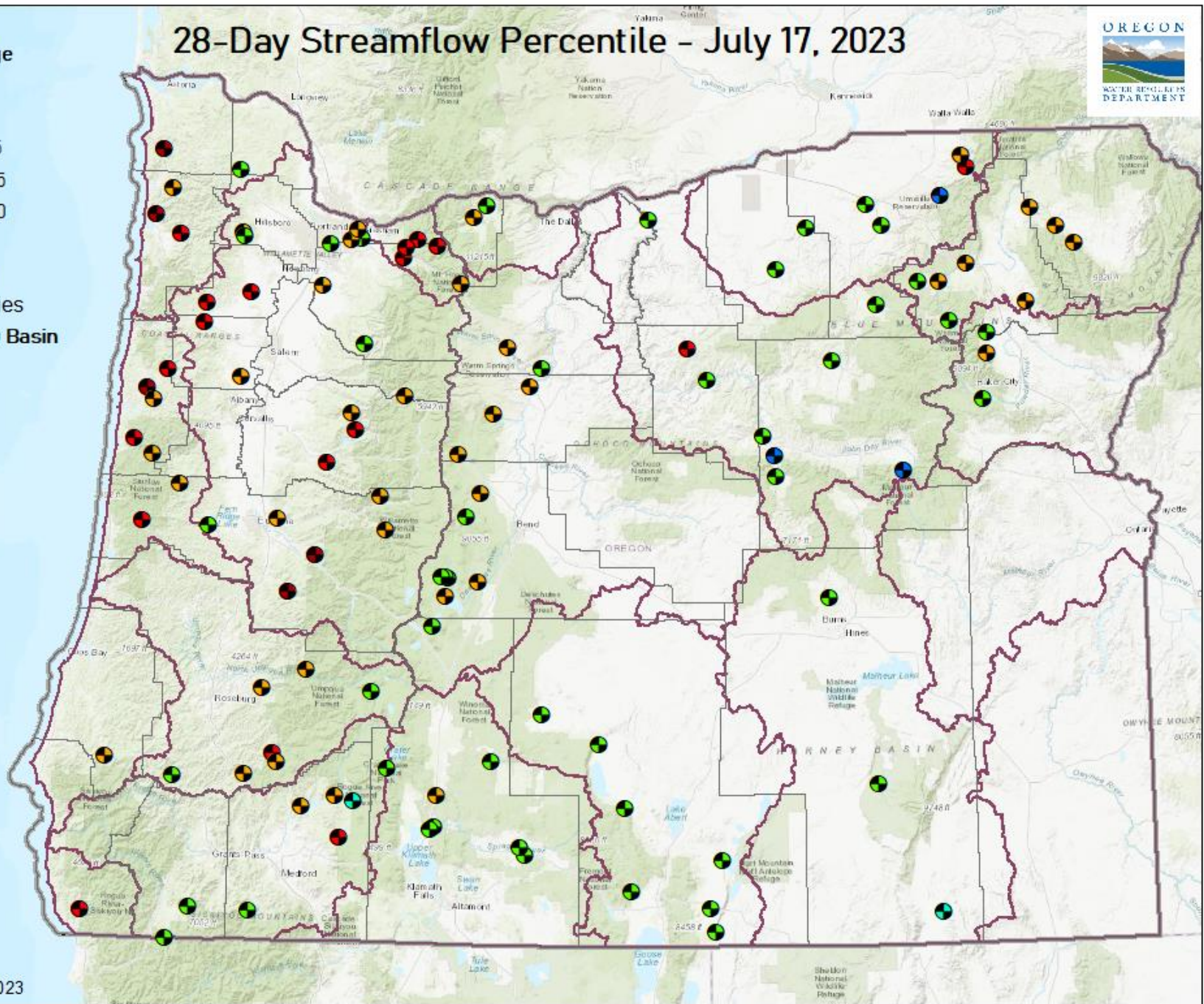
Date: 7/17/2023

28-Day Streamflow Percentile - July 17, 2023



Stream Gage

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



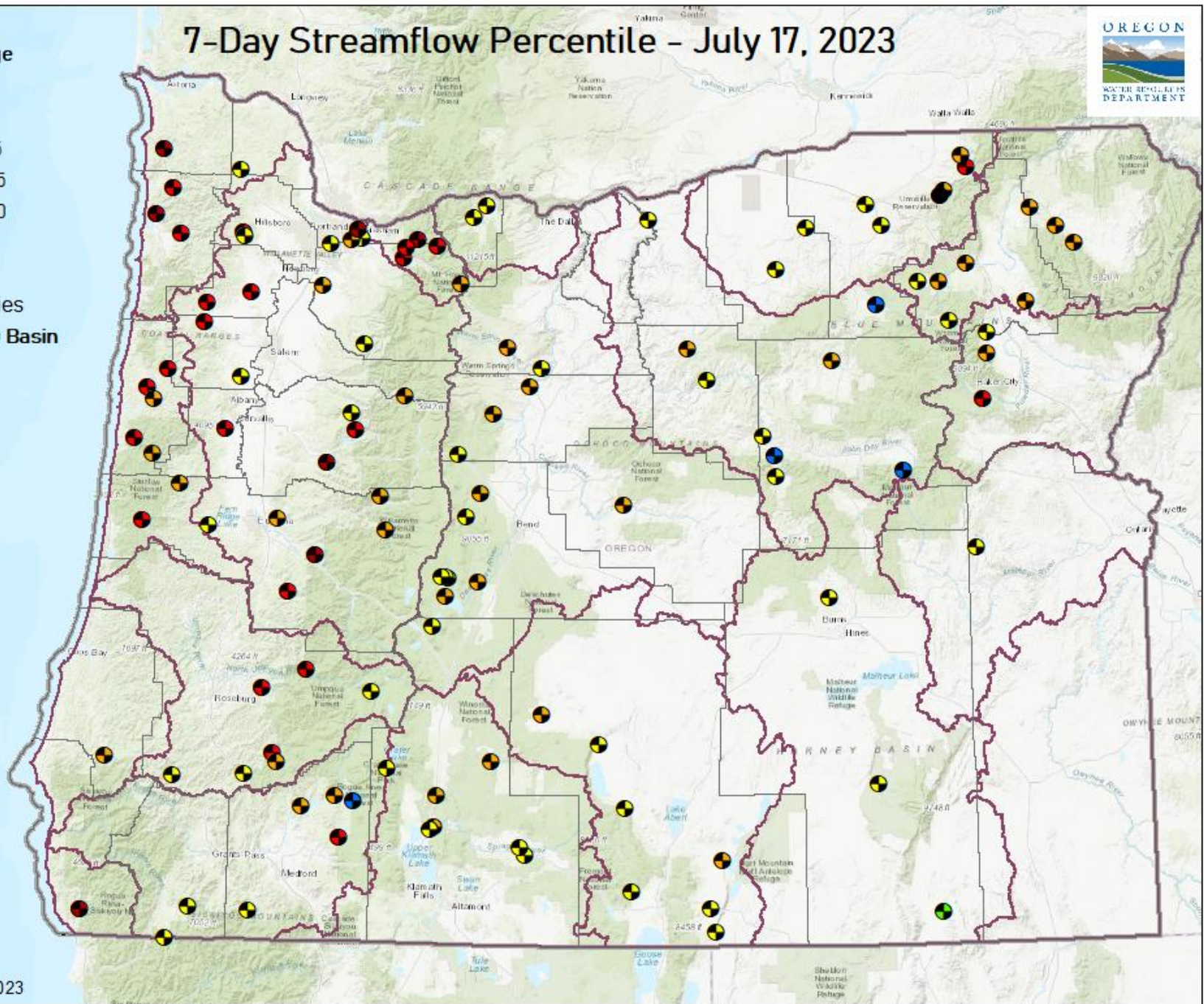
Date: 7/19/2023

7-Day Streamflow Percentile - July 17, 2023



Stream Gage

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



Date: 7/19/2023

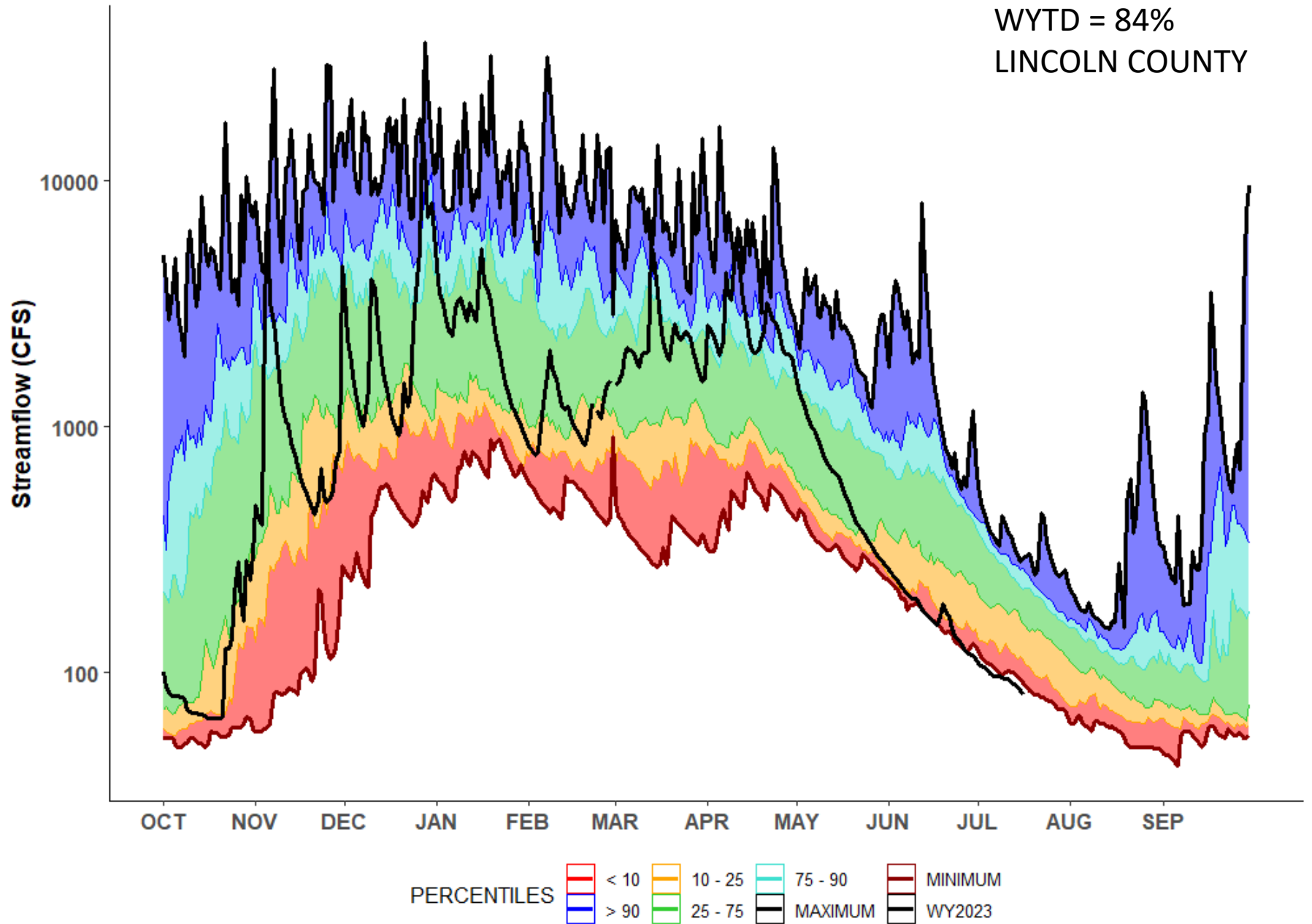
14305500 - SILETZ R AT SILETZ, OR

MID COAST BASIN

POR: 1991-2020

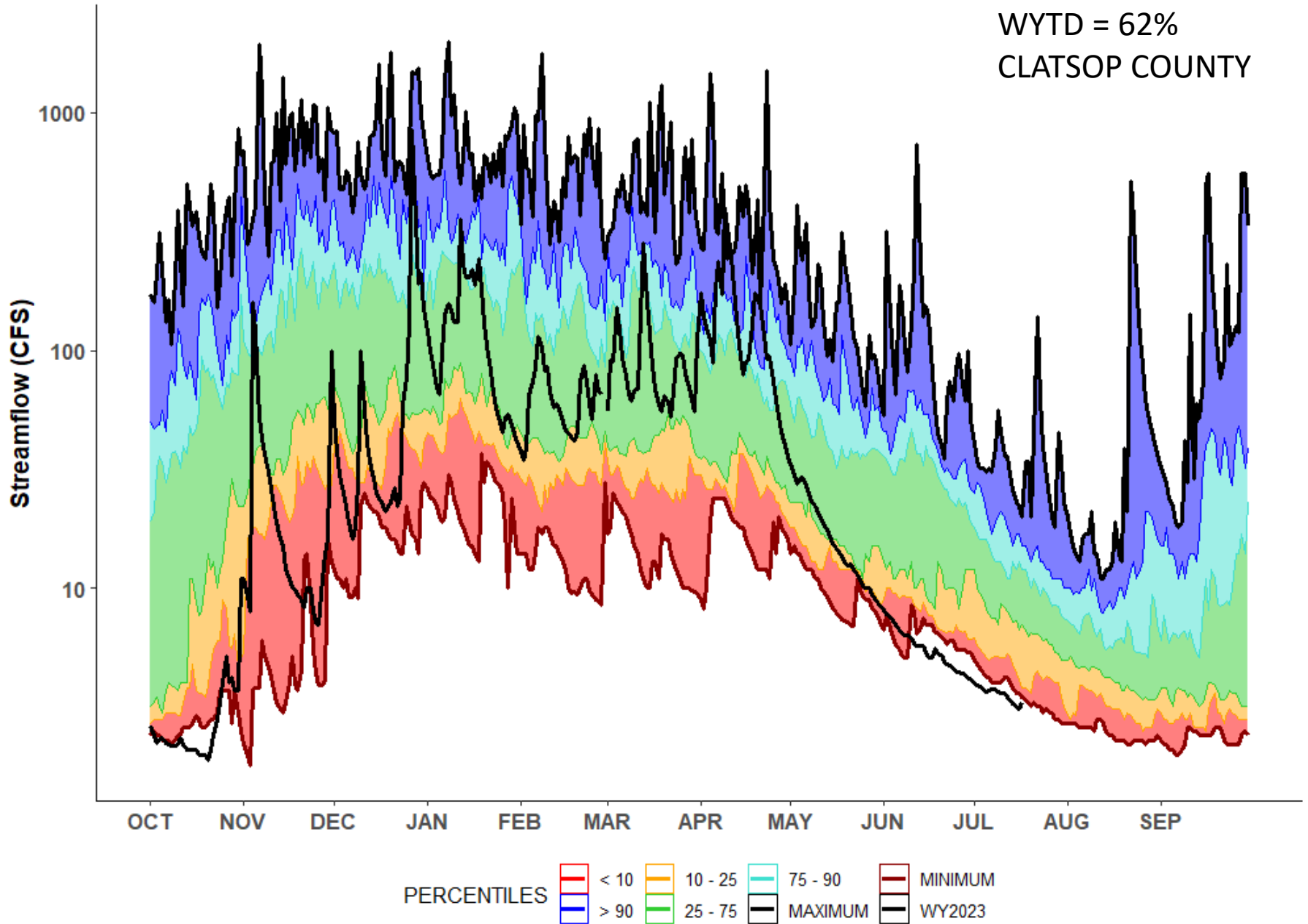
WYTD = 84%

LINCOLN COUNTY



14299000 - S FK NECANICUM R NR SEASIDE, OR
NORTH COAST BASIN
POR: 1991-2020

WYTD = 62%
CLATSOP COUNTY



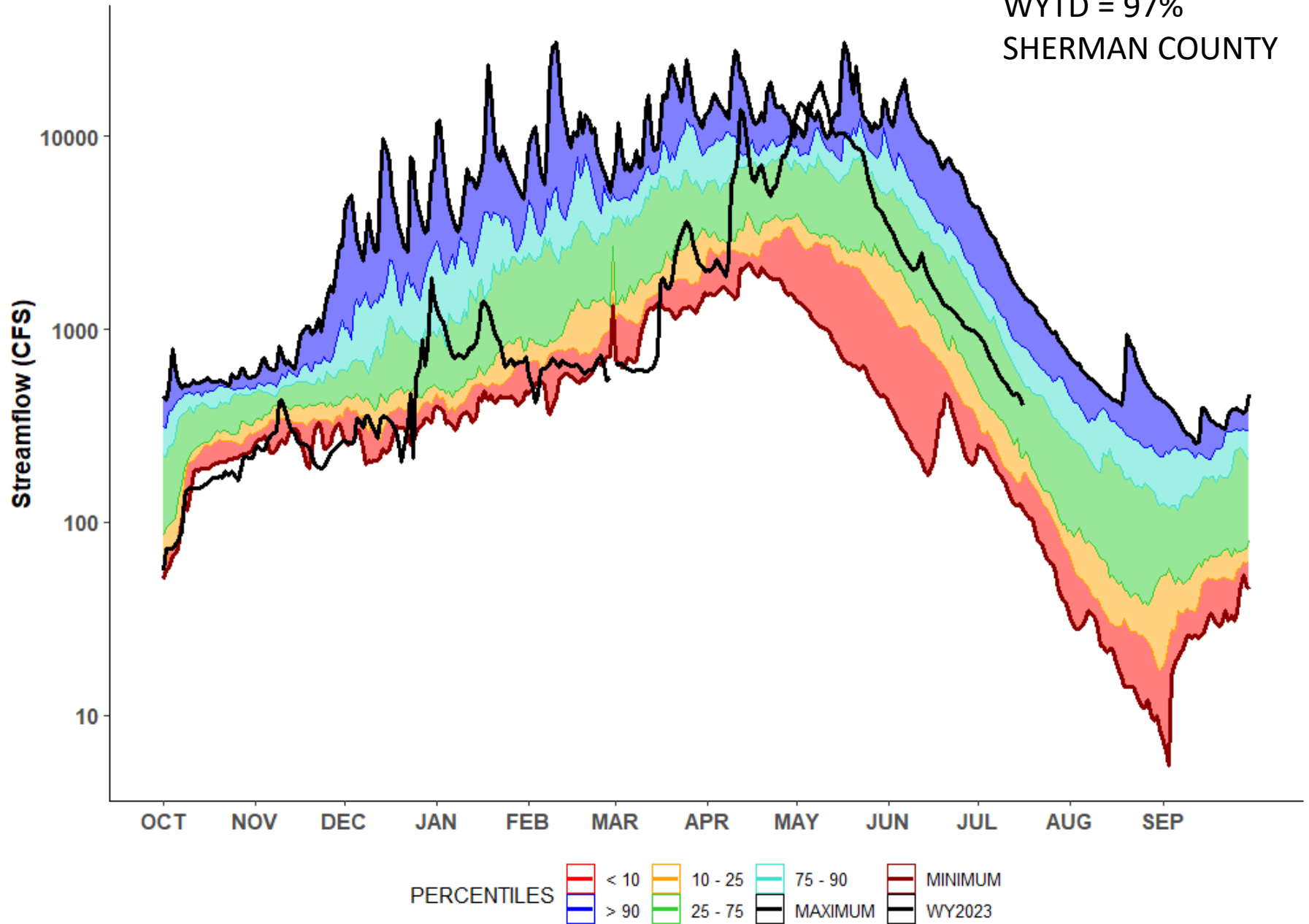
14048000 - JOHN DAY R AT MCDONALD FERRY, OR

JOHN DAY BASIN

POR: 1991-2020

WYTD = 97%

SHERMAN COUNTY



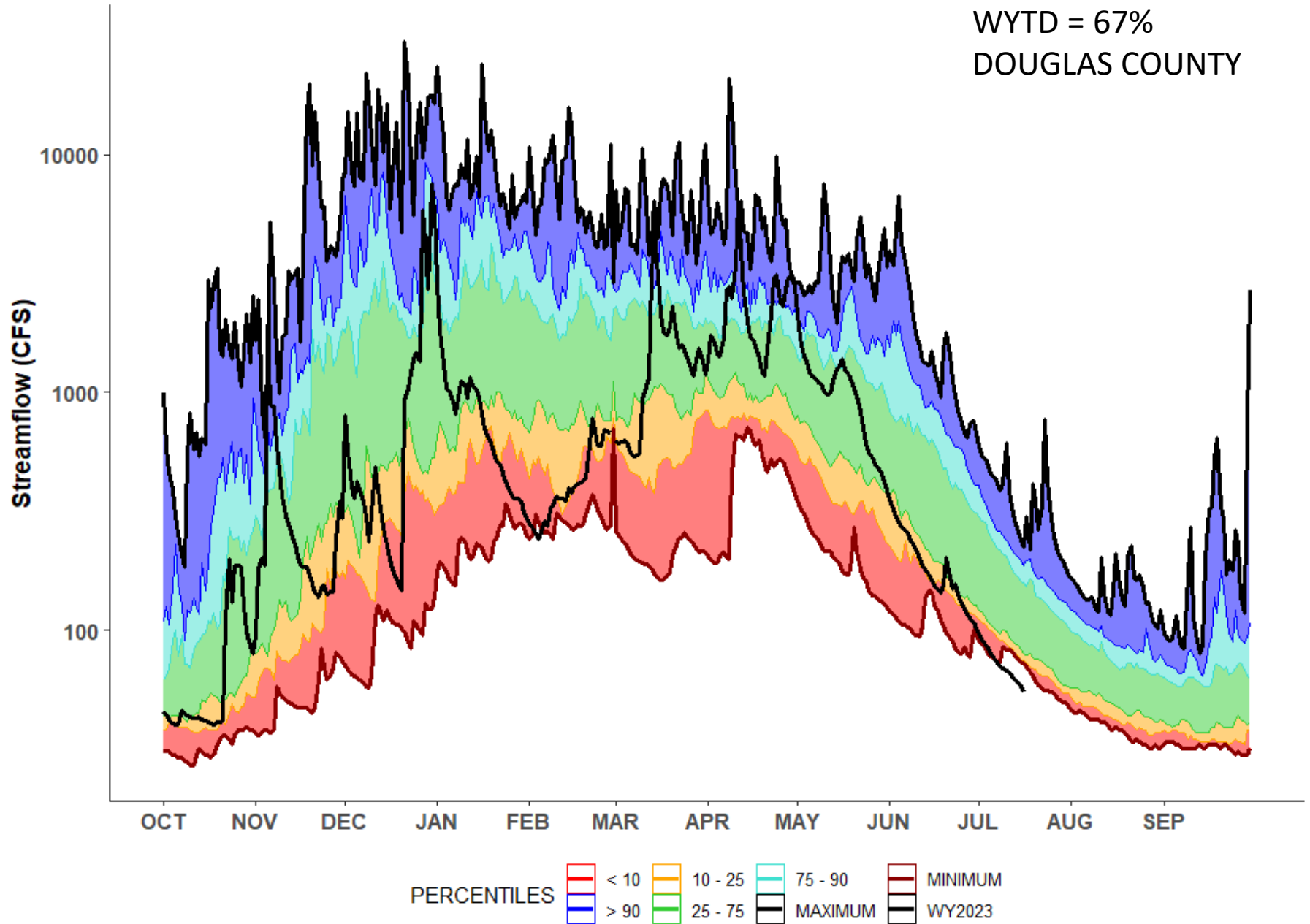
14308000 - S UMPQUA R AT TILLER, OR

UMPQUA BASIN

POR: 1991-2020

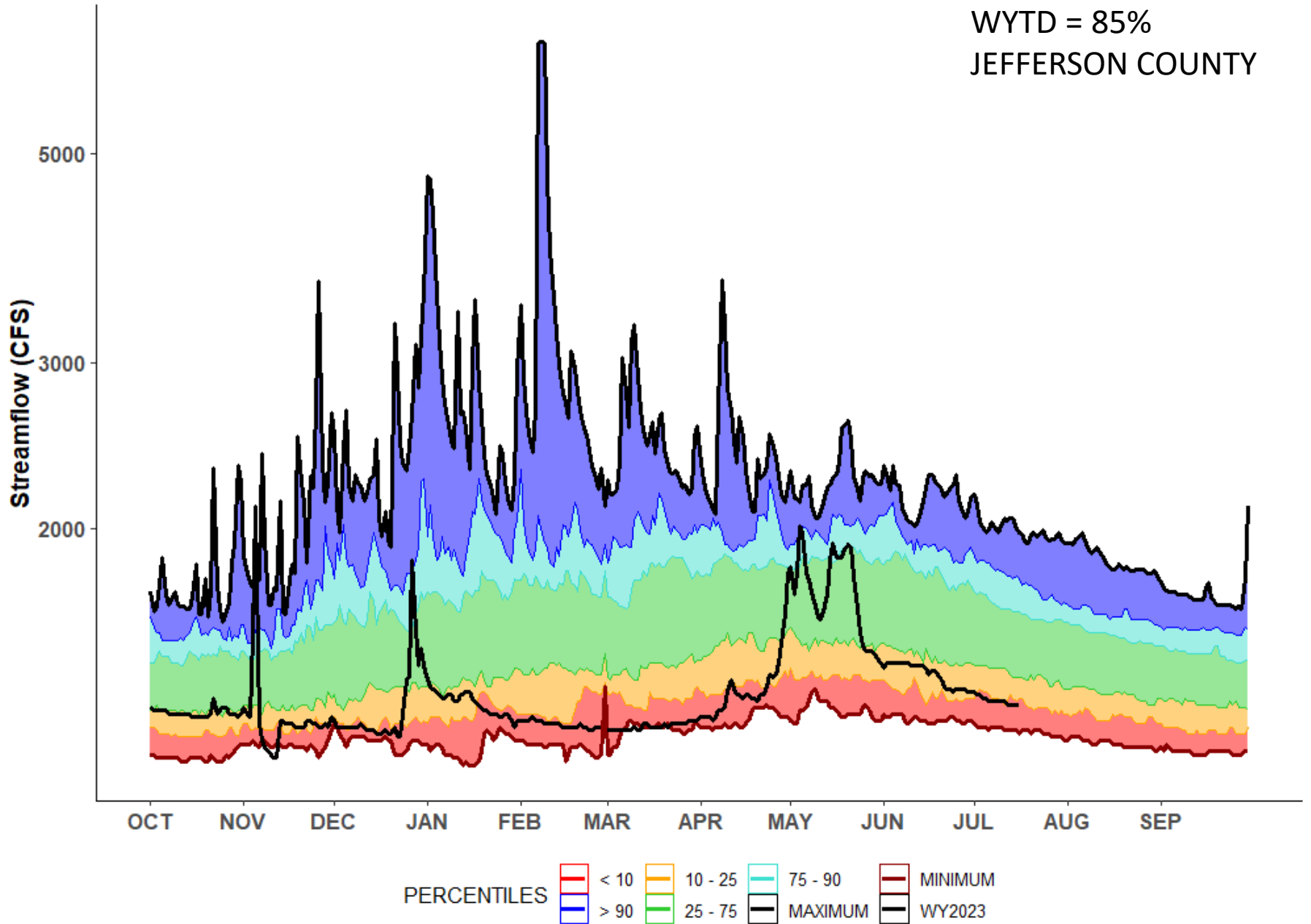
WYTD = 67%

DOUGLAS COUNTY



14091500 - METOLIUS R NR GRANDVIEW, OR
DESCHUTES BASIN
POR: 1991-2020

WYTD = 85%
JEFFERSON COUNTY



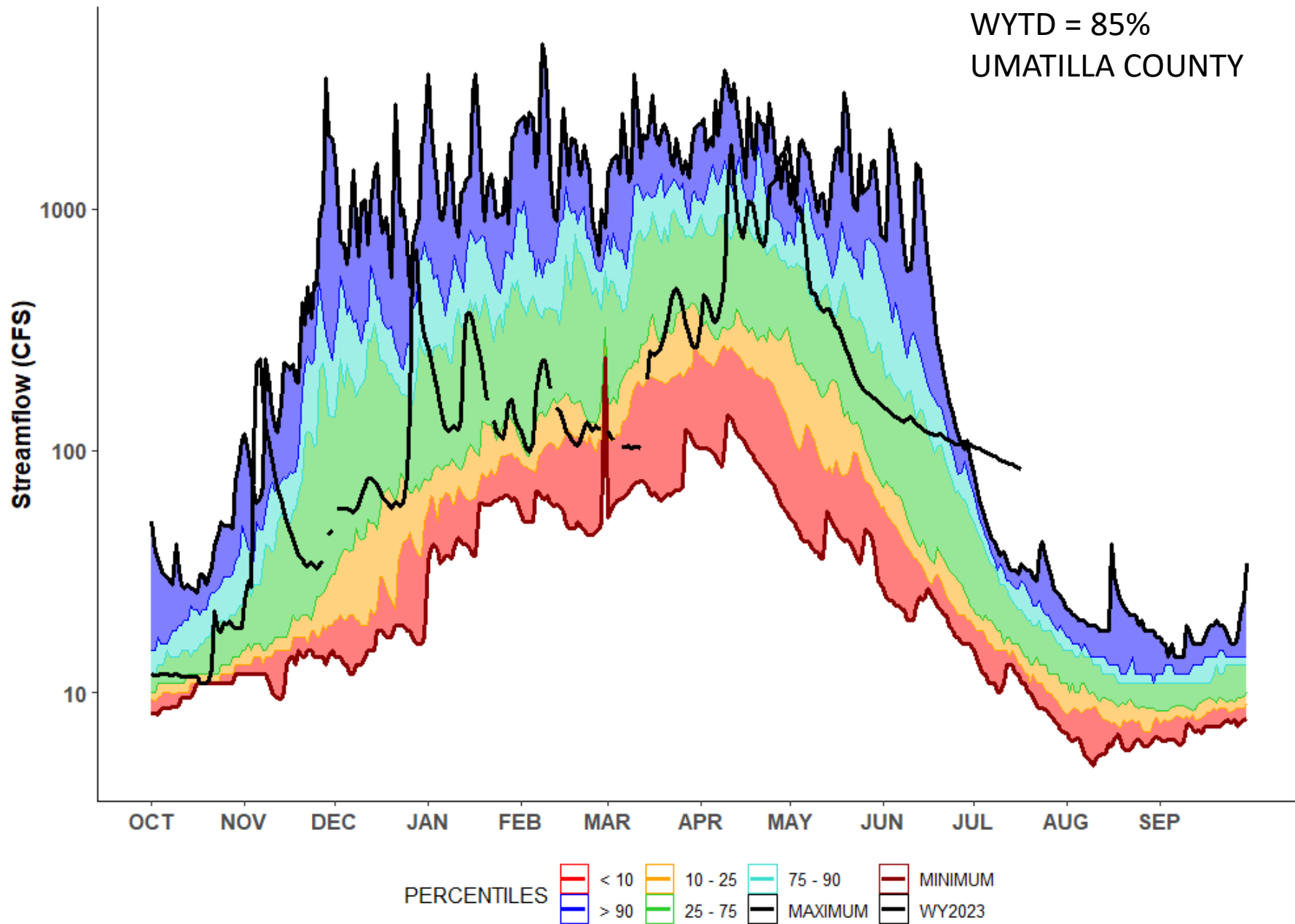
14020300 - MEACHAM CR AT GIBBON, OR

UMATILLA BASIN

POR: 1991-2020

WYTD = 85%

UMATILLA COUNTY



Summary



- No official drought requests
 - Some counties discussing (Gilliam, Lincoln)
- Mid and North Coast streams trending well below average and near record lows

OREGON



WATER RESOURCES
DEPARTMENT

QUESTIONS?



— BUREAU OF —
RECLAMATION

Reclamation Storage Update

Oregon Water Supply Availability Committee
Meeting

July 19, 2023

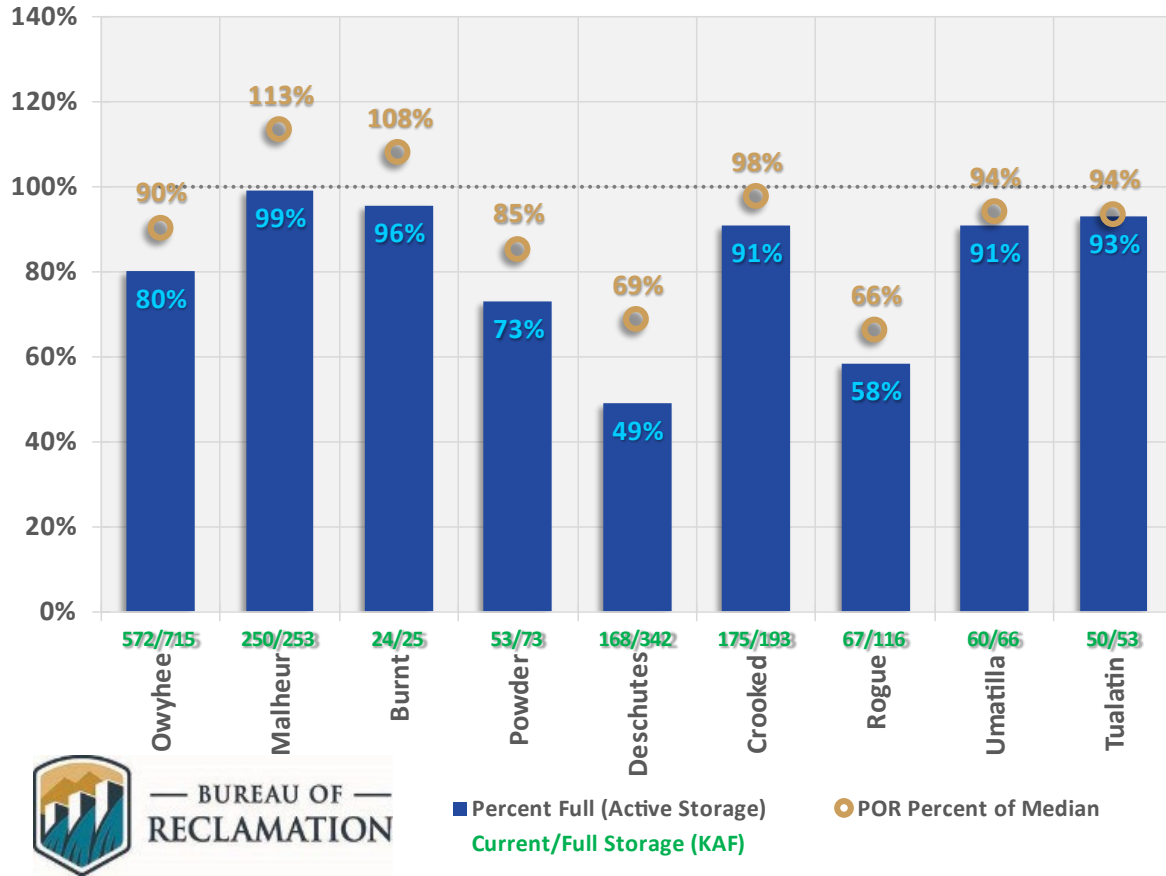
Basin Operations Summary

- **Operations Activities:**
 - Facilities are releasing to meet irrigation demands
- **Water Supply Notes**
 - Many facilities in or near the historical interquartile “normal” range (exceptions: Deschutes, Rogue, Scoggins which are below the “normal” range)

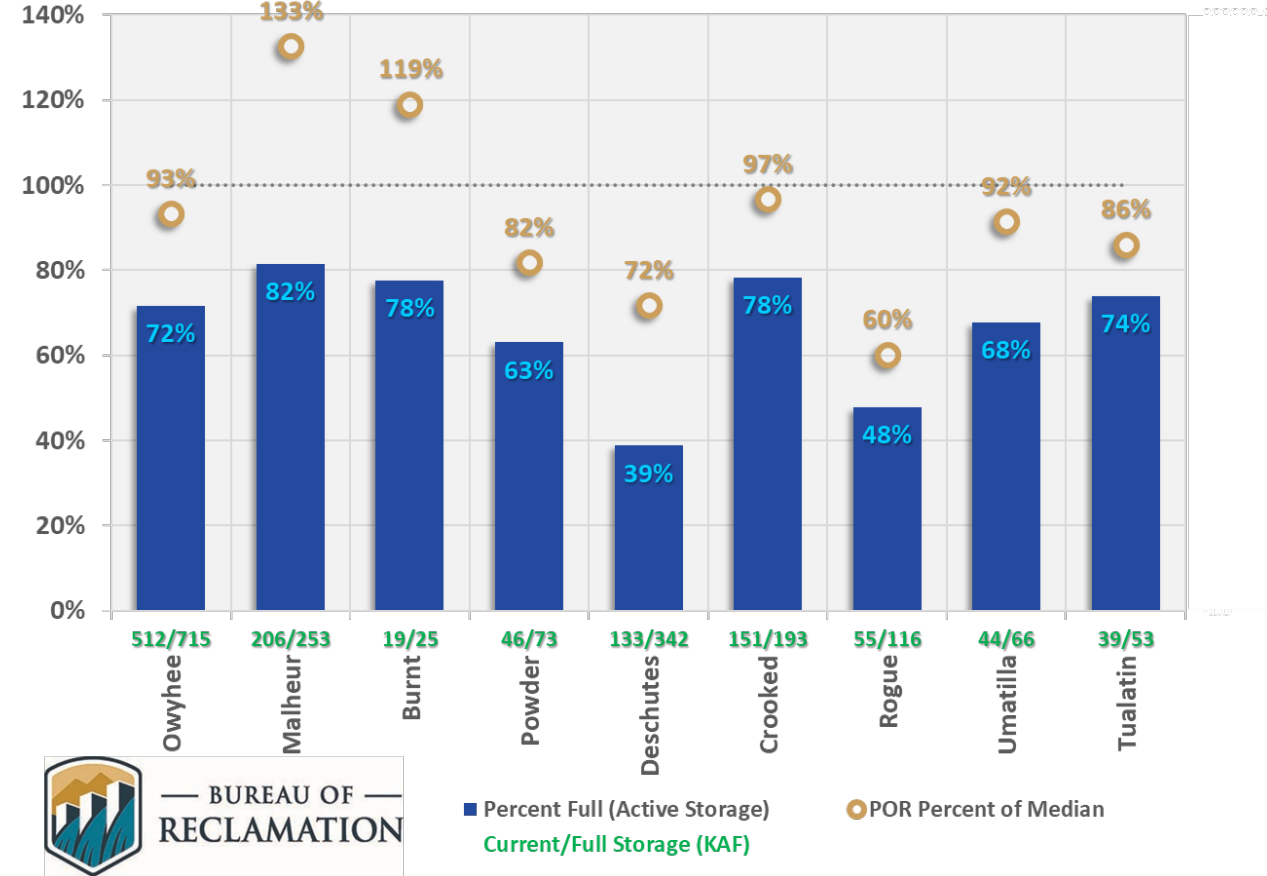


Storage Conditions

Oregon Reservoir Storage (Jun 13 2023)

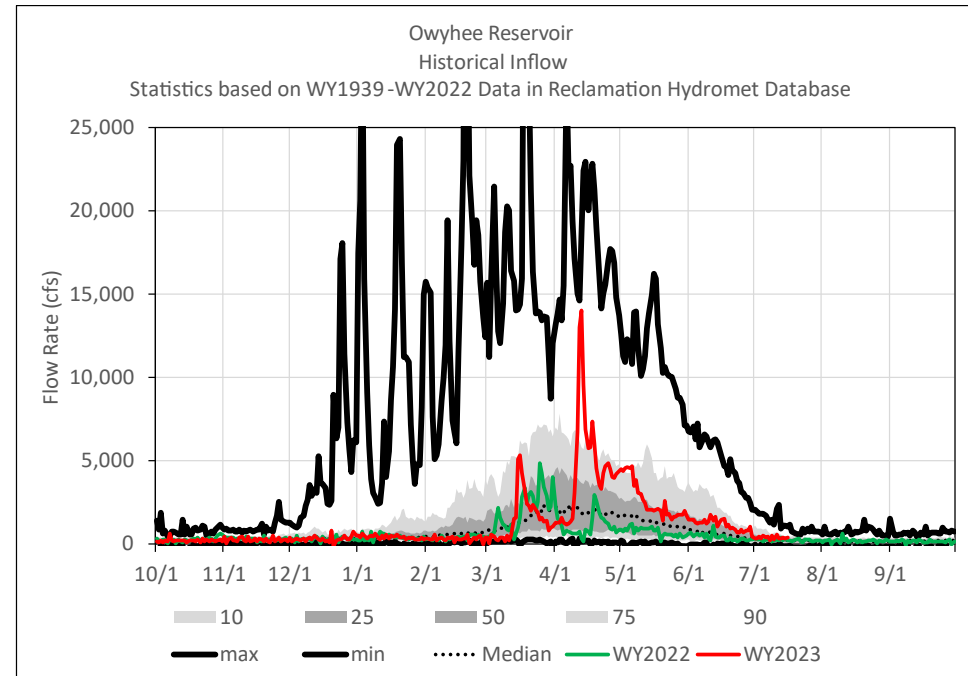
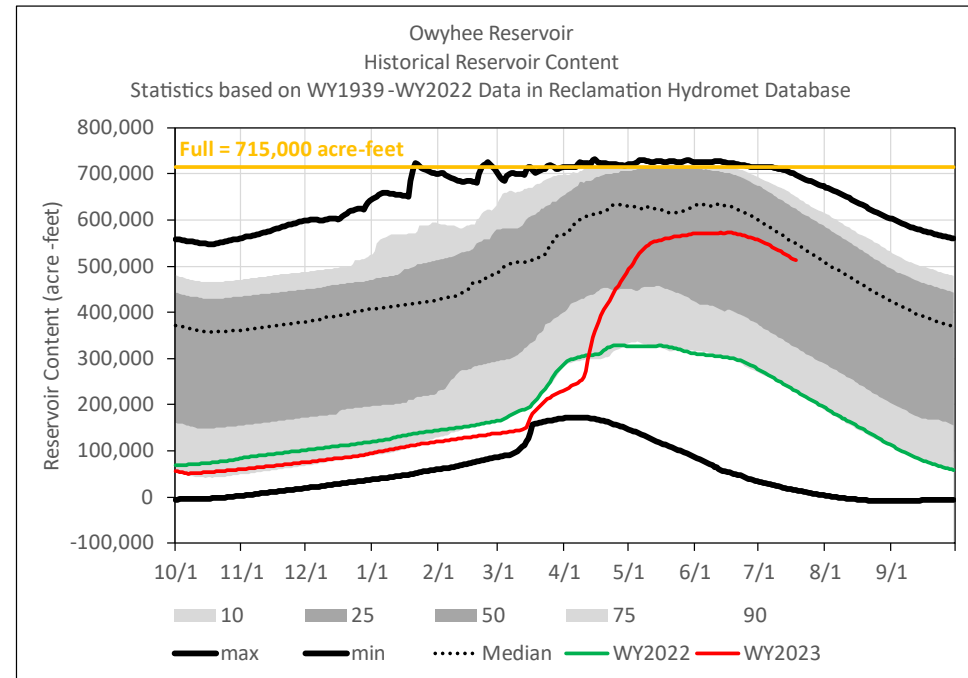
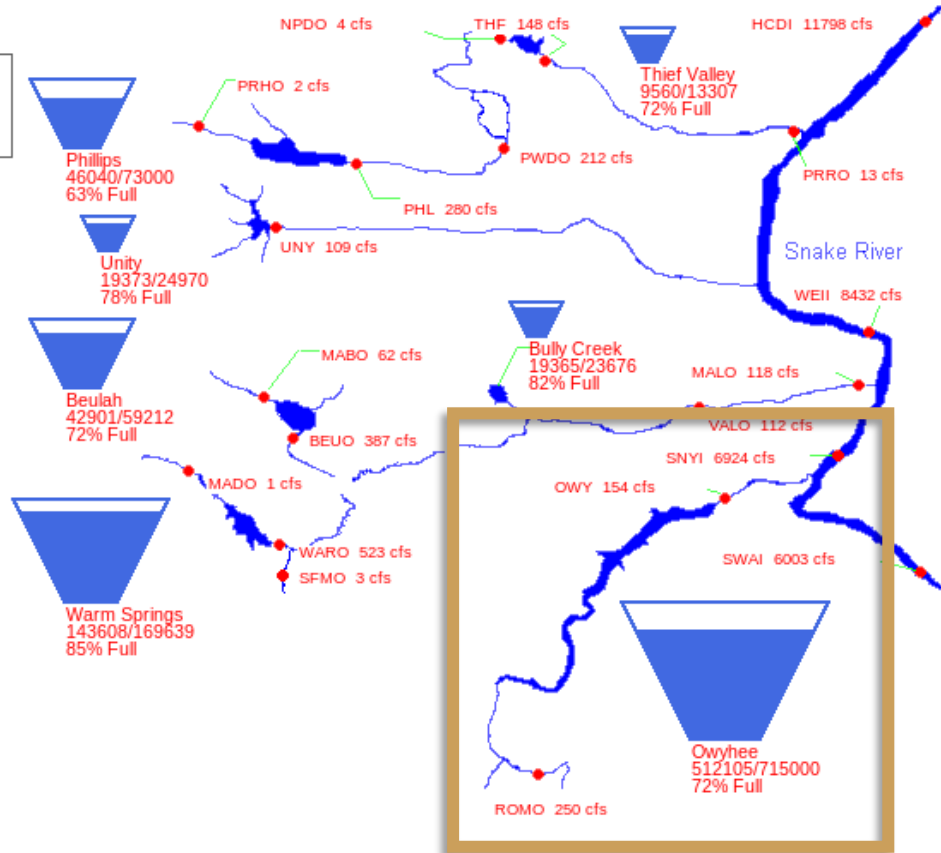
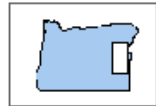


Oregon Reservoir Storage (Jul 18 2023)



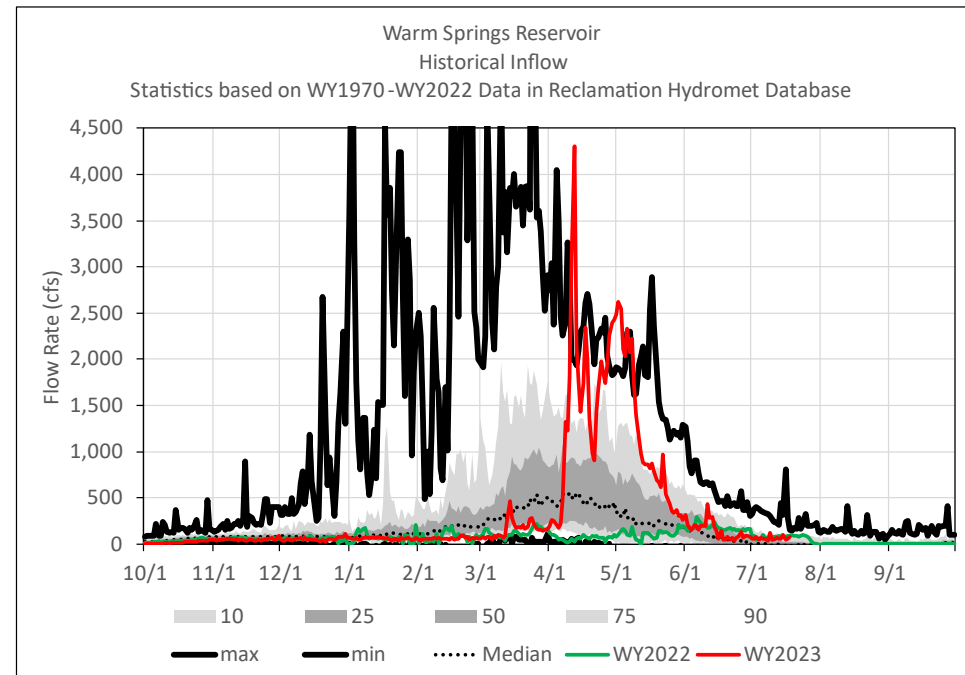
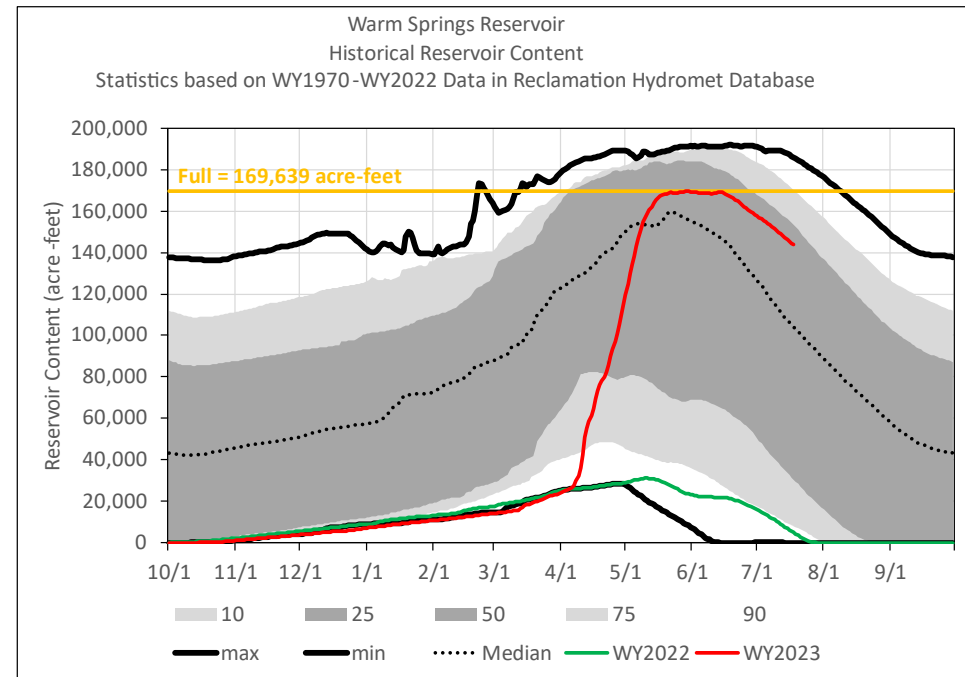
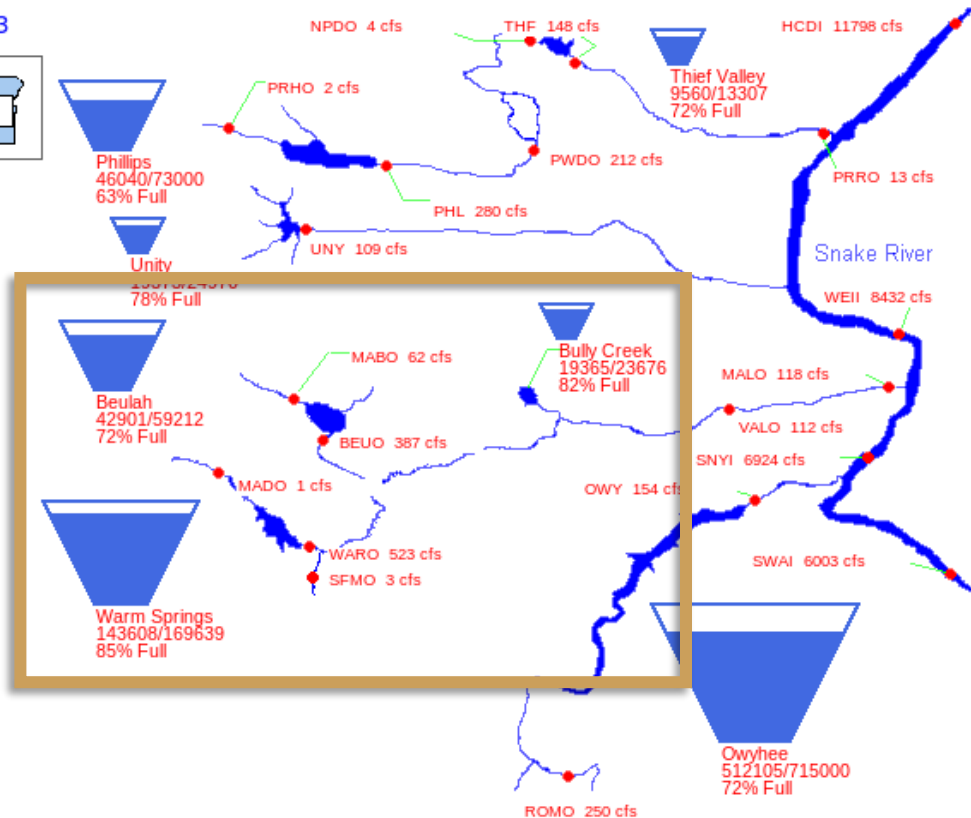
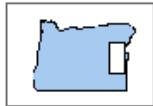
Owyhee River Basin

07/18/2023



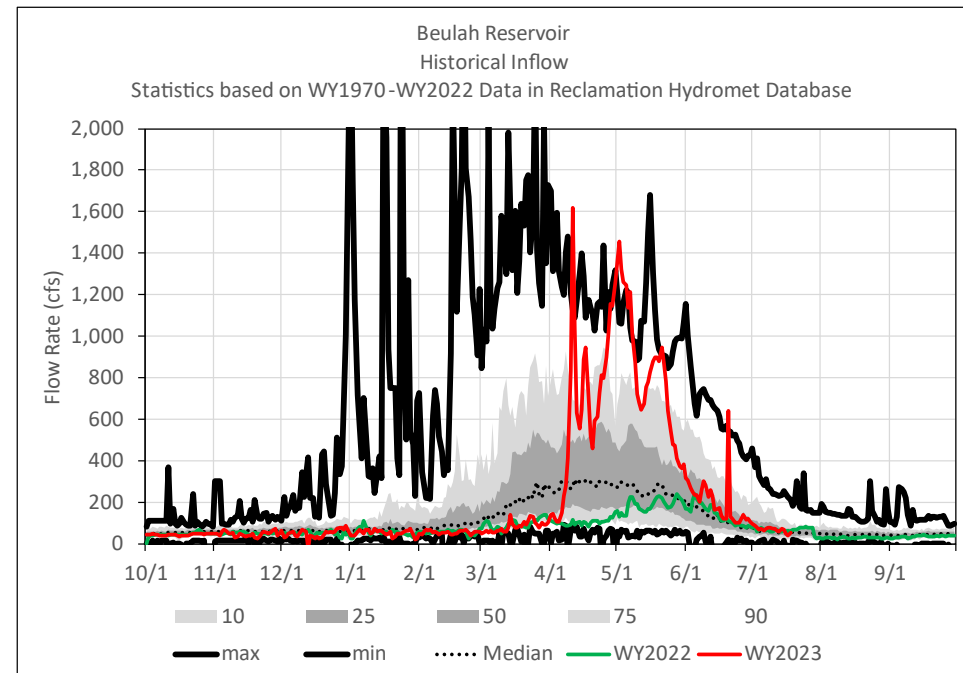
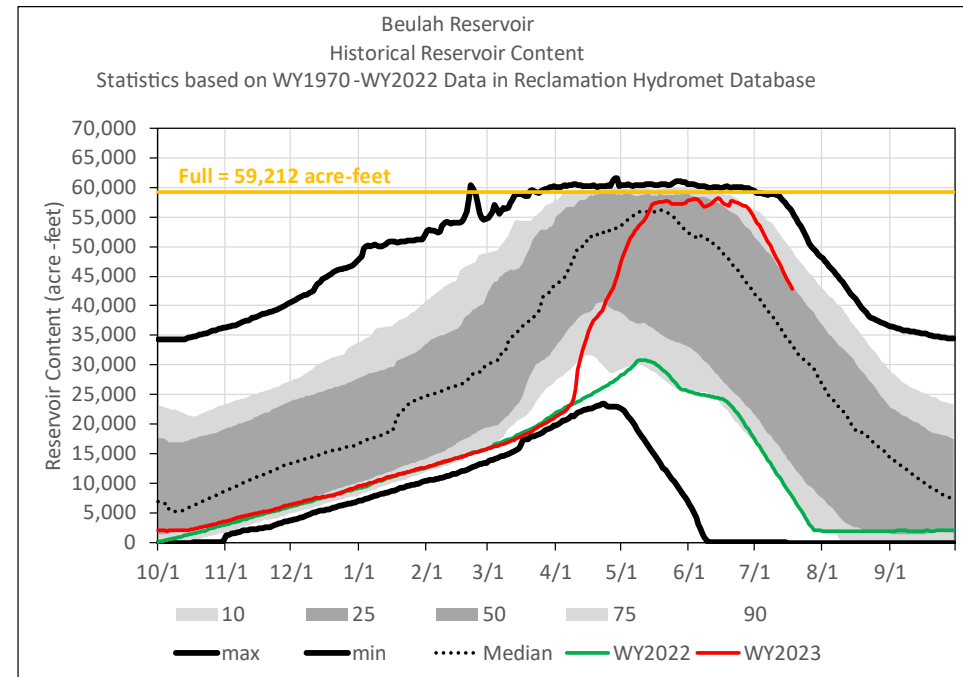
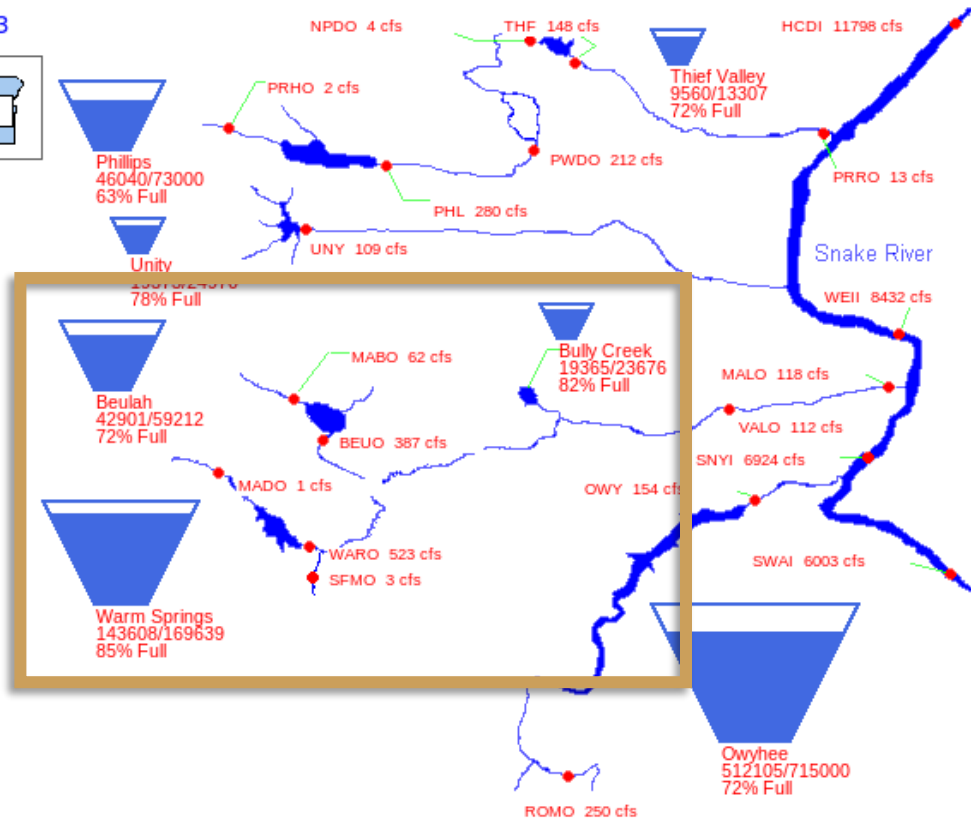
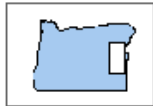
Malheur River Basin

07/18/2023



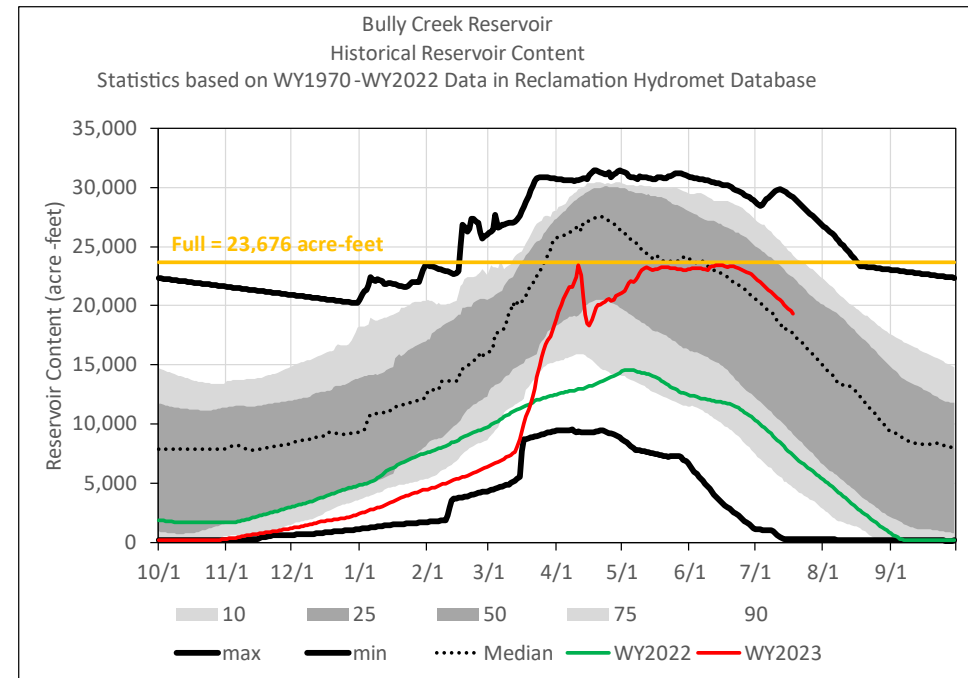
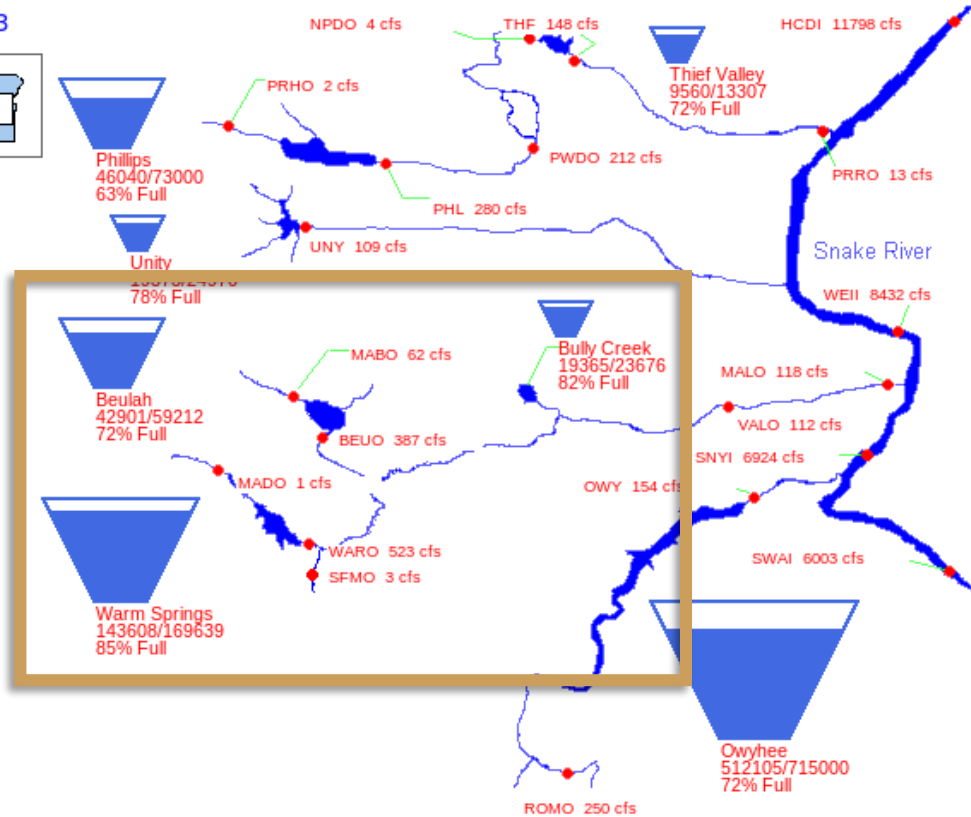
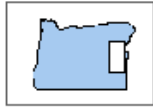
Malheur River Basin

07/18/2023



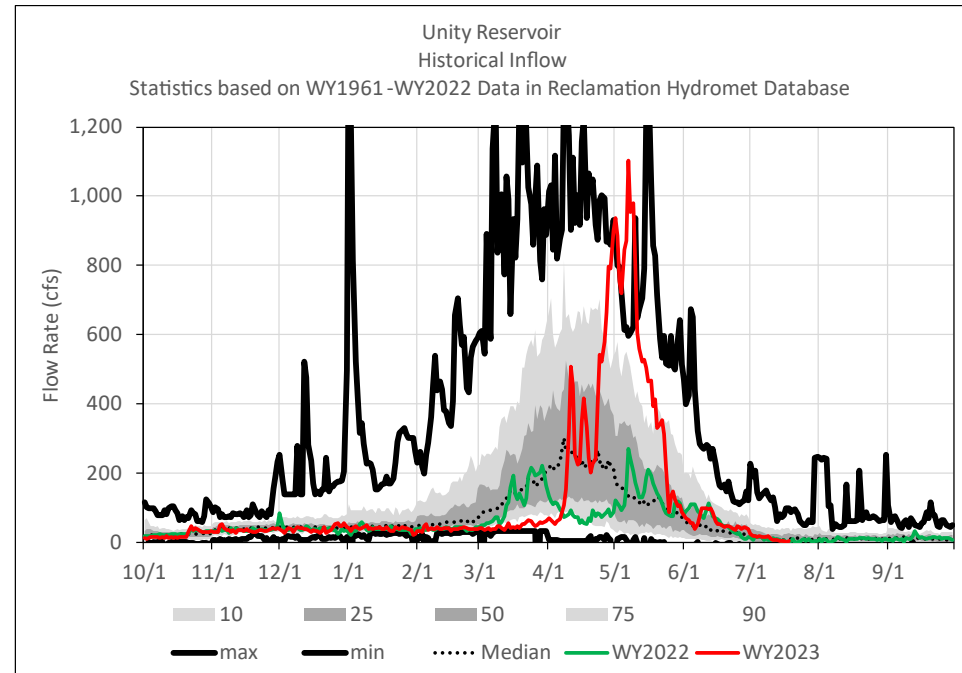
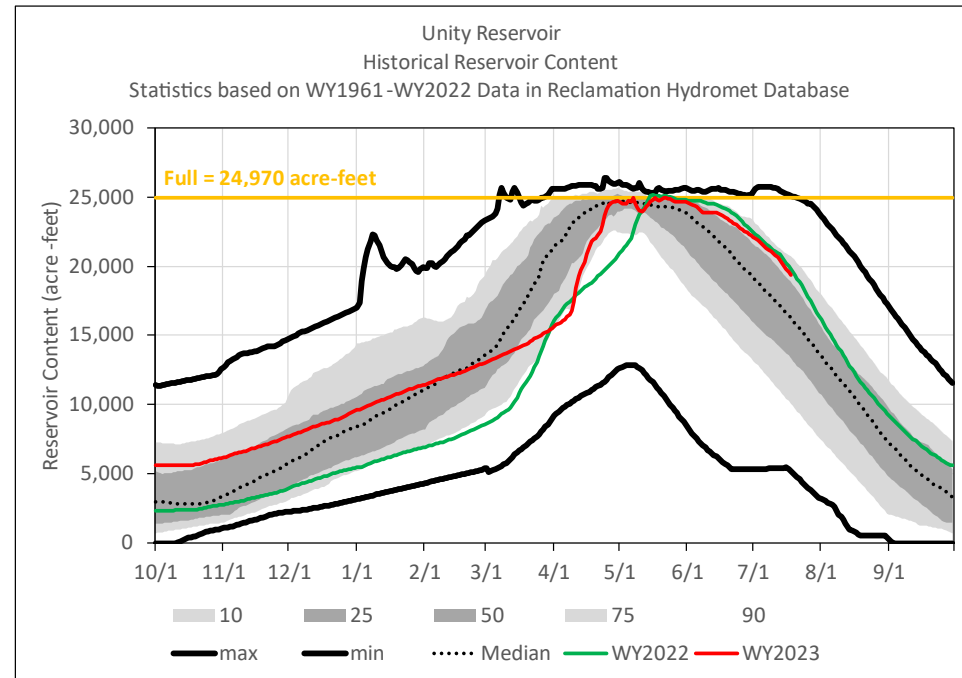
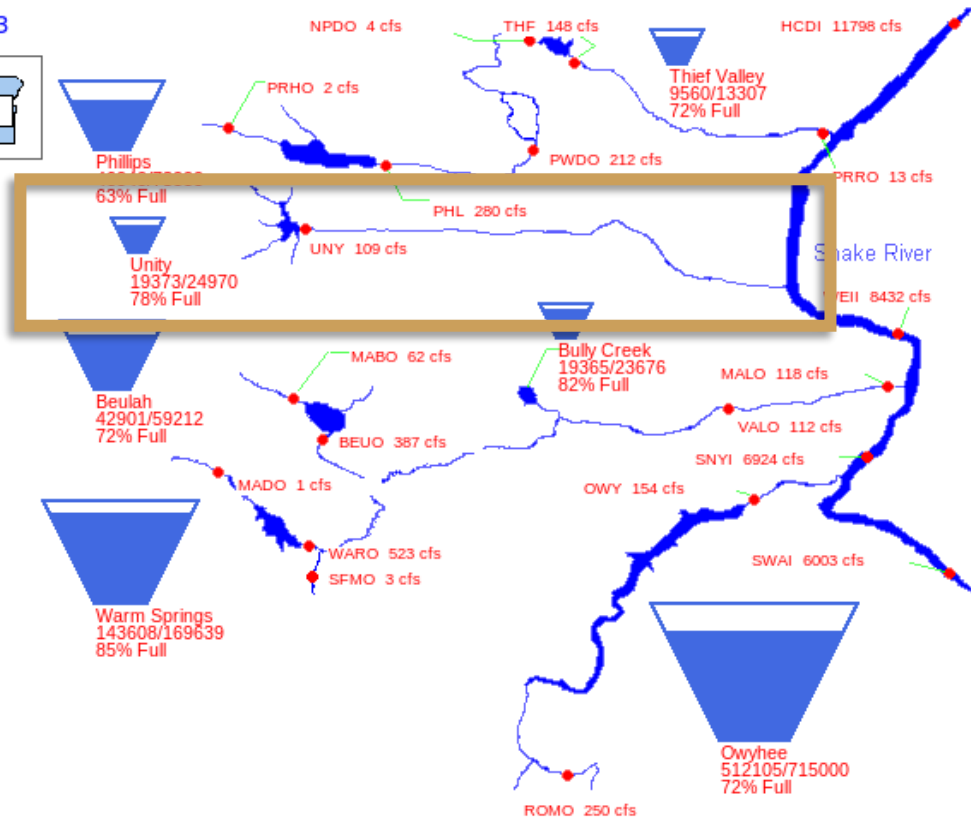
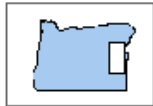
Malheur River Basin

07/18/2023



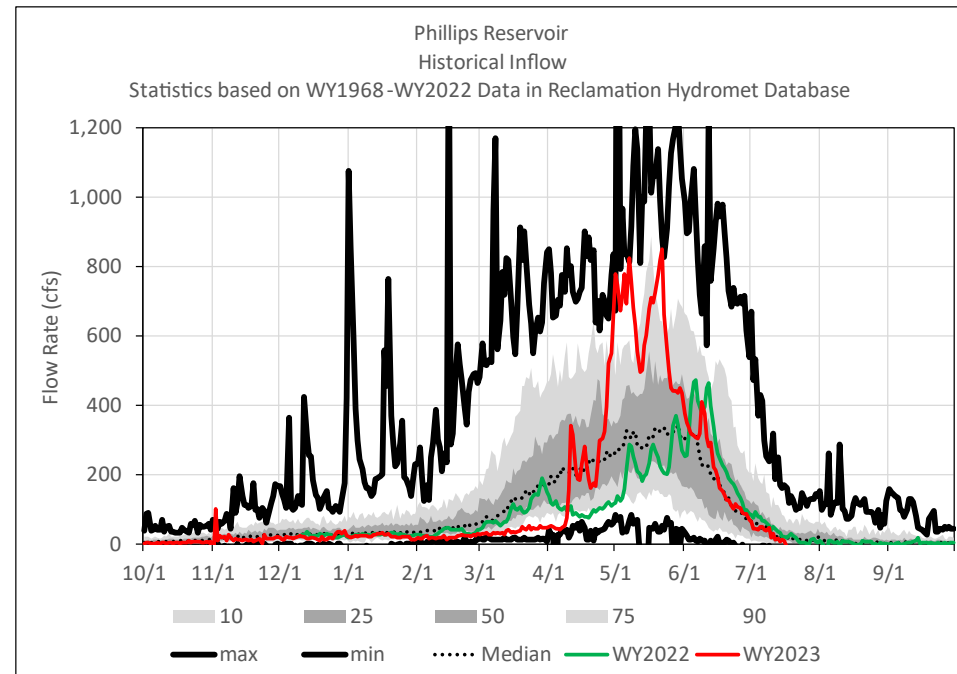
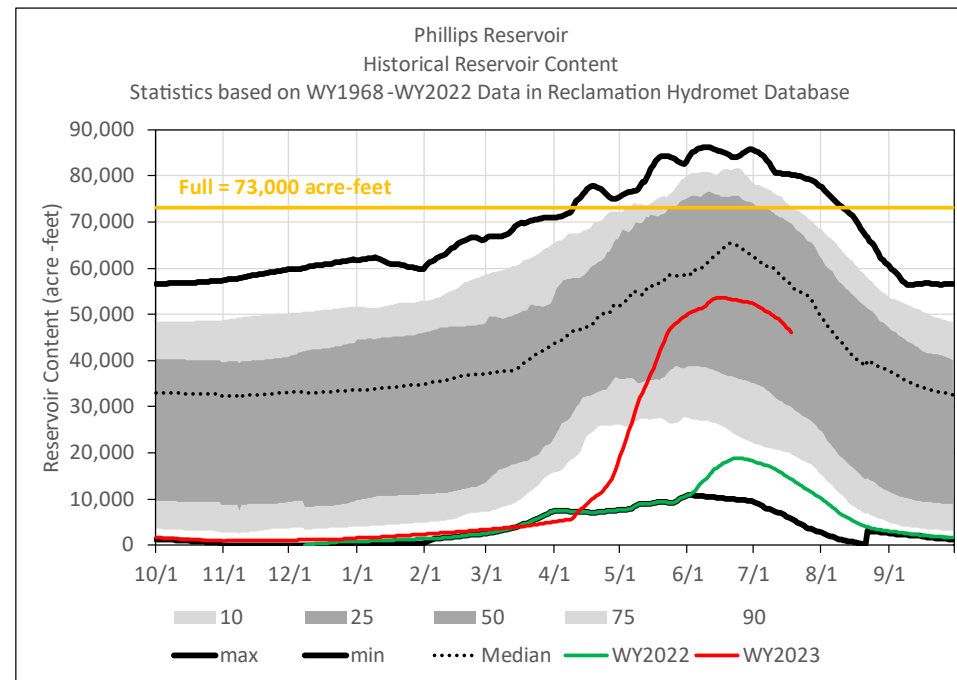
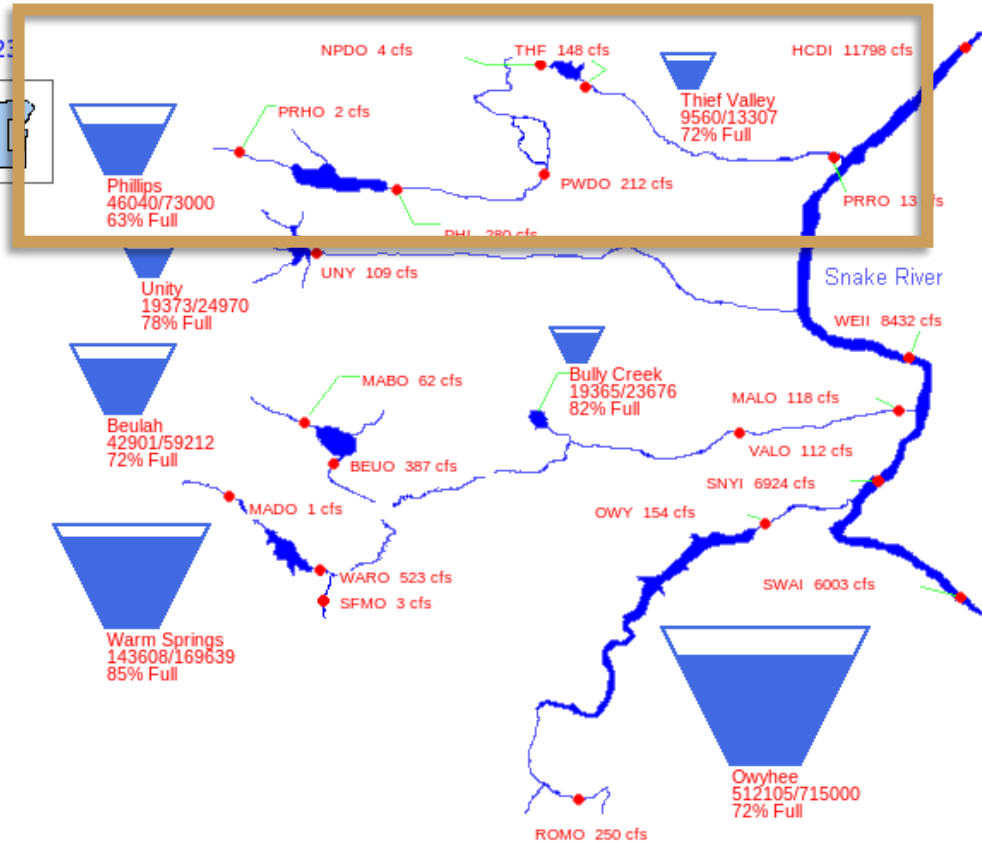
Burnt River Basin

07/18/2023



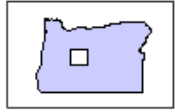
Powder River Basin

07/18/2023

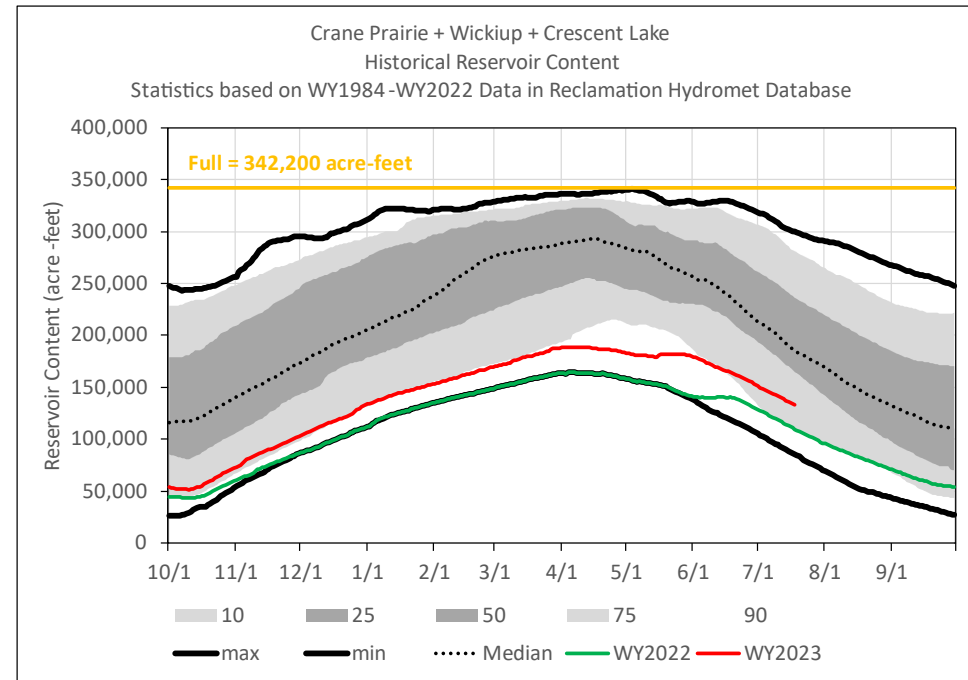
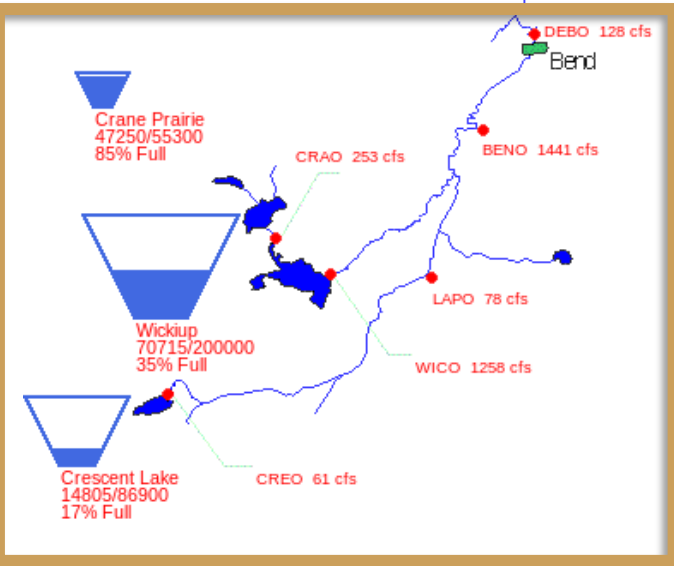


Deschutes River Basin

07/18/2023

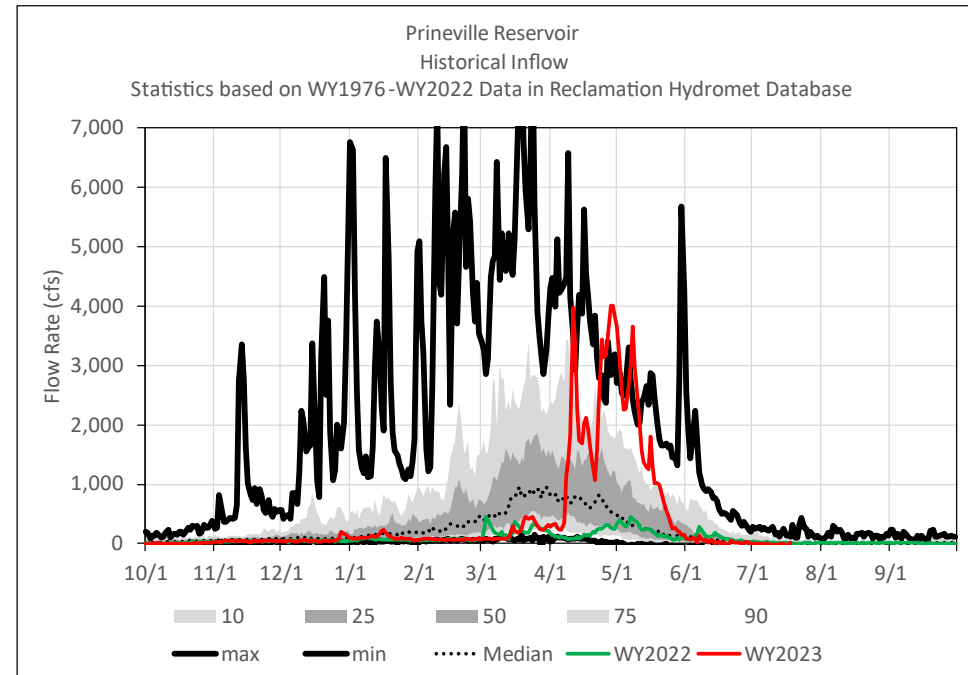
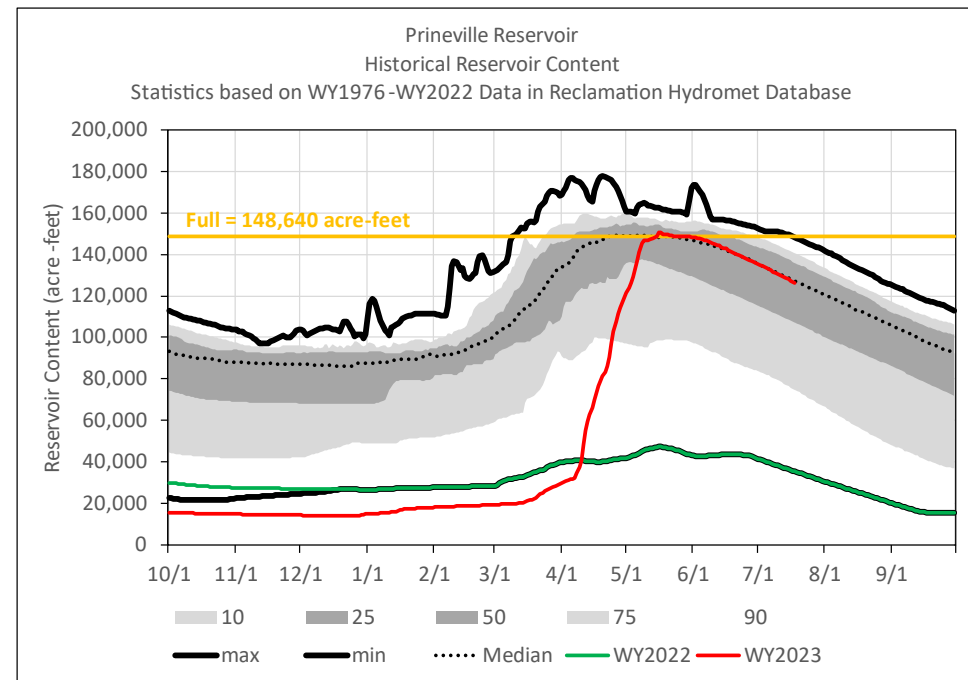
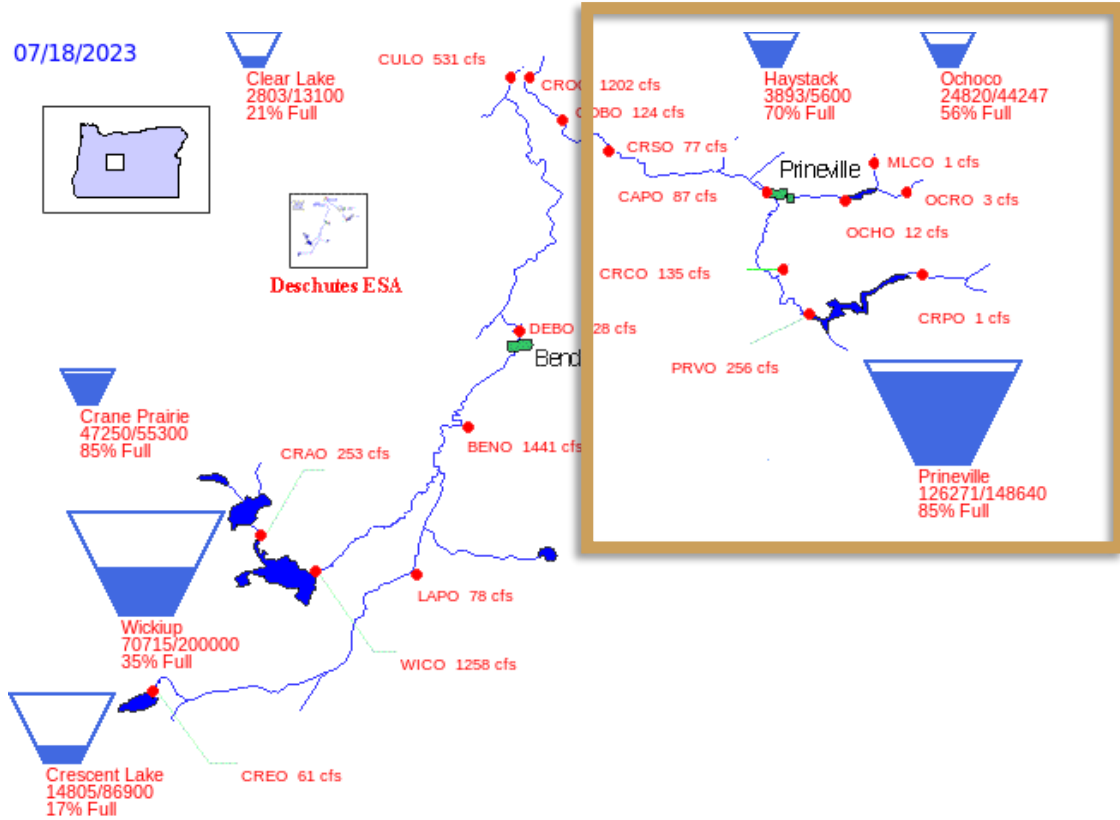


Deschutes ESA



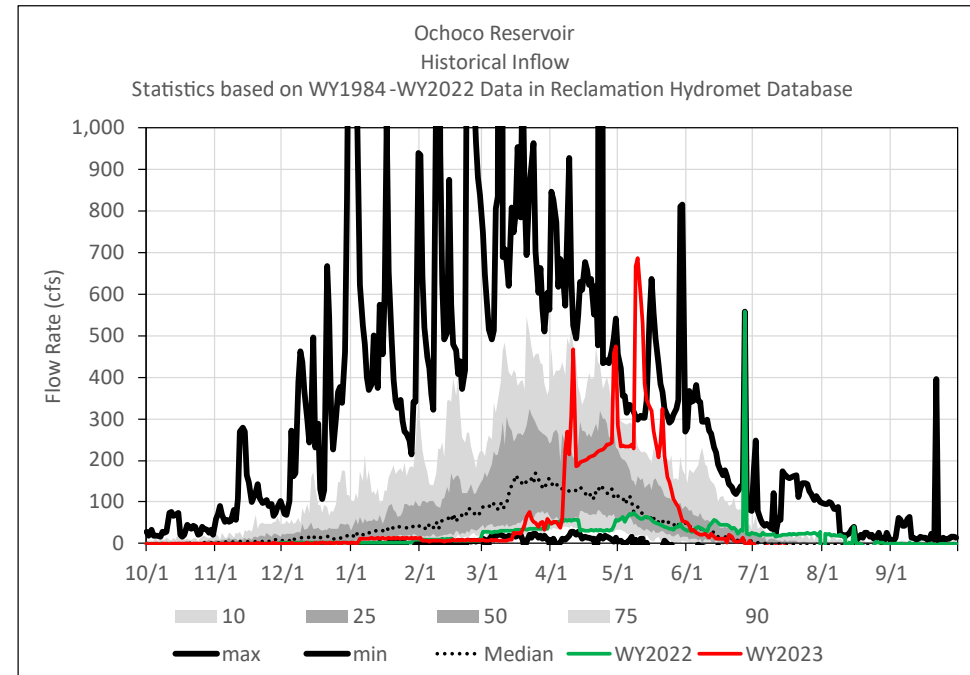
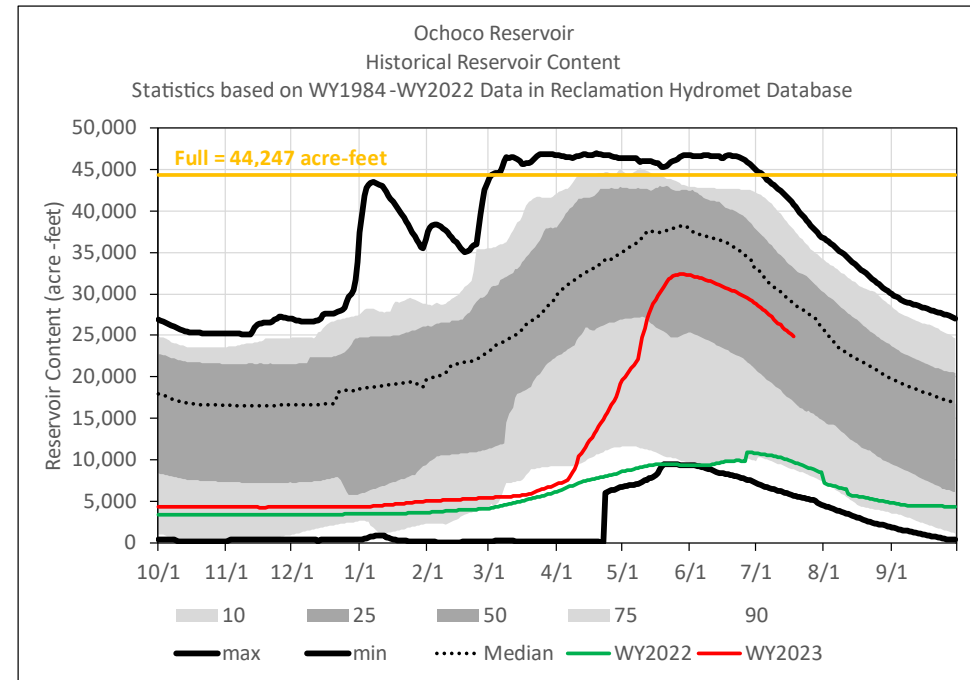
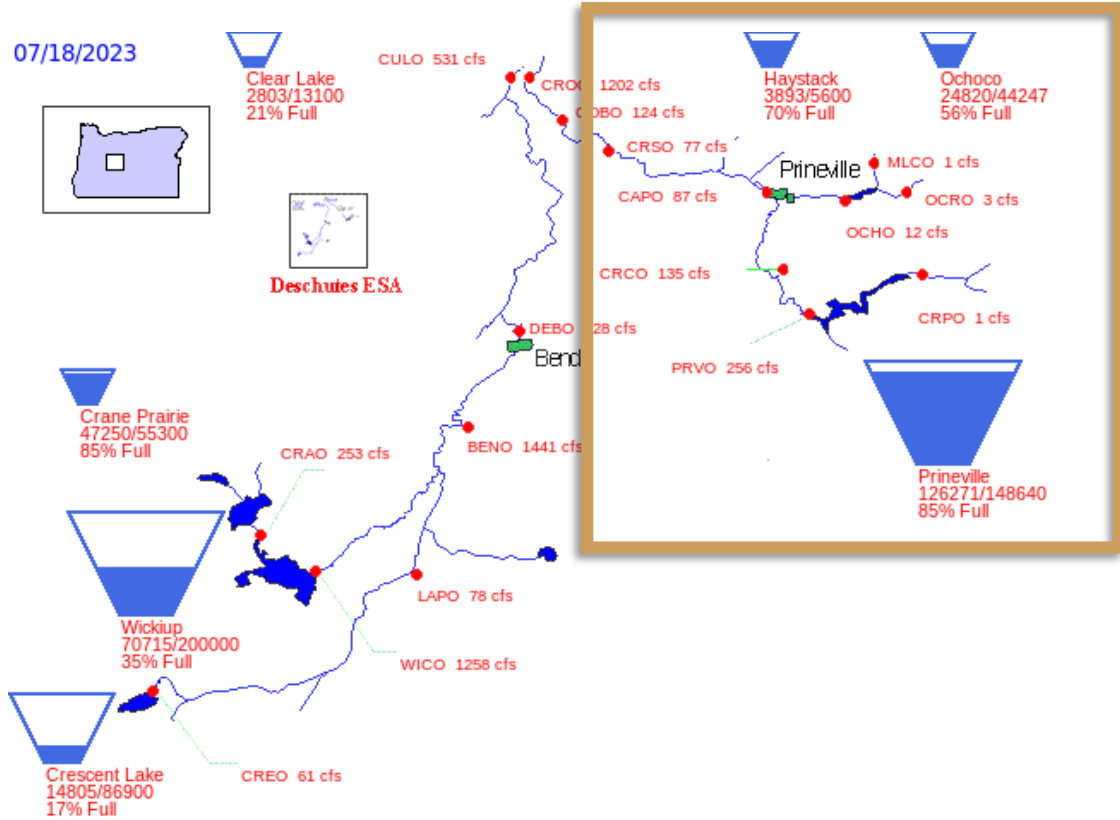
Crooked River Basin

07/18/2023



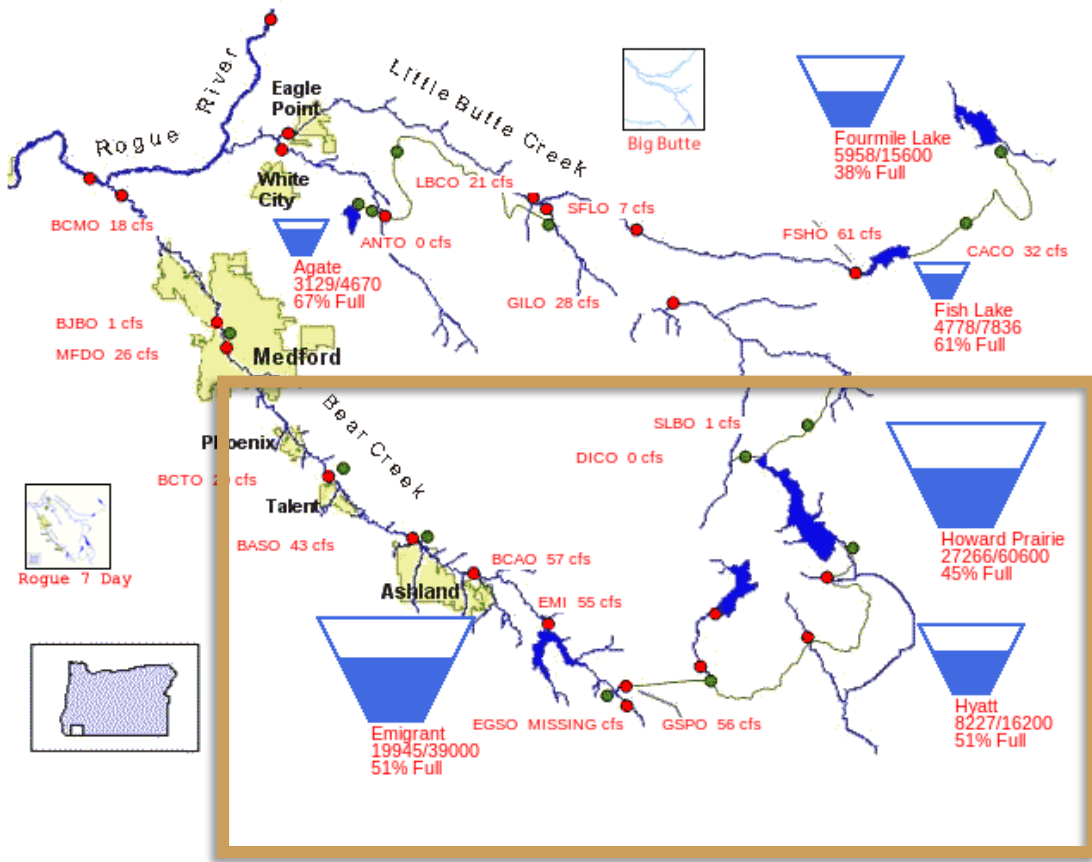
Crooked River Basin

07/18/2023

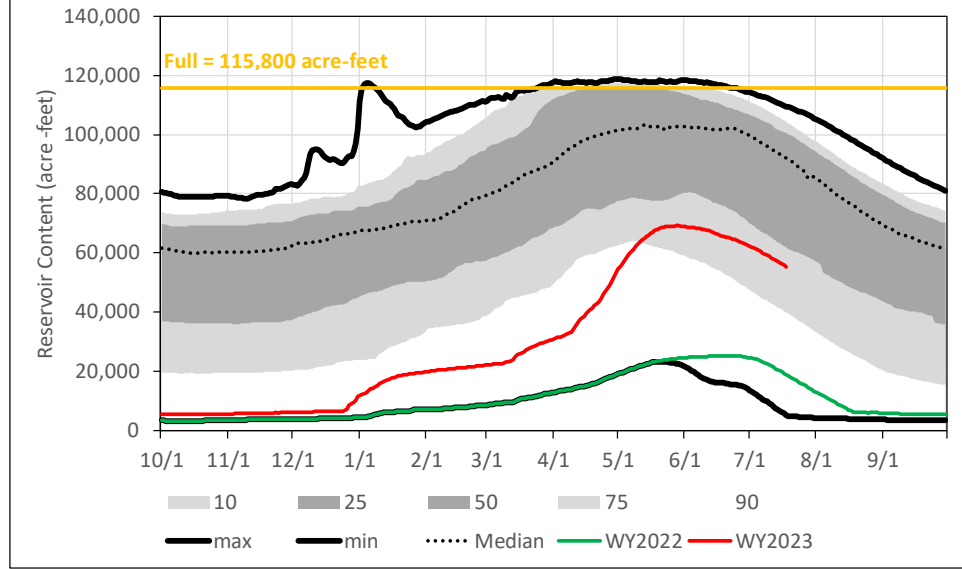


Rogue River Basin

07/18/2023

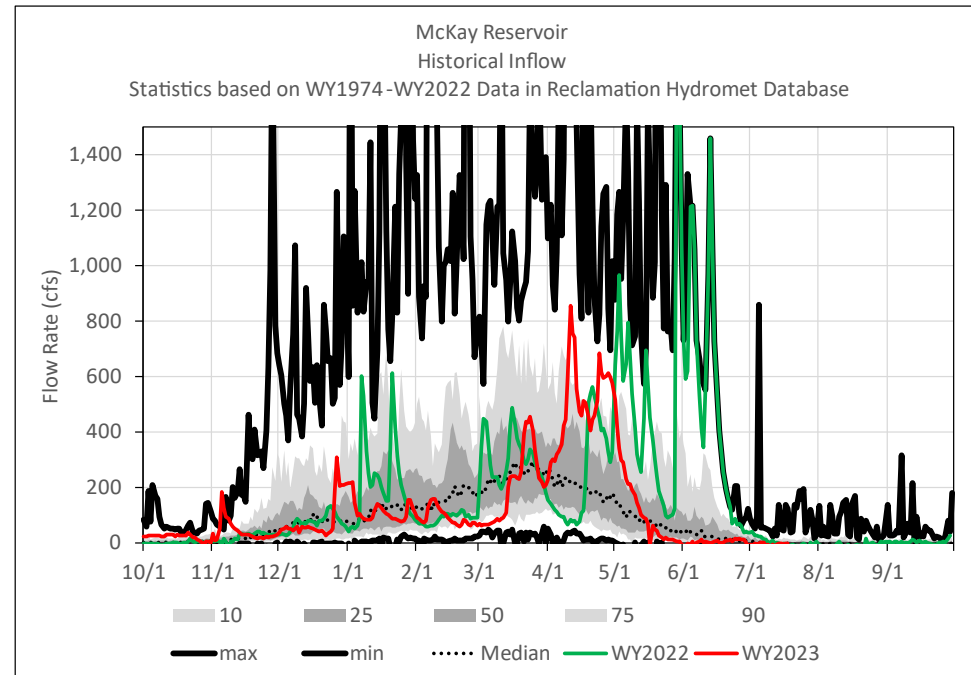
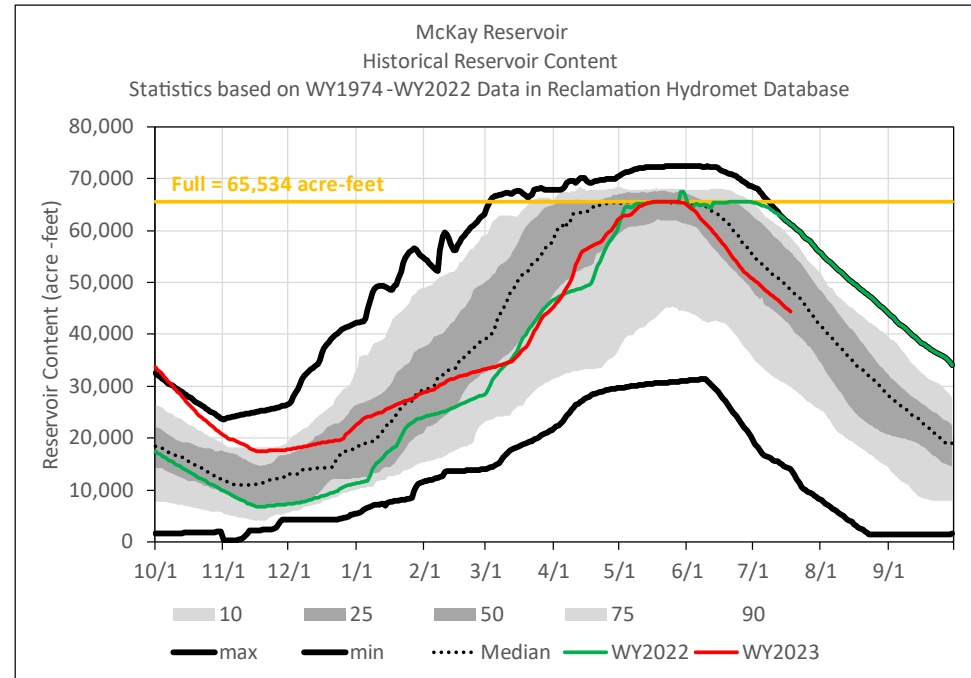
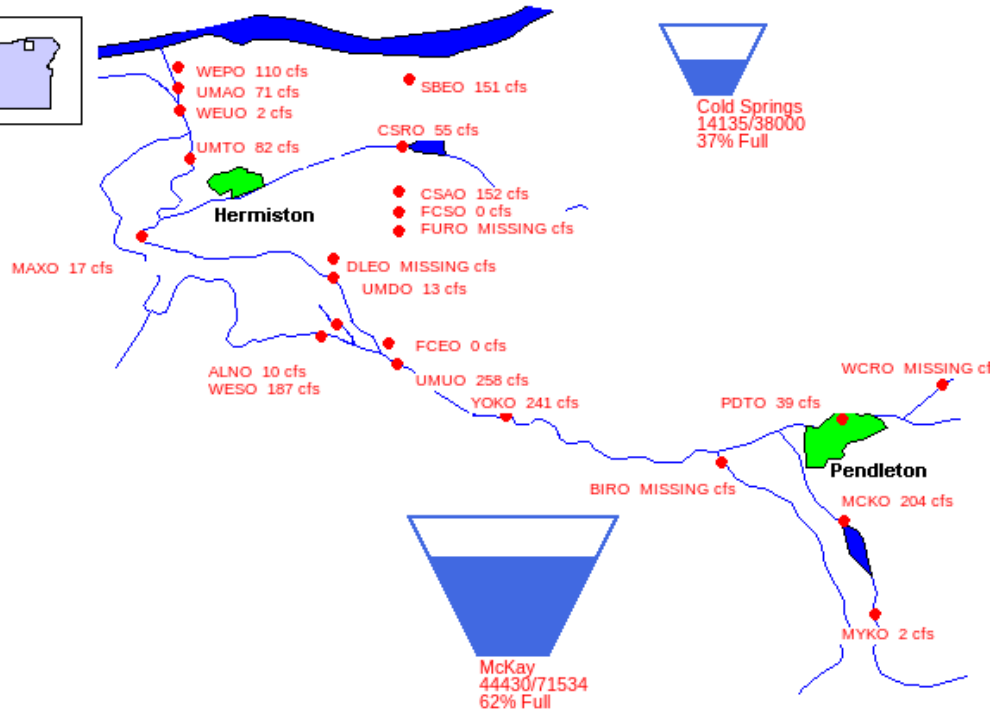
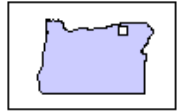


Hyatt + Howard Prairie + Emigrant Reservoirs
 Historical Reservoir Content
 Statistics based on WY1969 - WY2022 Data in Reclamation Hydromet Database



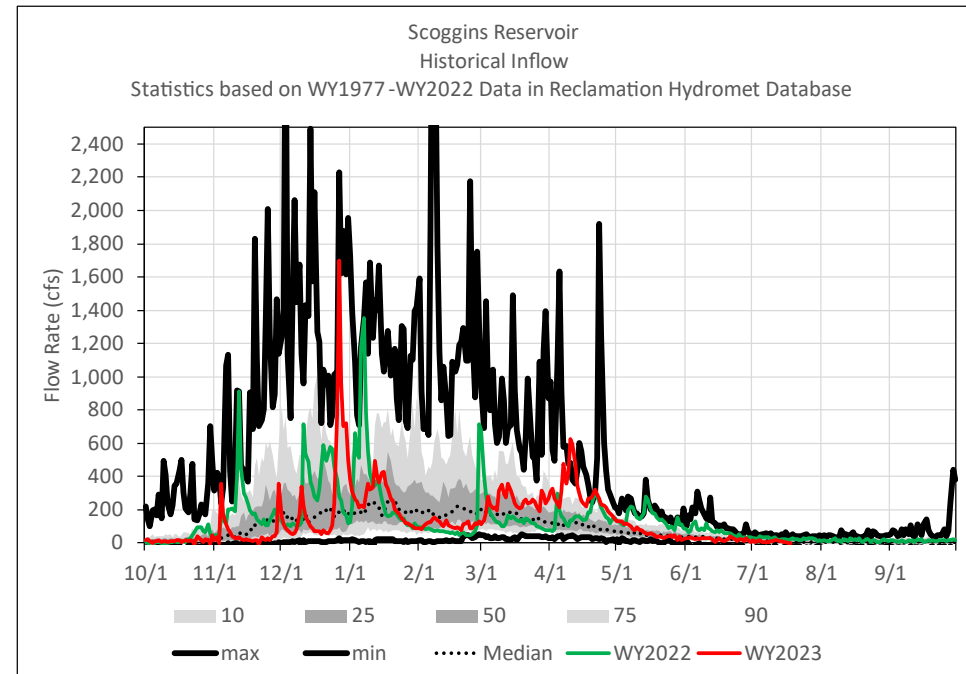
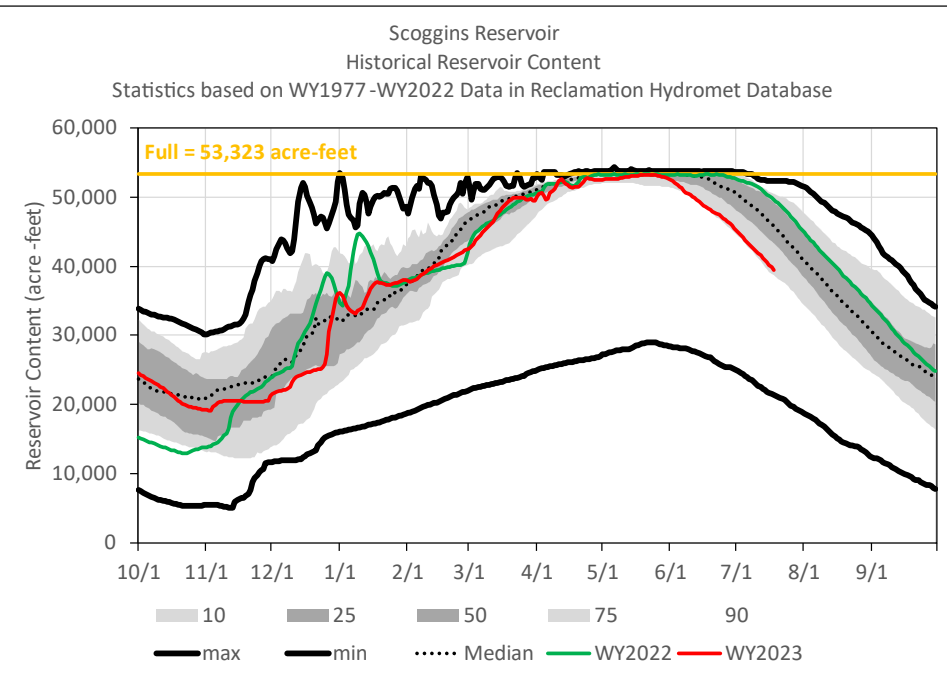
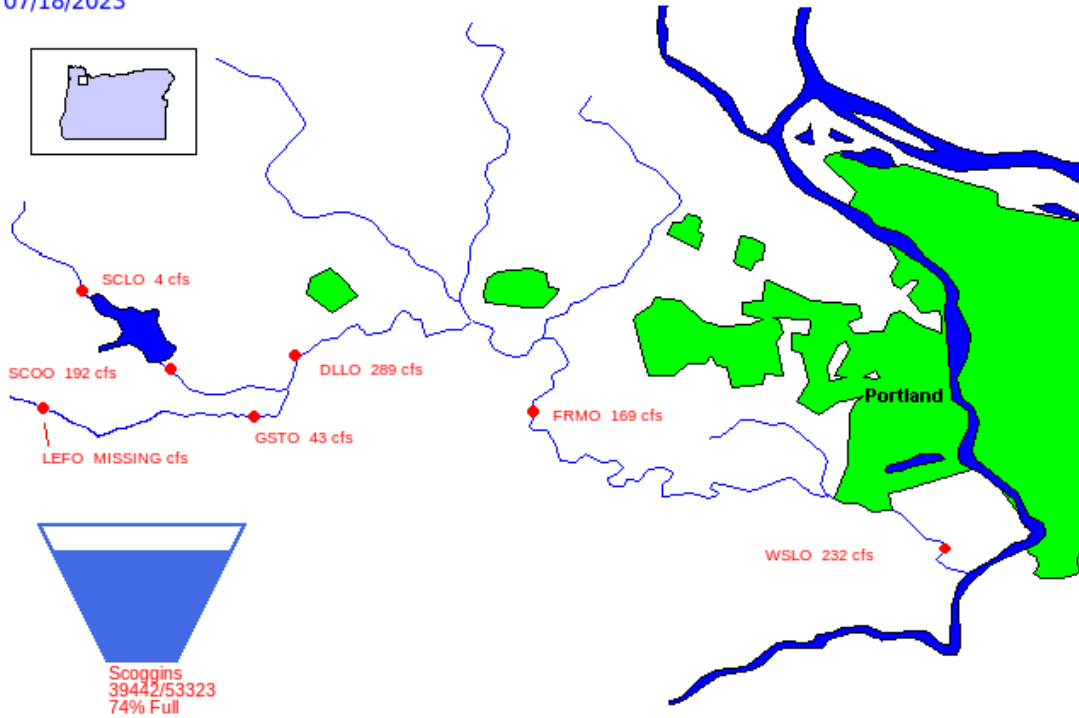
Umatilla River Basin

07/18/2023



Tualatin River Basin

07/18/2023



Peter Cooper – Columbia Pacific Northwest Regional Office

pcooper@usbr.gov

208.378.5037



— BUREAU OF —
RECLAMATION