

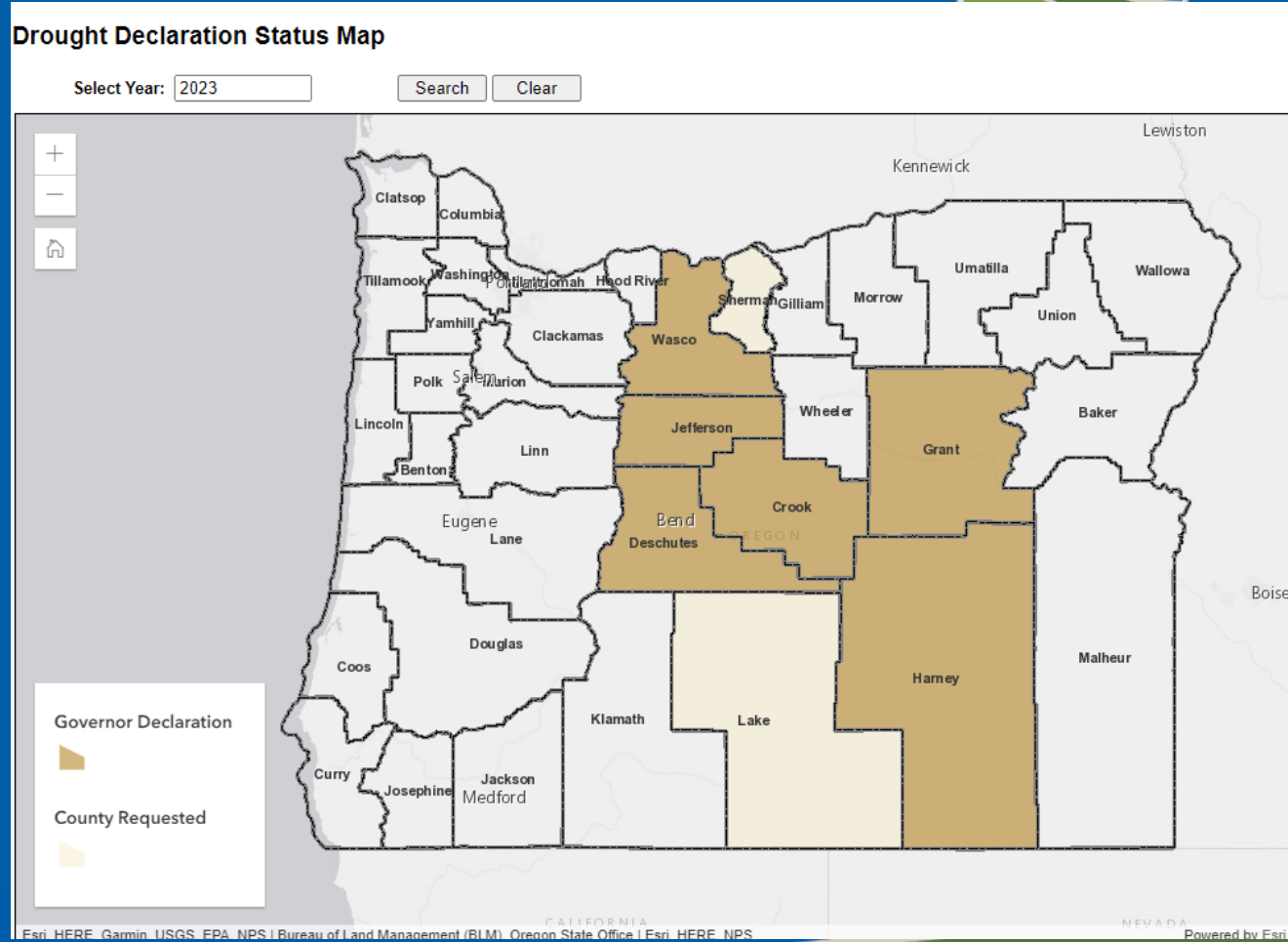


Water Supply Availability Committee
Oregon Water Resources Department
Ryan Andrews
May 10th, 2023

Drought Declarations



- Six counties with Executive Orders for drought declarations under ORS 536
- Lake, Sherman Counties requesting



April % of Average Streamflow - WY 2023

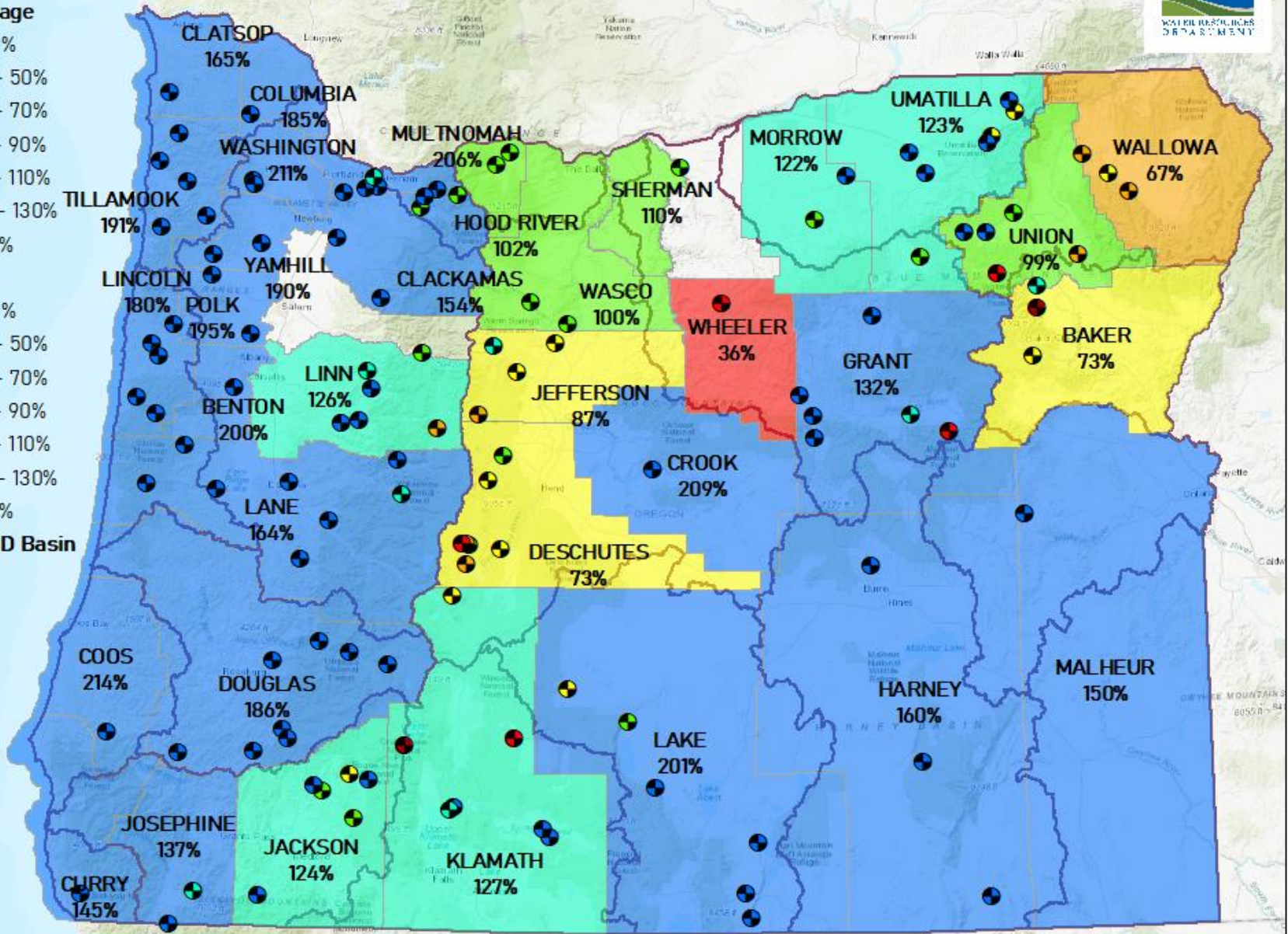


Stream Gage

- <= 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: 5/1/2023

Water Year To Date % of Average Streamflow - May 8, 2023



Stream Gage

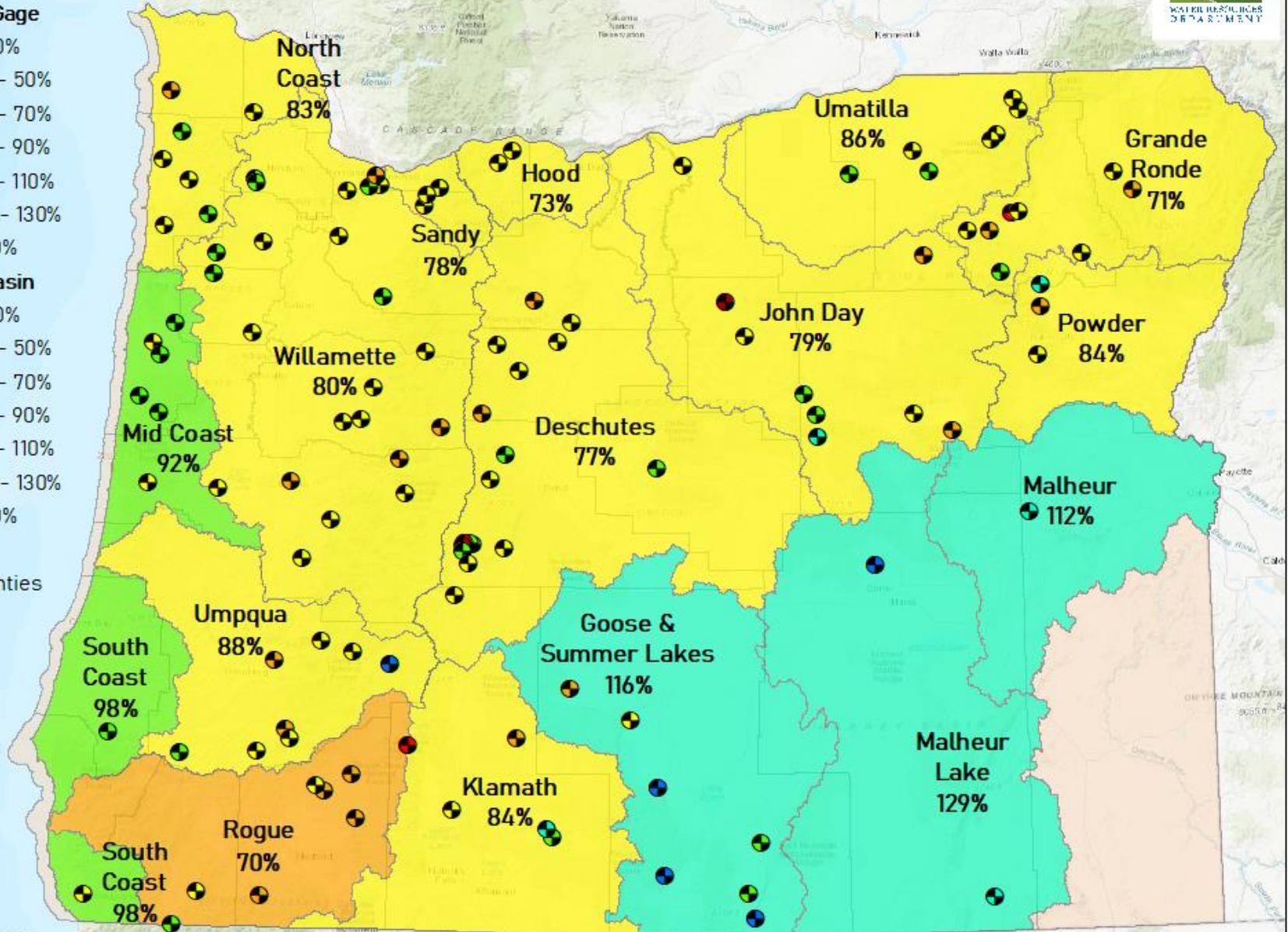
- <= 30%
- 31% - 50%
- 51% - 70%
- 71% - 90%
- 91% - 110%
- 111% - 130%
- > 130%

OWRD Basin

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

Counties

- Counties



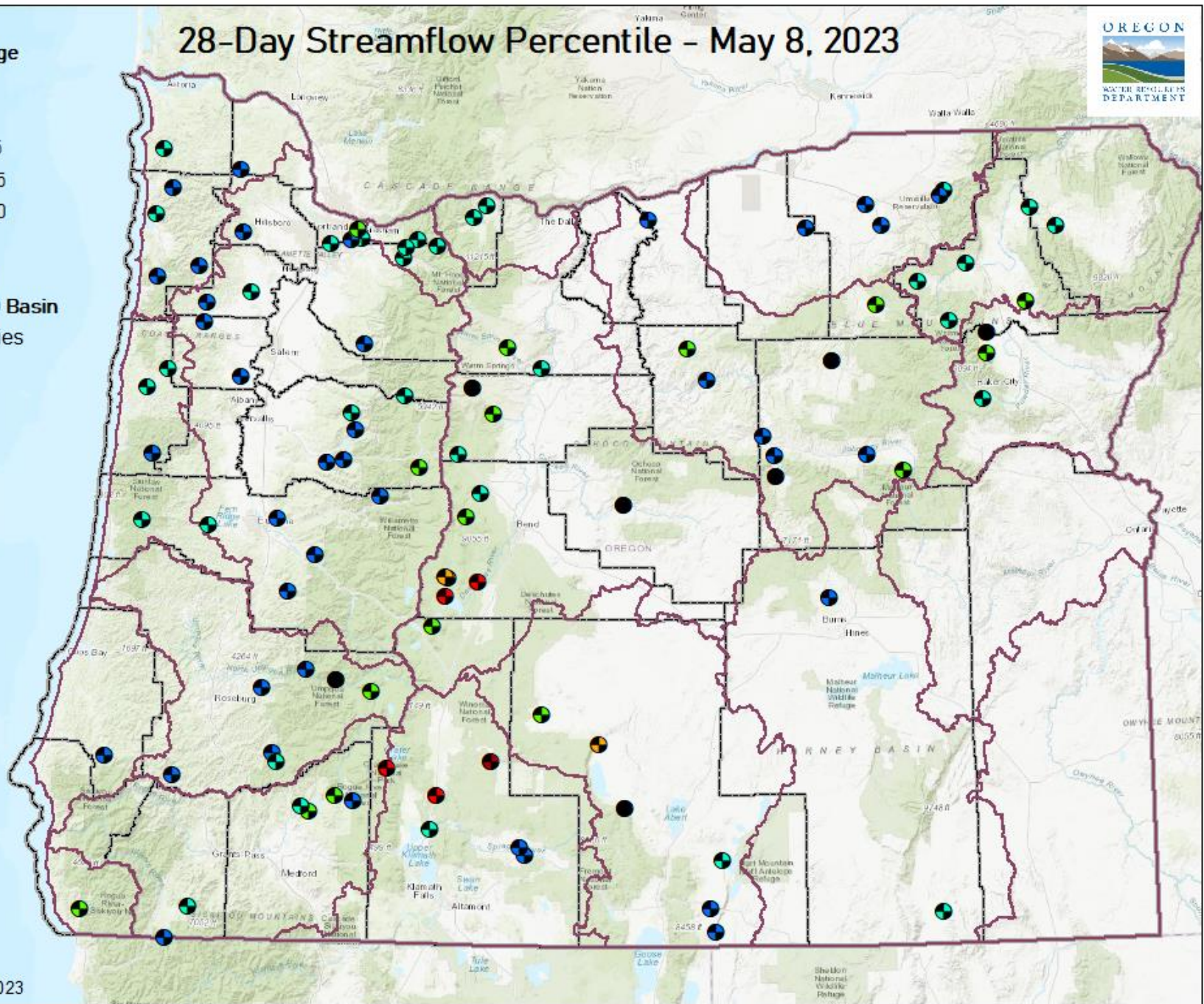
Date: 5/9/2023

28-Day Streamflow Percentile - May 8, 2023



Stream Gage

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



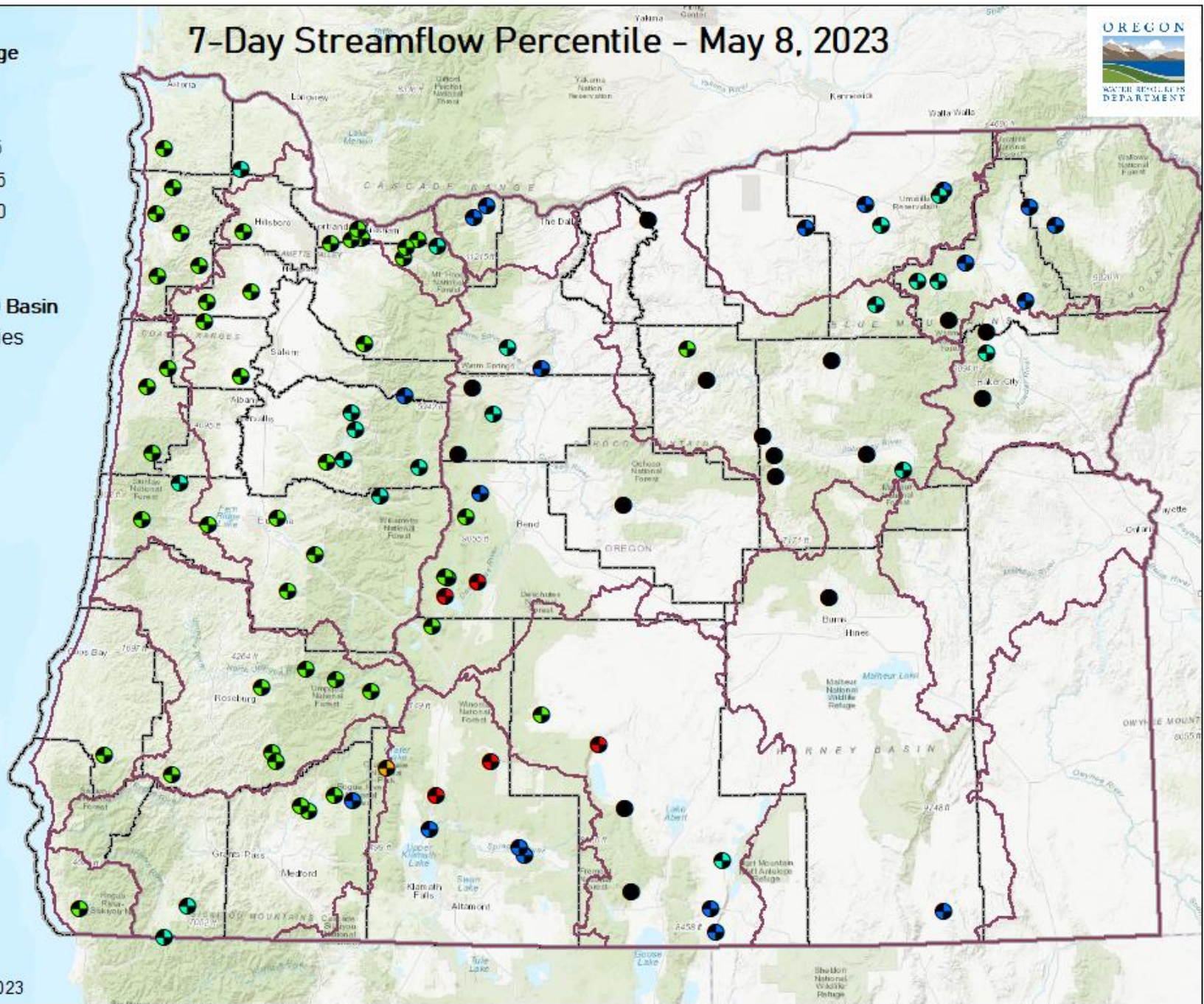
Date: 5/10/2023

7-Day Streamflow Percentile - May 8, 2023



Stream Gage

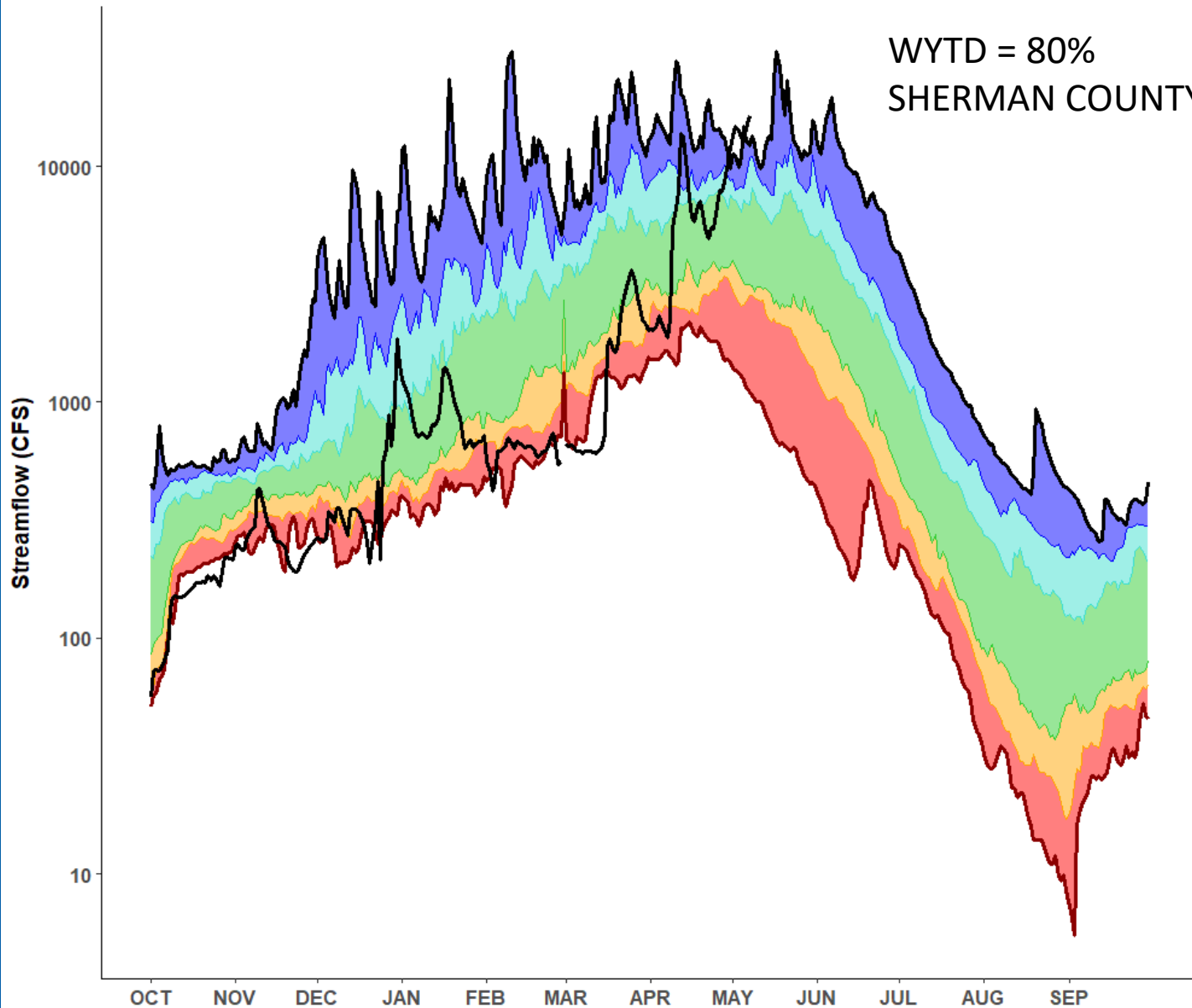
- LOW
- < 10
- 10 - 25
- 25 - 75
- 75 - 90
- > 90
- HIGH
- 🗺️ OWRD Basin
- 🗺️ Counties











Date: 5/10/2023

14048000 - JOHN DAY R AT MCDONALD FERRY, OR
JOHN DAY BASIN
POR: 1991-2020

WYTD = 80%
SHERMAN COUNTY

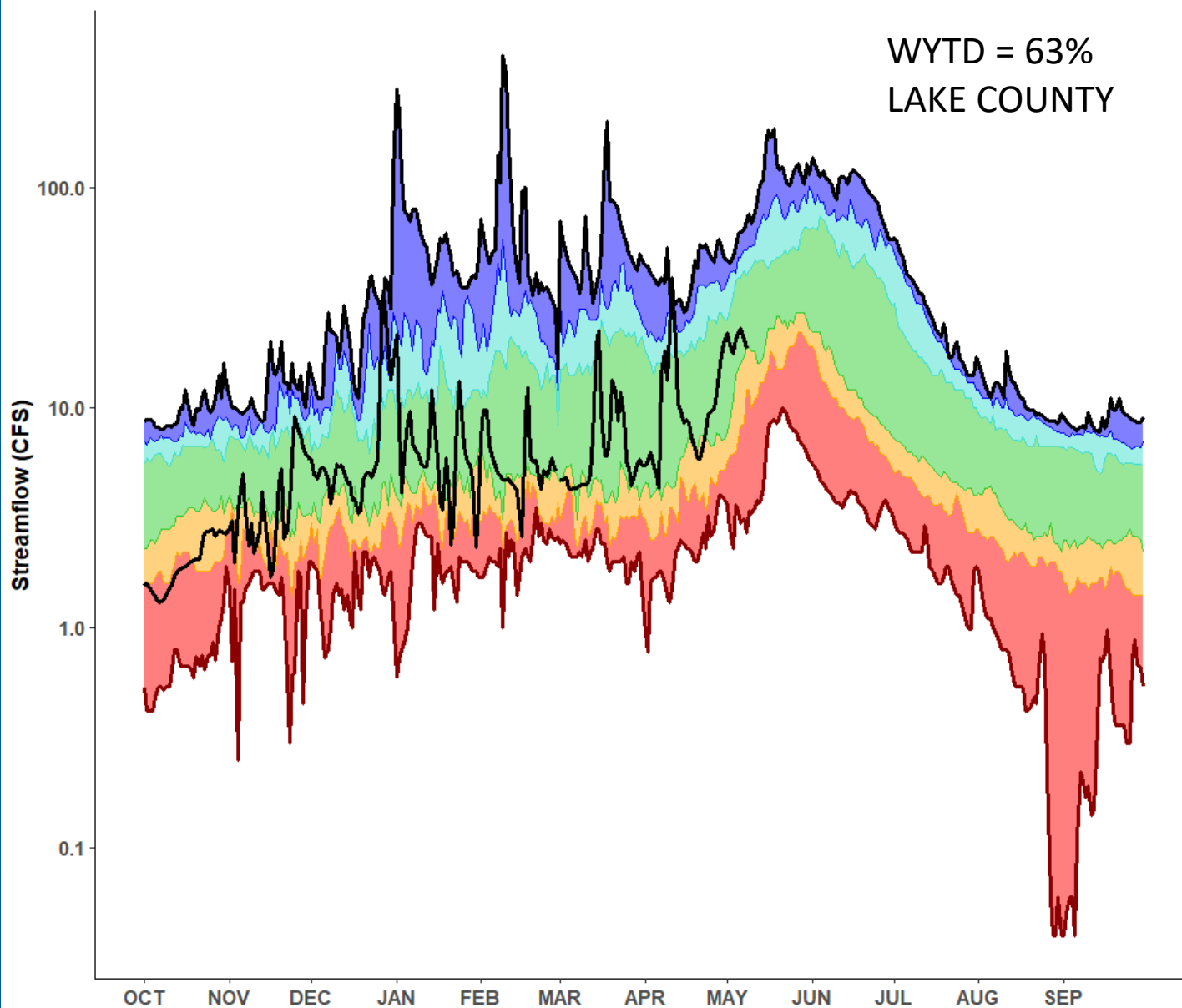


PERCENTILES

| | | | |
|--|---|---|---|
|  < 10 |  10 - 25 |  75 - 90 |  MINIMUM |
|  > 90 |  25 - 75 |  MAXIMUM |  WY2023 |

10391050 - BUCK CR AB PAULINA MARSH NR SILVER LAKE, OR
GOOSE AND SUMMER LAKES BASIN
POR: 1991-2020

WYTD = 63%
LAKE COUNTY

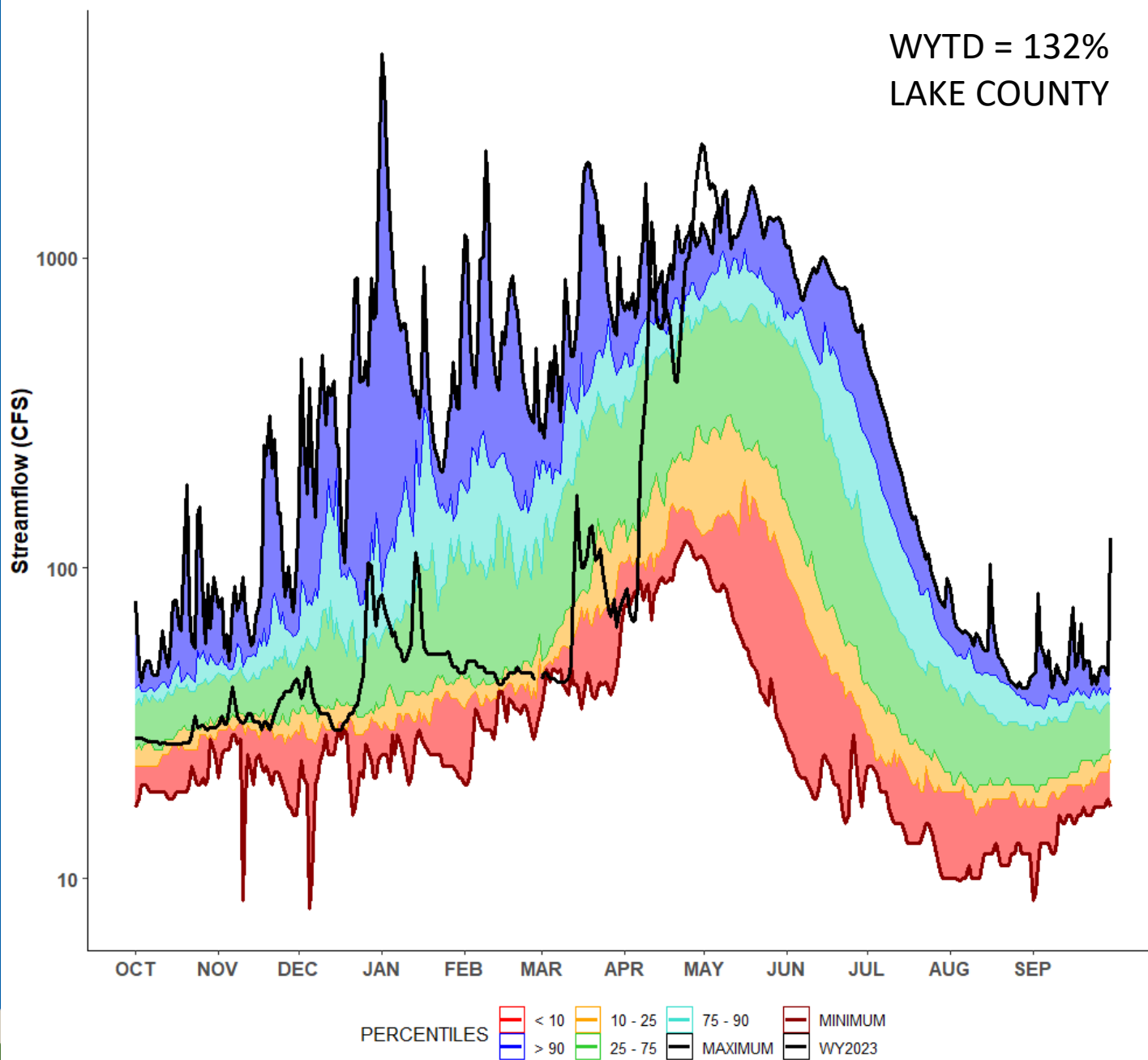


PERCENTILES

| | | | |
|------|---------|---------|---------|
| < 10 | 10 - 25 | 75 - 90 | MINIMUM |
| > 90 | 25 - 75 | MAXIMUM | WY2023 |

10384000 - CHEWAUCAN R NR PAISLEY, OR
GOOSE AND SUMMER LAKES BASIN
POR: 1991-2020

WYTD = 132%
LAKE COUNTY



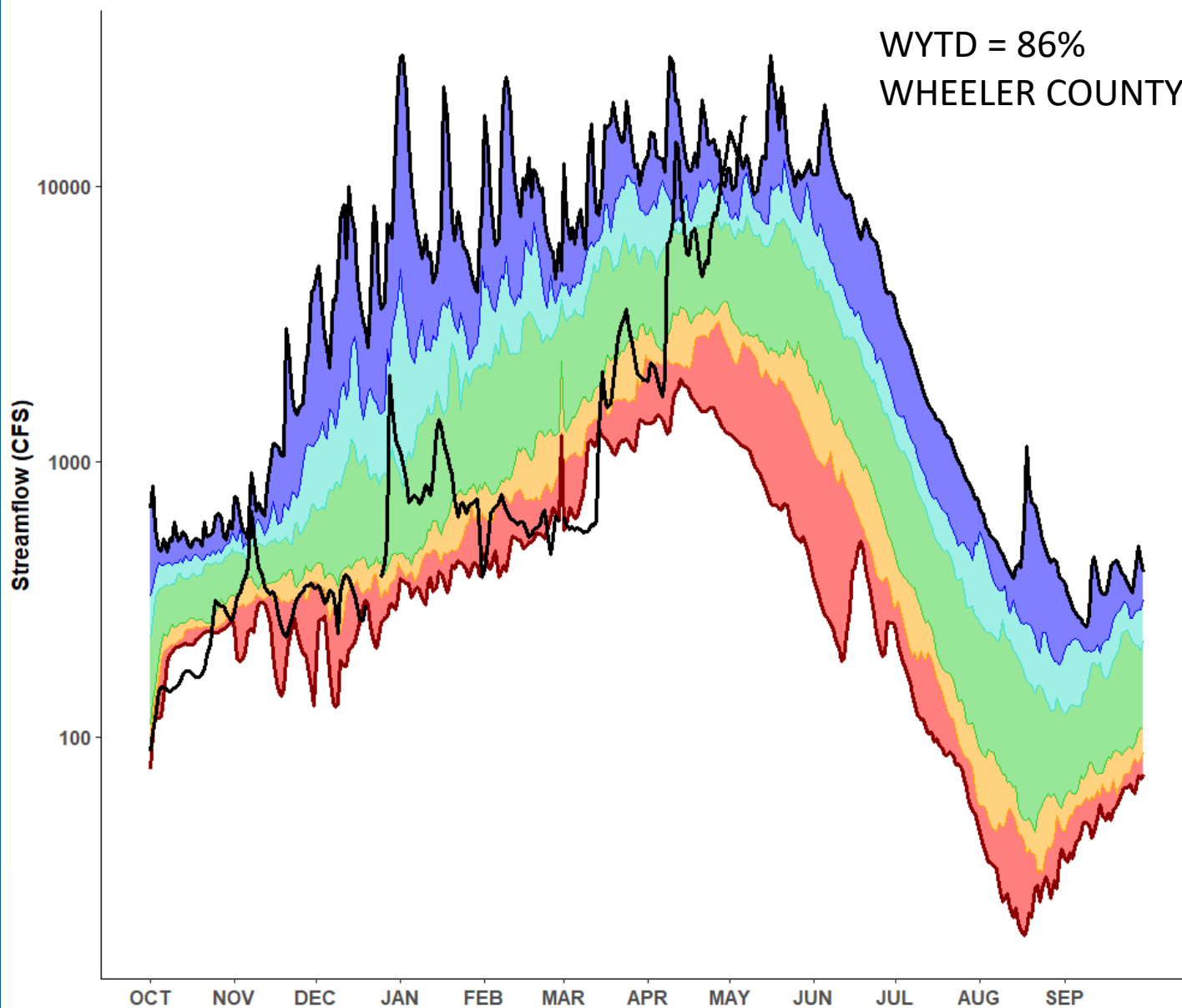
14046500 - JOHN DAY R AT SERVICE CR, OR

JOHN DAY BASIN









POR: 1991-2020

WYTD = 86%

WHEELER COUNTY



PERCENTILES

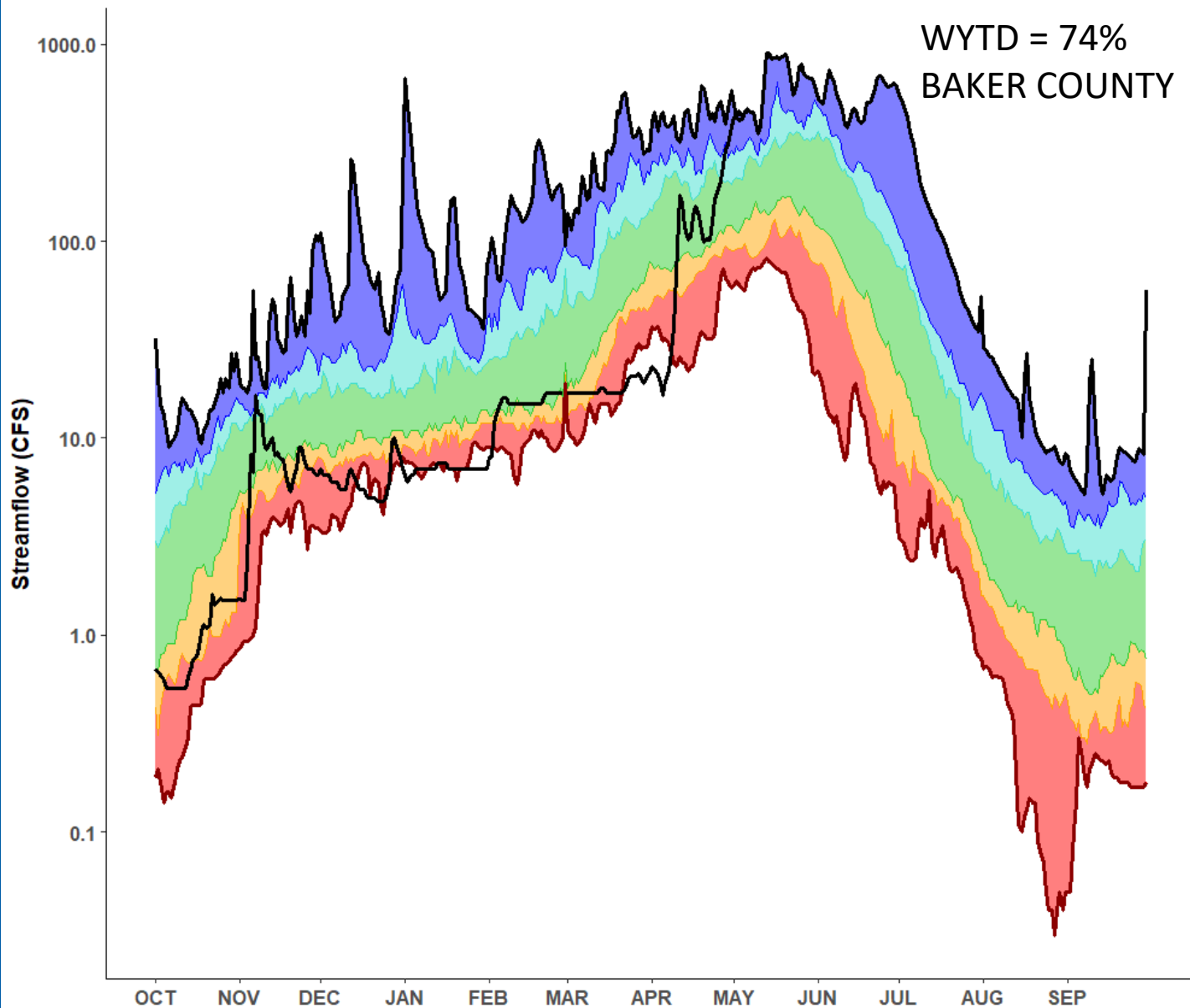
| | | | |
|--|---|---|---|
|  < 10 |  10 - 25 |  75 - 90 |  MINIMUM |
|  > 90 |  25 - 75 |  MAXIMUM |  WY2023 |

13275105 - POWDER R AT HUDSPETH LANE NR SUMPTER, OR

POWDER BASIN

POR: 1991-2020

WYTD = 74%
BAKER COUNTY



PERCENTILES

| | | | |
|------|---------|---------|---------|
| < 10 | 10 - 25 | 75 - 90 | MINIMUM |
| > 90 | 25 - 75 | MAXIMUM | WY2023 |

Summary



- Sherman and Lake Counties requesting drought declarations
- Snowmelt elevating flows across state
 - Water year streamflow still well below average

OREGON



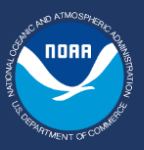
WATER RESOURCES
DEPARTMENT

QUESTIONS?



May 2023 Update for Precipitation & Temperatures

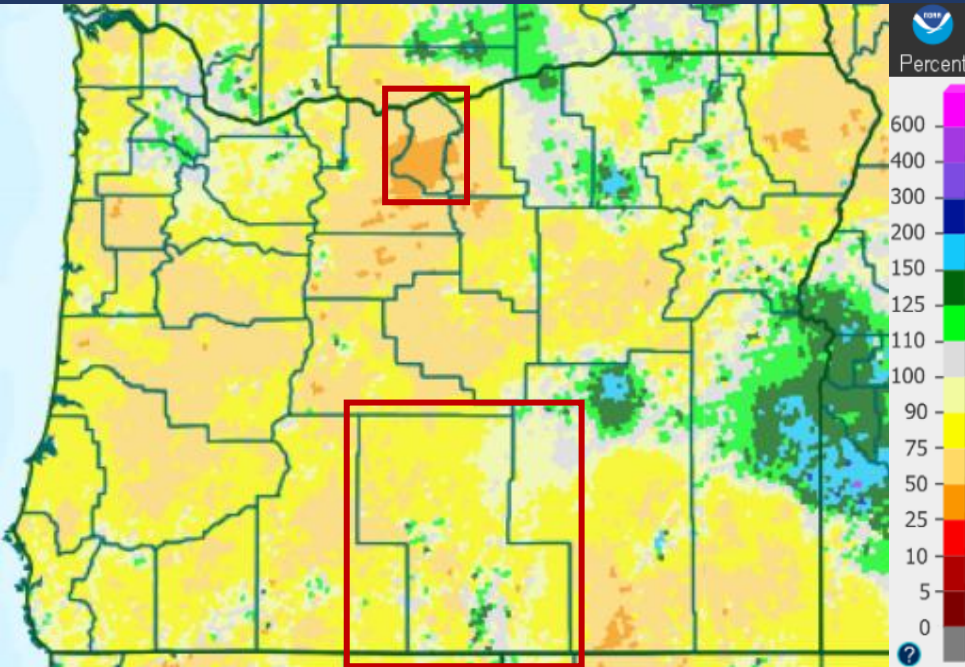
NOAA National Weather Service - Portland, Oregon



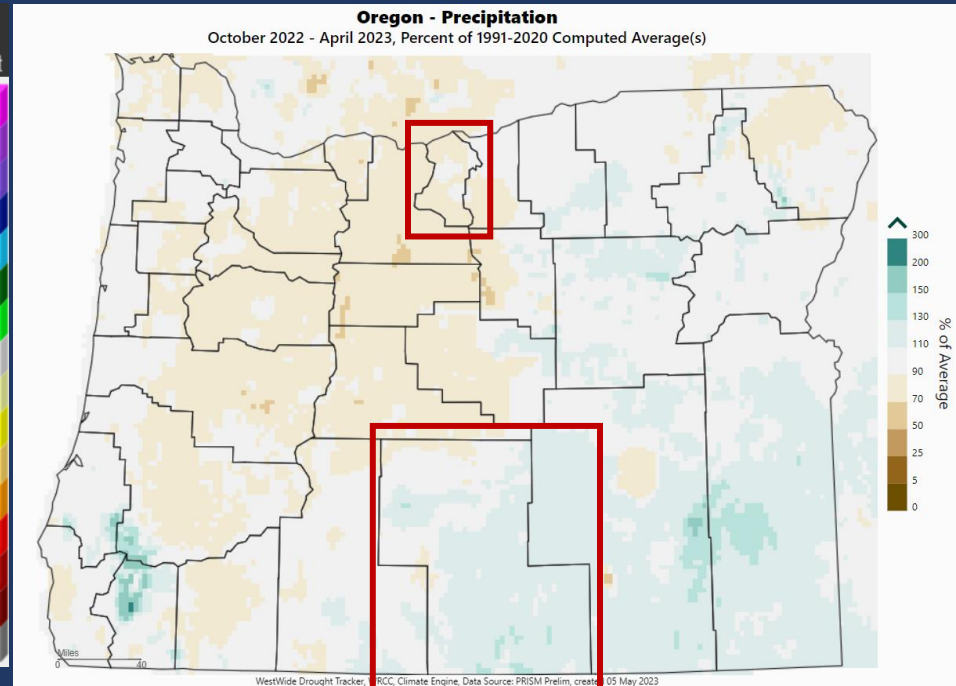
Water Year Precipitation

NWS AHPS & WRCC Comparison

AHPS % Normal

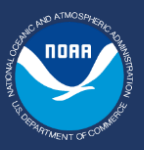


WRCC % Normal



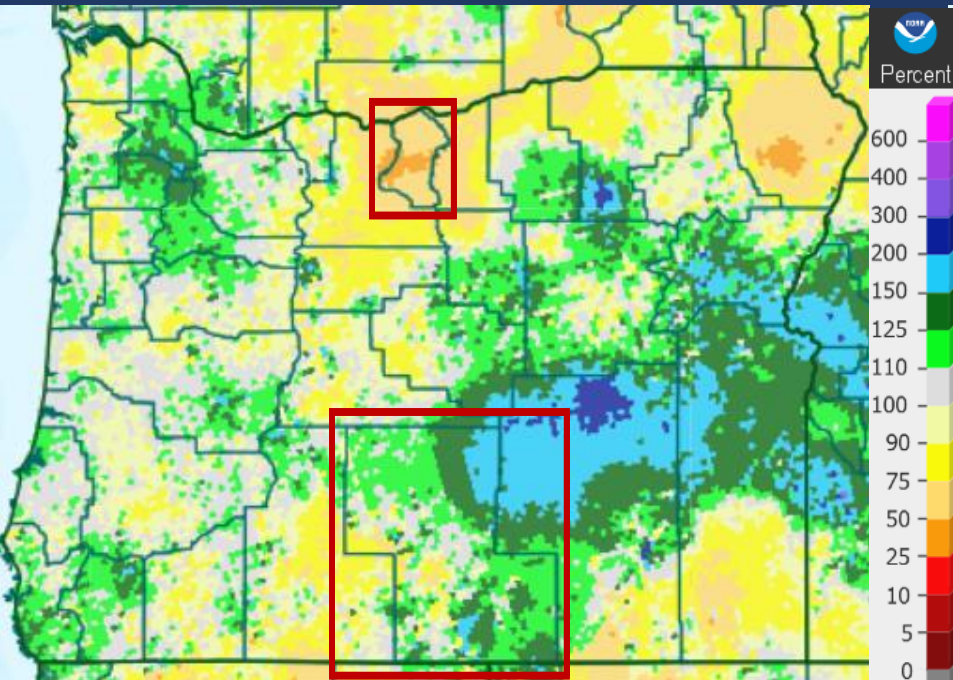
water.weather.gov/precip/index.php

wrcc.dri.edu/my/wwdt

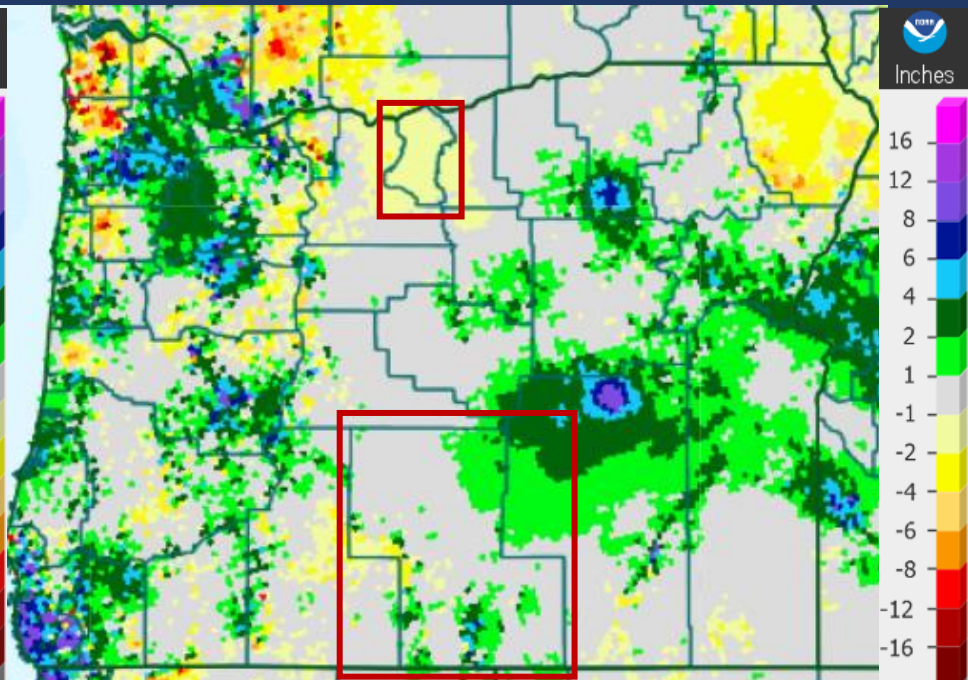


Precipitation – Past 90 Days

% Normal



Departure from Normal



Precipitation Data as of May 8, 2023

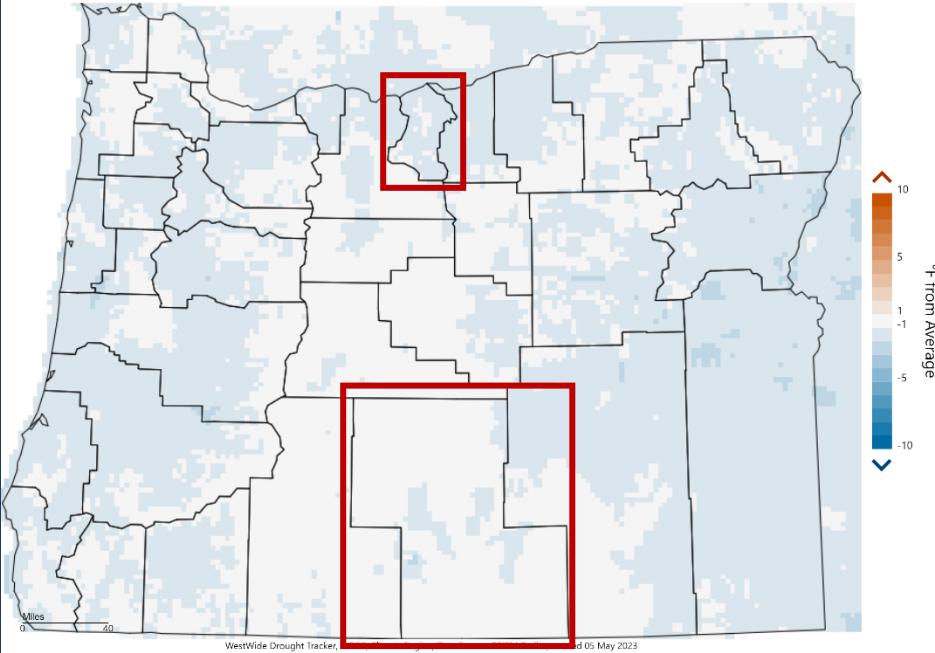
water.weather.gov/precip/index.php

Temperatures

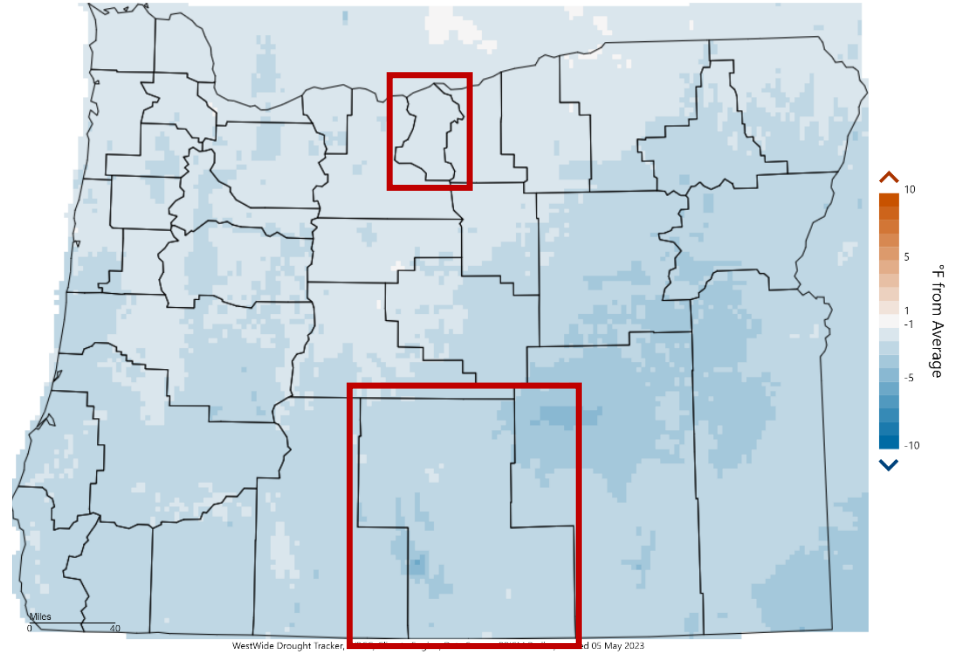
April Departure from Normal

Feb - Apr Departure from Norm

Oregon - Mean Temperature
April 2023, Departure from 1991-2020 Computed Average(s)



Oregon - Mean Temperature
February - April 2023, Departure from 1991-2020 Computed Average(s)



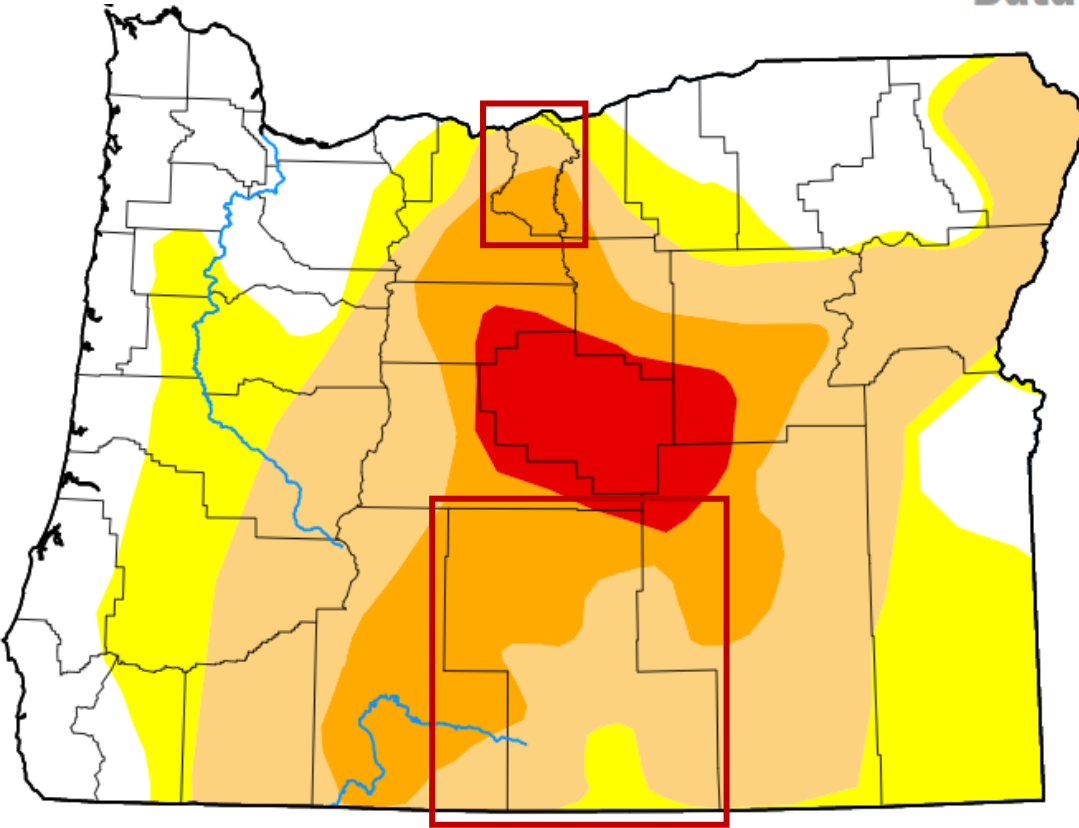


Drought Monitor

U.S. Drought Monitor Oregon

Map released: Thurs. May 4, 2023

Data valid: May 2, 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

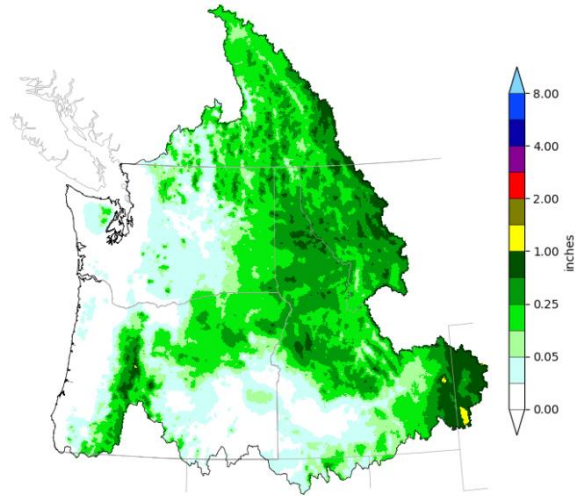
Mid May Outlook

HOT & DRY

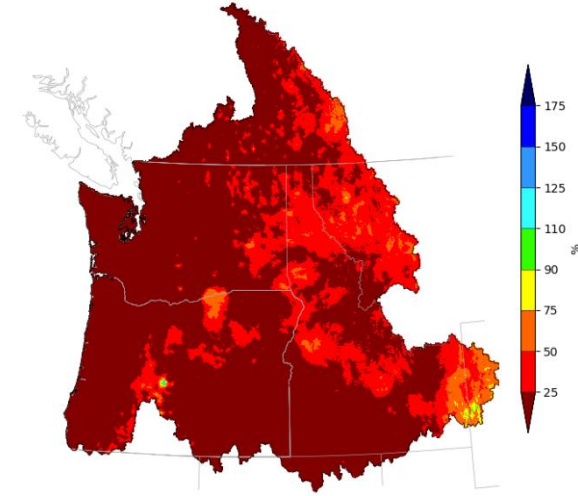
NWRFC
10-DAY
PRECIPITATION
FORECAST
as of 5/9/2023

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

Northwest River Forecast Center
10 Day QPF, Ending 12Z, 05/19/23

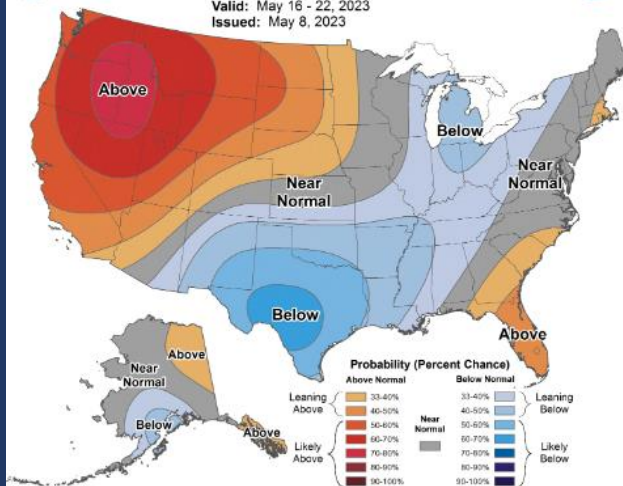


Northwest River Forecast Center
10 Day QPF (Percent of Climatology), Ending 12Z, 05/19/23



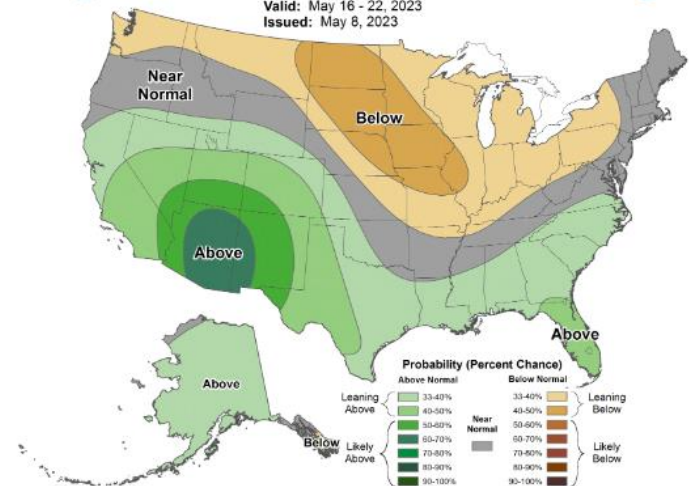
8-14 Day Temperature Outlook

Valid: May 16 - 22, 2023
Issued: May 8, 2023



8-14 Day Precipitation Outlook

Valid: May 16 - 22, 2023
Issued: May 8, 2023



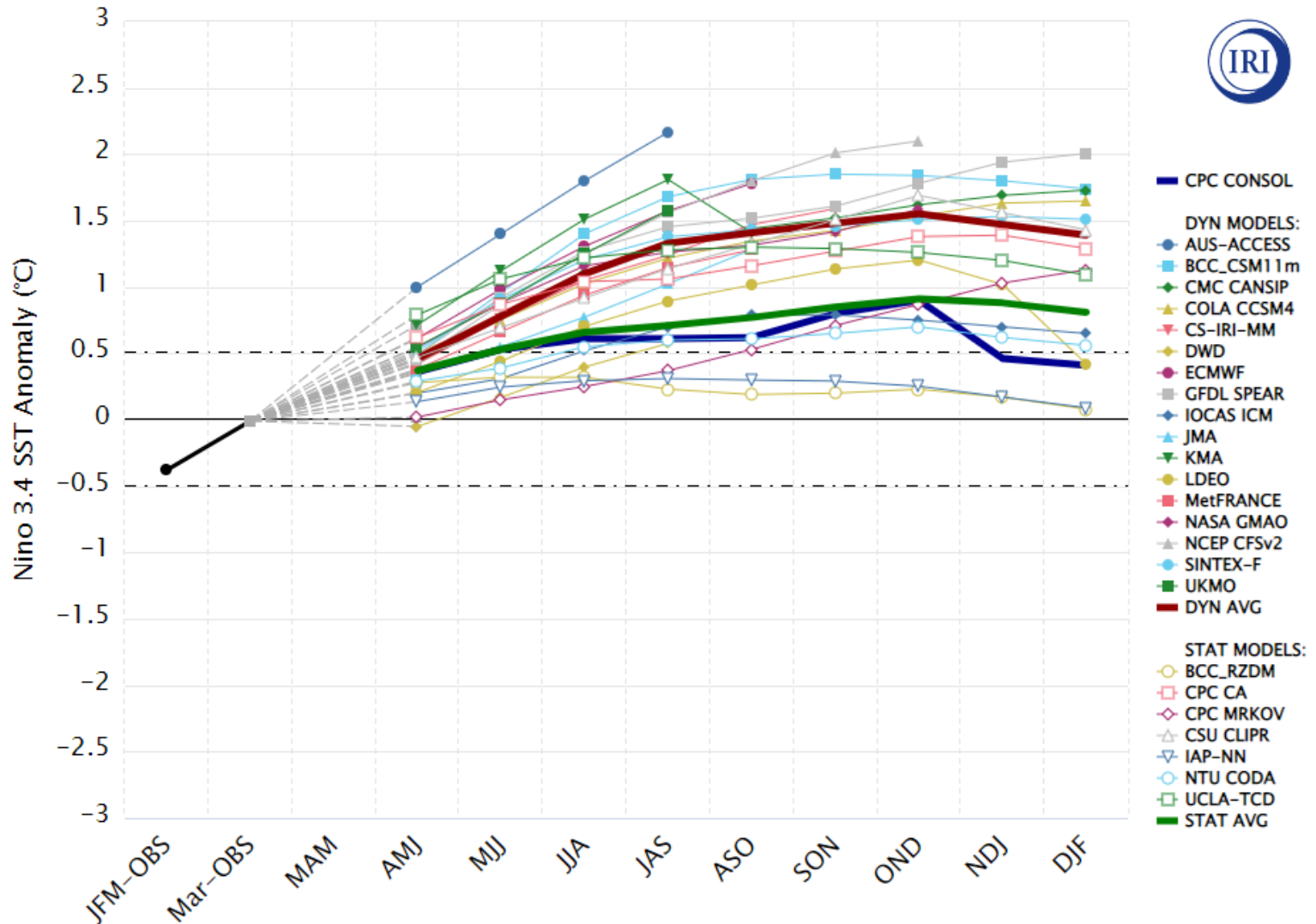
CPC 8 - 14 DAY OUTLOOK

www.cpc.ncep.noaa.gov



ENSO Status & Prediction

Model Predictions of ENSO from Apr 2023



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

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

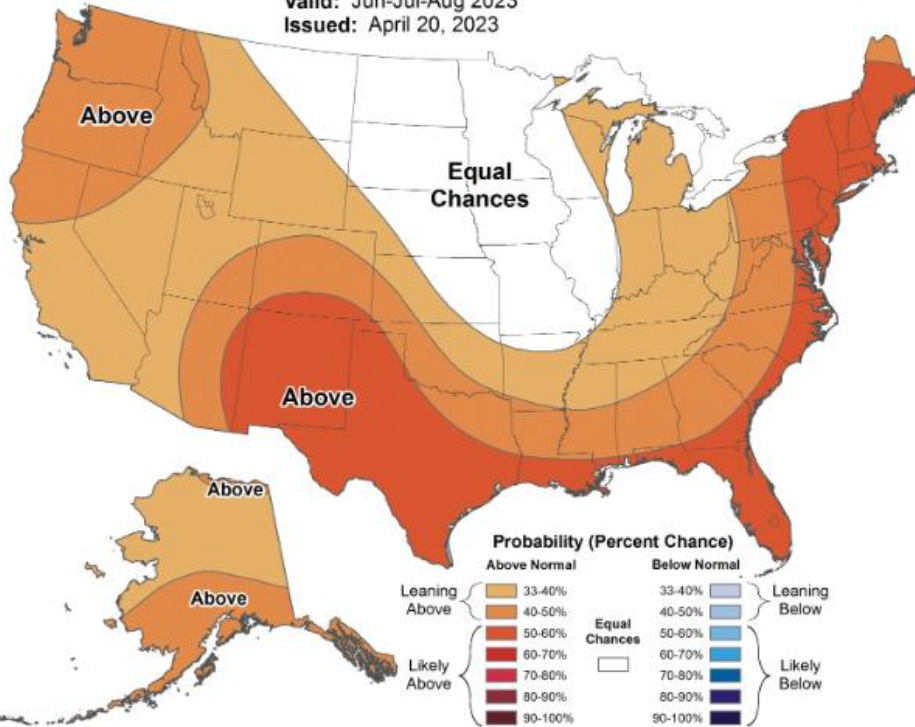


Climate Prediction Center Outlook

June – August 2023

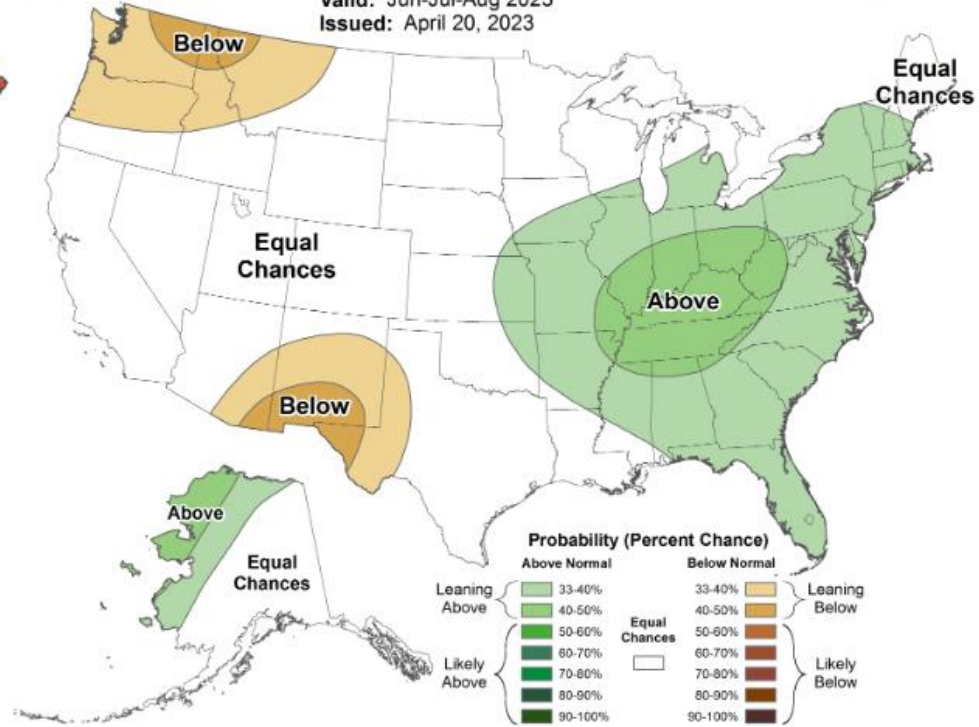
Seasonal Temperature Outlook

Valid: Jun-Jul-Aug 2023
 Issued: April 20, 2023

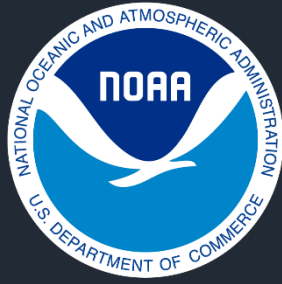


Seasonal Precipitation Outlook

Valid: Jun-Jul-Aug 2023
 Issued: April 20, 2023



www.cpc.ncep.noaa.gov



May 2023 Update for River Forecasts

NOAA National Weather Service

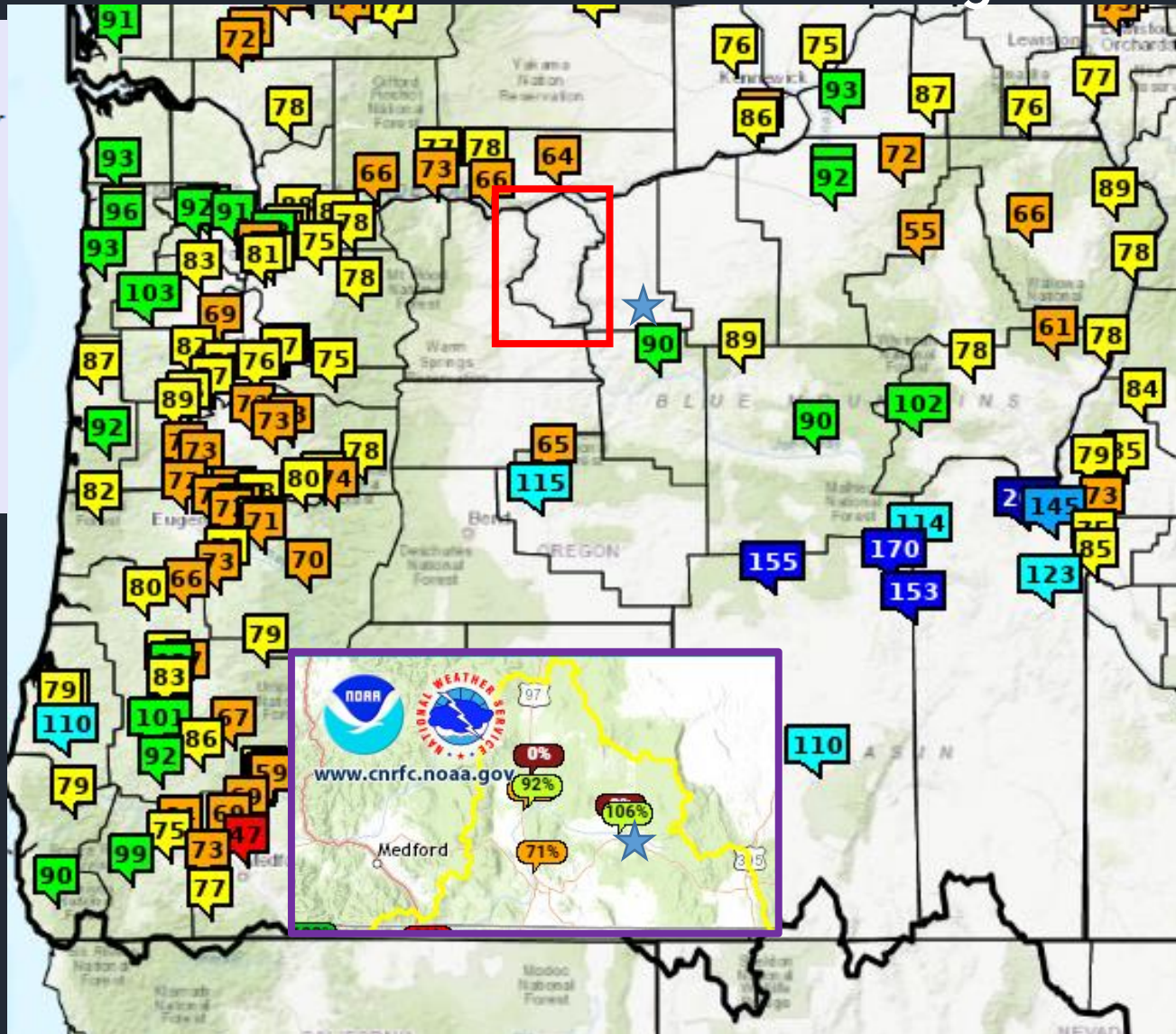


Observed Runoff October – Present % of Average

Natural Runoff

Period: Oct thru Curr
(% Normal)

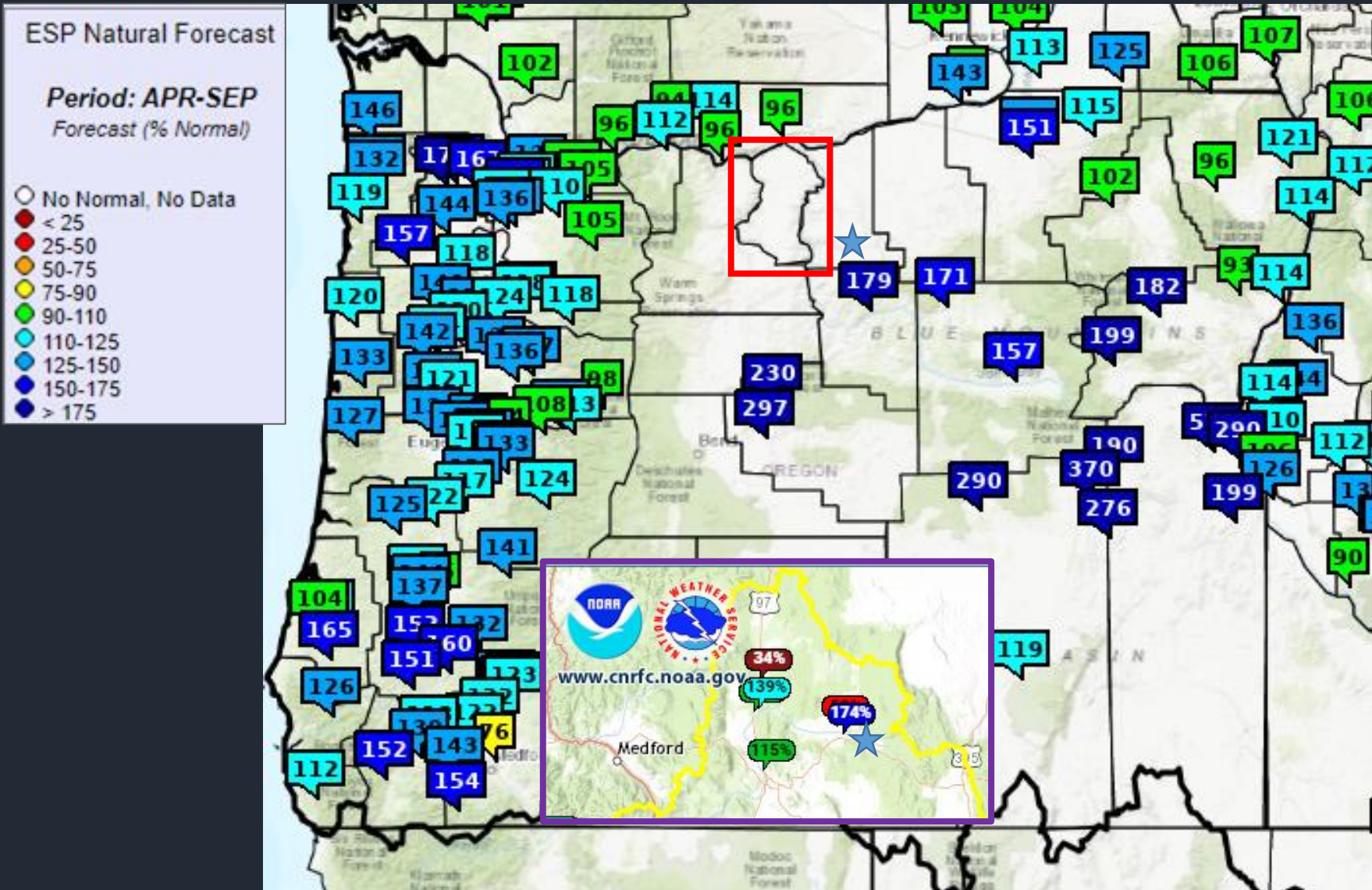
- No Normal, No data
- < 25
- 25-50
- 50-75
- 75-90
- 90-110
- 110-125
- 125-150
- 150-175
- > 175





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: 2023-05-09 Issued: 2023-05-09

| Forecast Period | Forecasts Are in KAF | | | | 30 Year Average (1991-2020) |
|-----------------|----------------------|-------|-----------|-------|-----------------------------|
| | 90 % | 50 % | % Average | 10 % | |
| APR-SEP | 5687 | 5968 | 118 | 6571 | 5067 |
| APR-JUL | 5253 | 5485 | 122 | 6089 | 4509 |
| JAN-SEP | 9388 | 9669 | 80 | 10272 | 12139 |
| JAN-JUL | 8954 | 9186 | 79 | 9791 | 11581 |
| OCT-SEP | 11979 | 12261 | 74 | 12863 | 16497 |

Experimental

HEFS with 15 days EQPF Ensemble: 2023-05-09 Issued: 2023-05-09

| | | | | | |
|---------|-------|-------|-----|-------|-------|
| APR-SEP | 5717 | 6081 | 120 | 6704 | 5067 |
| APR-JUL | 5277 | 5569 | 124 | 6180 | 4509 |
| JAN-SEP | 9419 | 9783 | 81 | 10405 | 12139 |
| JAN-JUL | 8978 | 9270 | 80 | 9881 | 11581 |
| OCT-SEP | 12010 | 12374 | 75 | 12997 | 16497 |

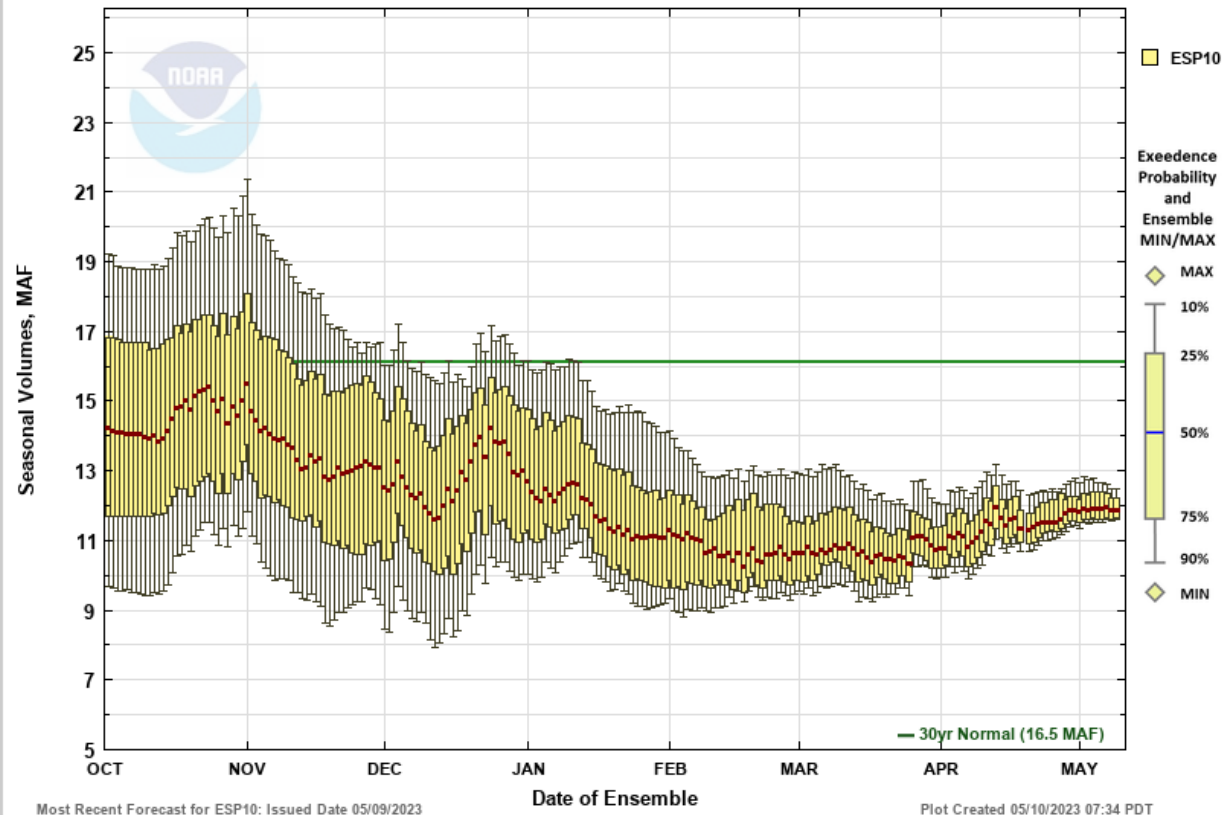
Reference

ESP with 0 Days QPF Ensemble: 2023-05-09 Issued: 2023-05-09

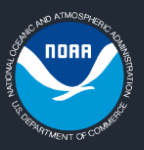
| | | | | | |
|---------|-------|-------|-----|-------|-------|
| APR-SEP | 5734 | 6200 | 122 | 7063 | 5067 |
| APR-JUL | 5275 | 5715 | 127 | 6530 | 4509 |
| JAN-SEP | 9435 | 9902 | 82 | 10764 | 12139 |
| JAN-JUL | 8976 | 9416 | 81 | 10231 | 11581 |
| OCT-SEP | 12026 | 12493 | 76 | 13355 | 16497 |

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



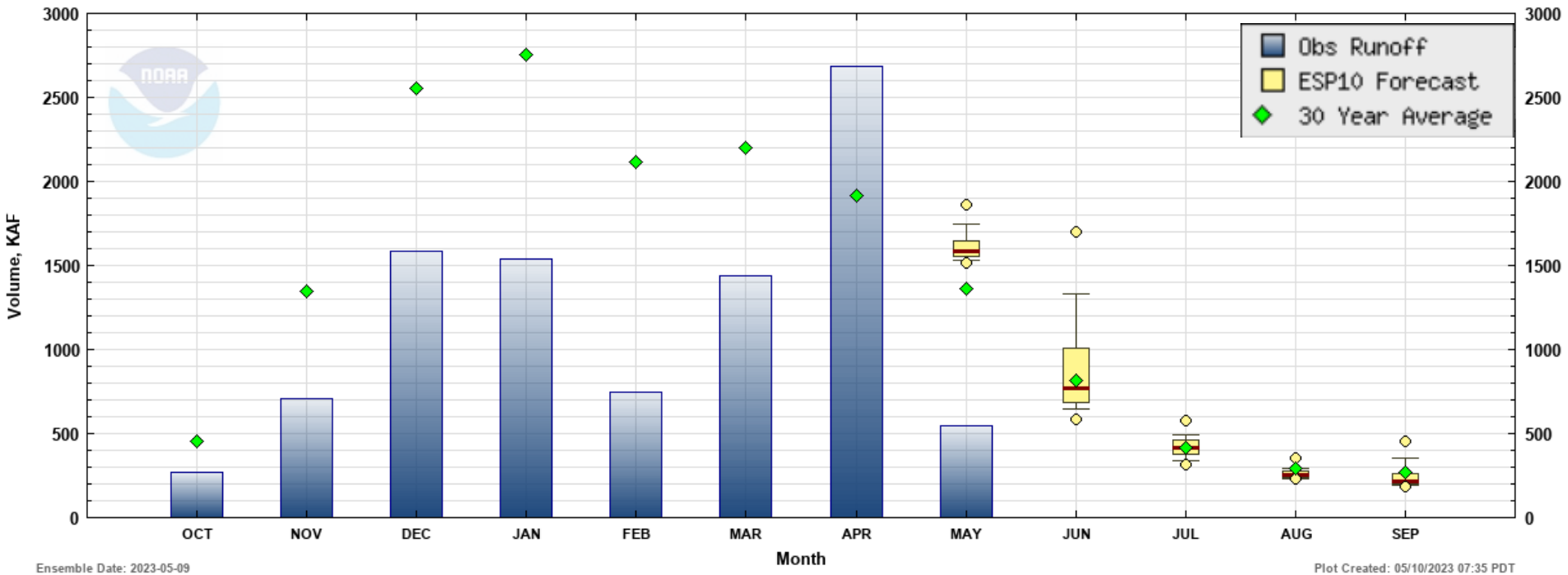
https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=SLMO3



Monthly Natural Volumes Willamette R at Salem

| Period | Last Month % | Recent % |
|------------|--------------|----------|
| Apr – Sep | 112 | 118 |
| Water Year | 72 | 74 |

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(SLMO3) WILLAMETTE - AT SALEM



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

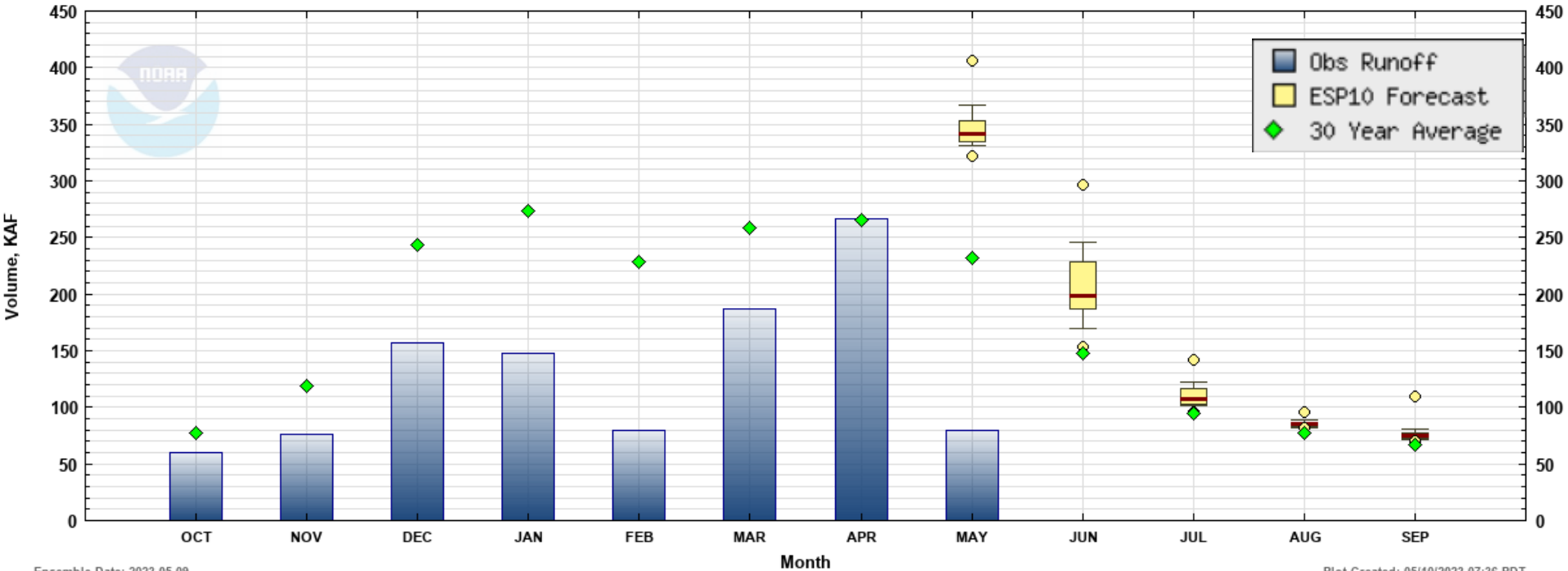


Monthly Natural Volumes

Rogue R near Raygold

| Period | Last Month % | Recent % |
|------------|--------------|----------|
| Apr – Sep | 105 | 122 |
| Water Year | 79 | 86 |

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(RYGO3) ROGUE - AT RAYGOLD



Ensemble Date: 2023-05-09

Plot Created: 05/10/2023 07:36 PDT

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

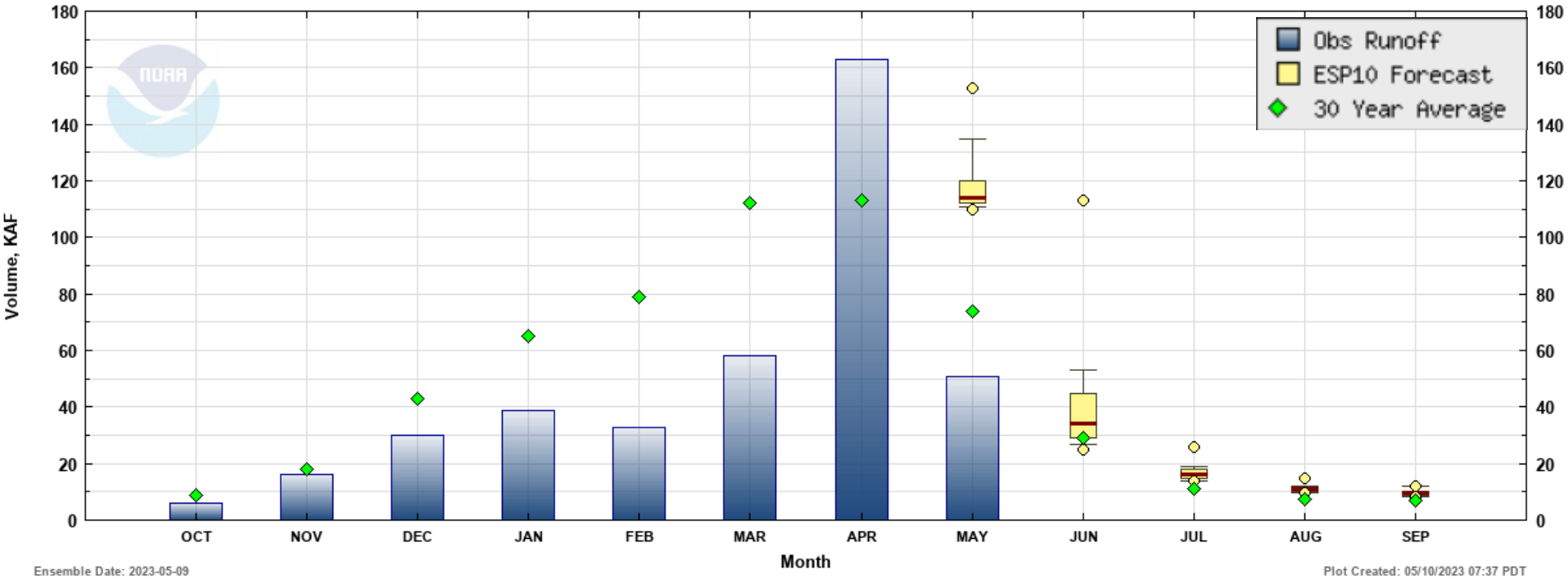


Monthly Natural Volumes

Umatilla R near Umatilla

| Period | Last Month % | Recent % |
|------------|--------------|----------|
| Apr – Sep | 114 | 143 |
| Water Year | 81 | 93 |

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(UMA03) UMATILLA - NEAR UMATILLA



Ensemble Date: 2023-05-09

Plot Created: 05/10/2023 07:37 PDT

https://www.nwrfc.noaa.gov/natural/plot/nat_forecasts.php?id=UMA03

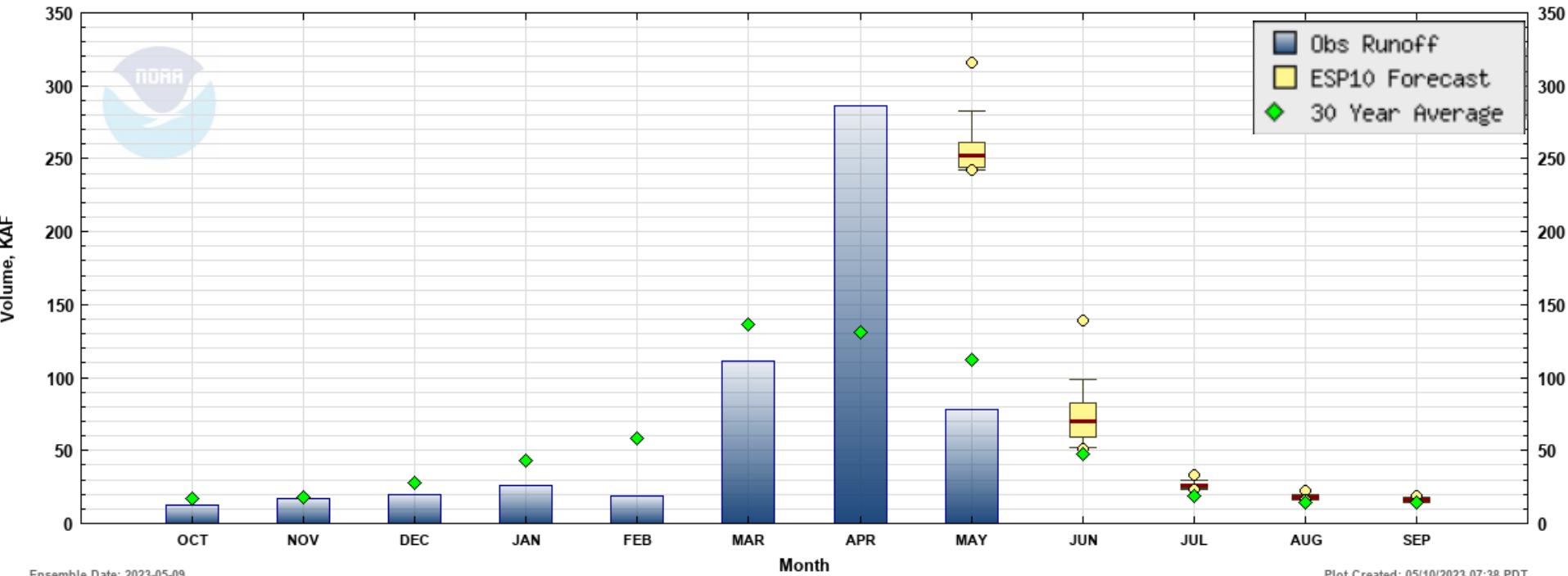


Monthly Natural Volumes

Owyhee R at Owyhee Dam

| Period | Last Month % | Recent % |
|------------|--------------|----------|
| Apr – Sep | 102 | 199 |
| Water Year | 86 | 137 |

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



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

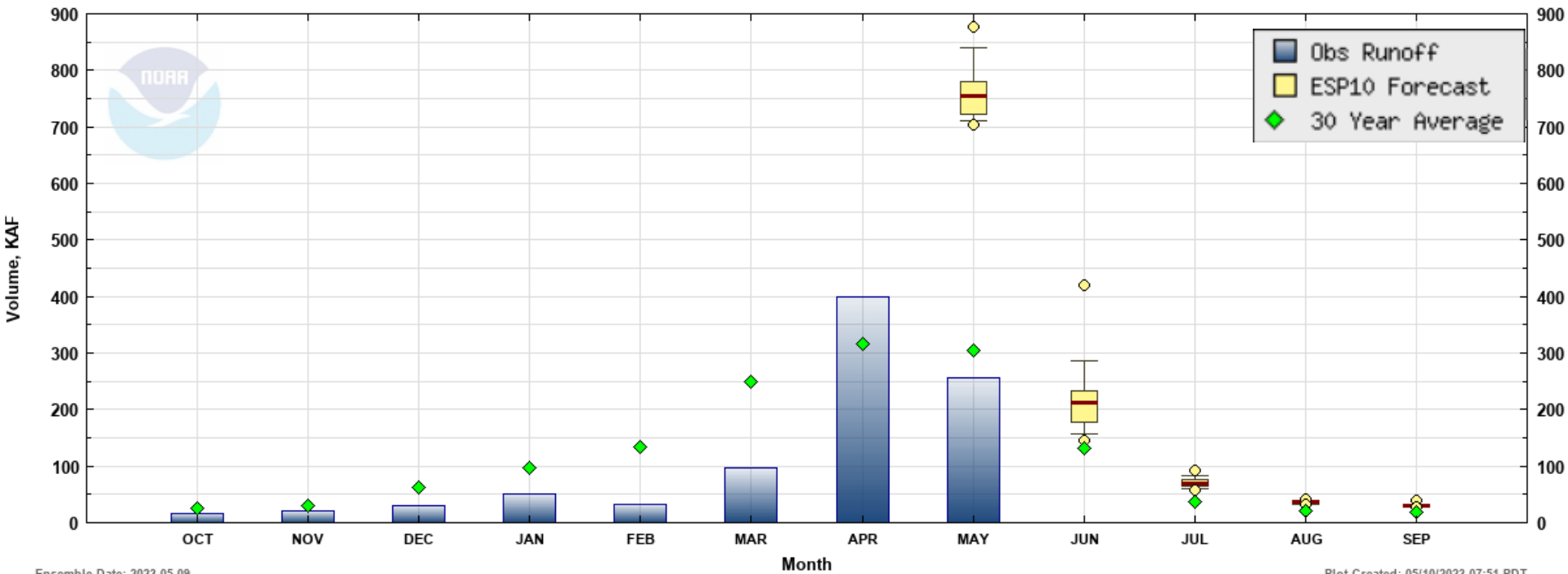


Monthly Natural Volumes

John Day at Service Creek

| Period | Last Month % | Recent % |
|------------|--------------|----------|
| Apr – Sep | 113 | 179 |
| Water Year | 83 | 122 |

Natural Volume Monthly Forecasts (ESP10) for Water Year 2023
(SER03) JOHN DAY - AT SERVICE CK



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



Natural Volume Forecast

John Day at Service Creek

JOHN DAY - AT SERVICE CK (SERO3) Forecasts for Water Year 2023

Natural Forecast

ESP with 10 Days QPF Ensemble: 2023-05-09 Issued: 2023-05-09

| Forecast Period | Forecasts Are in KAF | | | | 30 Year Average (1991-2020) |
|-----------------|----------------------|------|-----------|------|-----------------------------|
| | 90 % | 50 % | % Average | 10 % | |
| APR-SEP | 1410 | 1486 | 179 | 1689 | 830 |
| APR-JUL | 1347 | 1421 | 180 | 1616 | 790 |
| JAN-SEP | 1590 | 1666 | 127 | 1868 | 1307 |
| JAN-JUL | 1527 | 1600 | 126 | 1796 | 1267 |
| OCT-SEP | 1656 | 1732 | 122 | 1934 | 1423 |

Experimental

HEFS with 15 days EQPF Ensemble: 2023-05-09 Issued: 2023-05-09

| | | | | | |
|---------|------|------|-----|------|------|
| APR-SEP | 1423 | 1525 | 184 | 1707 | 830 |
| APR-JUL | 1361 | 1457 | 184 | 1632 | 790 |
| JAN-SEP | 1603 | 1704 | 130 | 1887 | 1307 |
| JAN-JUL | 1540 | 1637 | 129 | 1812 | 1267 |
| OCT-SEP | 1669 | 1771 | 124 | 1953 | 1423 |

Reference

ESP with 0 Days QPF Ensemble: 2023-05-09 Issued: 2023-05-09

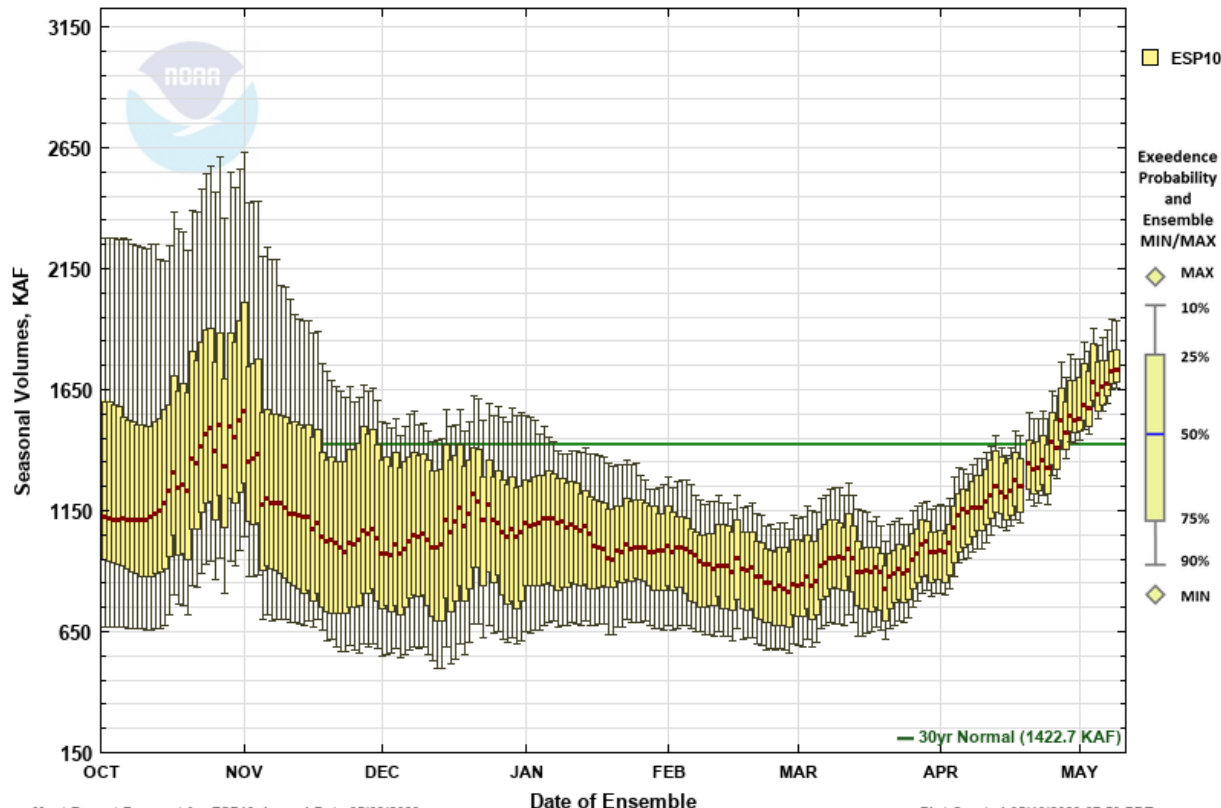
| | | | | | |
|---------|------|------|-----|------|------|
| APR-SEP | 1402 | 1505 | 181 | 1776 | 830 |
| APR-JUL | 1335 | 1433 | 181 | 1700 | 790 |
| JAN-SEP | 1582 | 1684 | 129 | 1956 | 1307 |
| JAN-JUL | 1515 | 1612 | 127 | 1880 | 1267 |
| OCT-SEP | 1648 | 1751 | 123 | 2022 | 1423 |

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

Natural Volume Forecasts

JOHN DAY - AT SERVICE CK

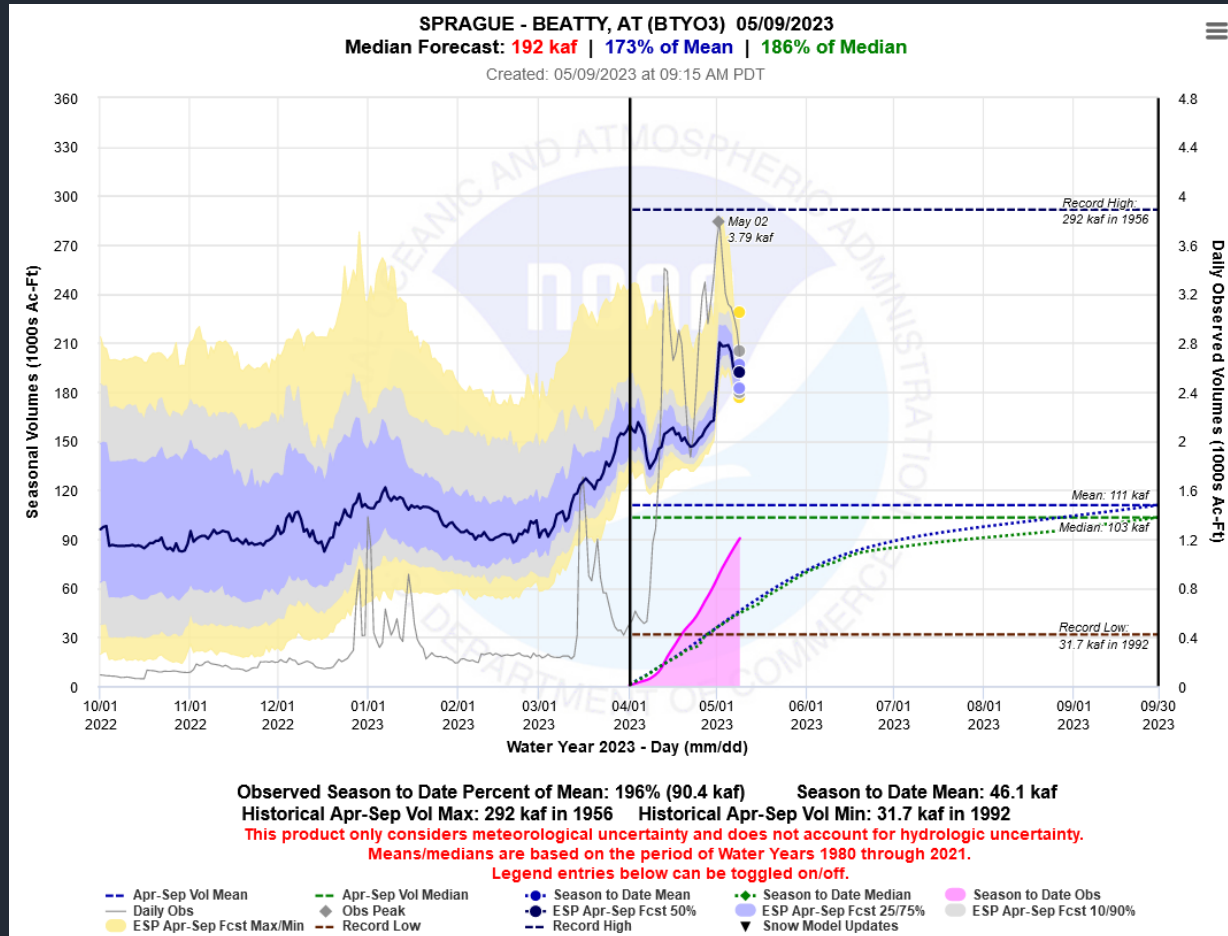
Period OCT to SEP -- Water Year 2023



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



Natural Volume Forecast Sprague River near Beatty



<https://www.cnrfc.noaa.gov/ensembleProduct.php?id=BTYO3&prodID=7>



| 2023 Schedule for <i>Live Water Supply Briefings</i> | | | | | |
|--|-----|-----|-----|-----|-----|
| Jan | Feb | Mar | Apr | May | Jun |
| 5 | 2 | 2 | 6 | 4 | 1 |
| <i>All presentations held at 10:00am PDT/PST, unless noted otherwise</i> | | | | | |
| 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>



— BUREAU OF —
RECLAMATION

Reclamation Storage Update

Oregon Water Supply Availability Committee
Meeting

May 10, 2023

Basin Operations Summary

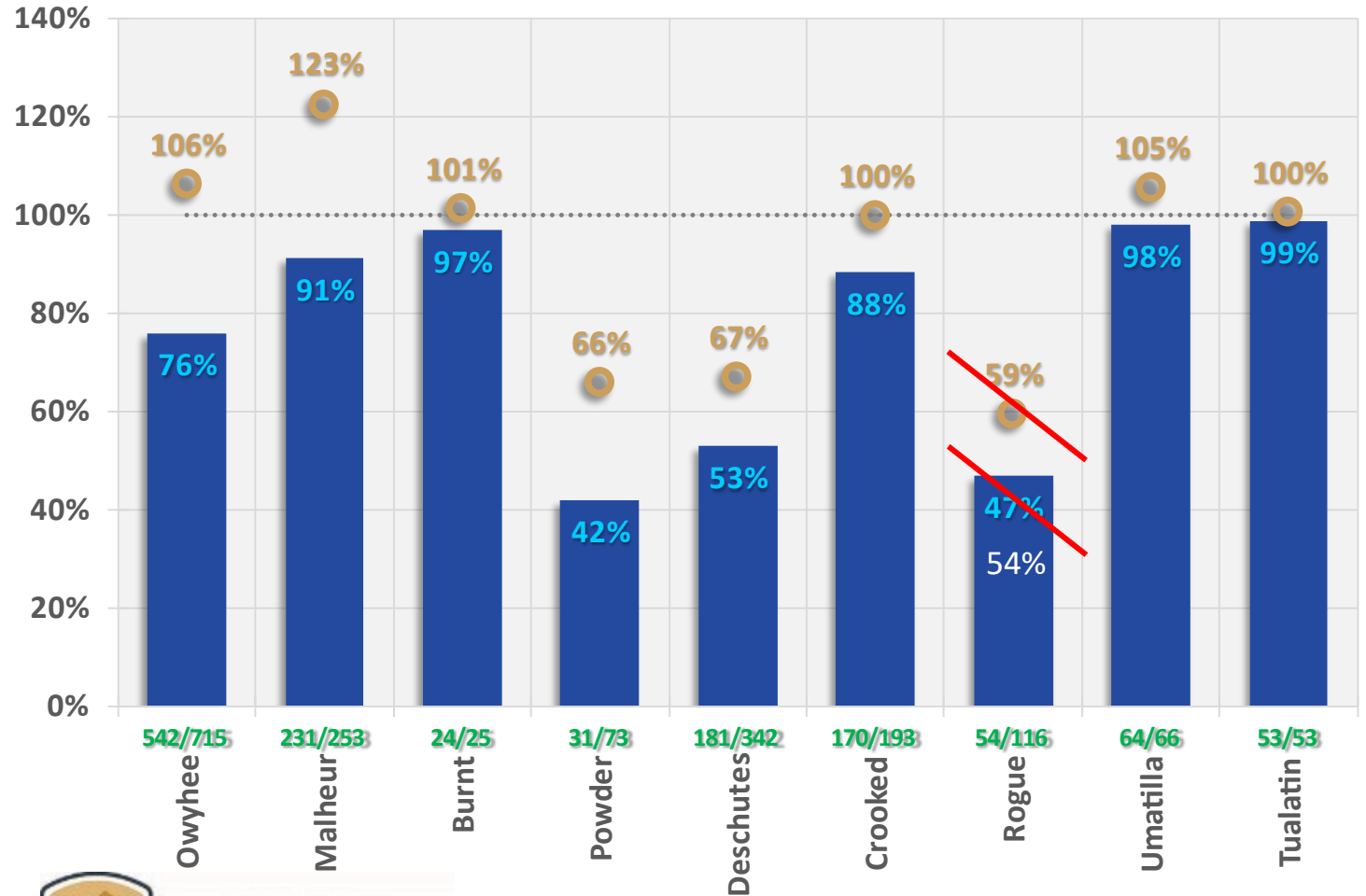
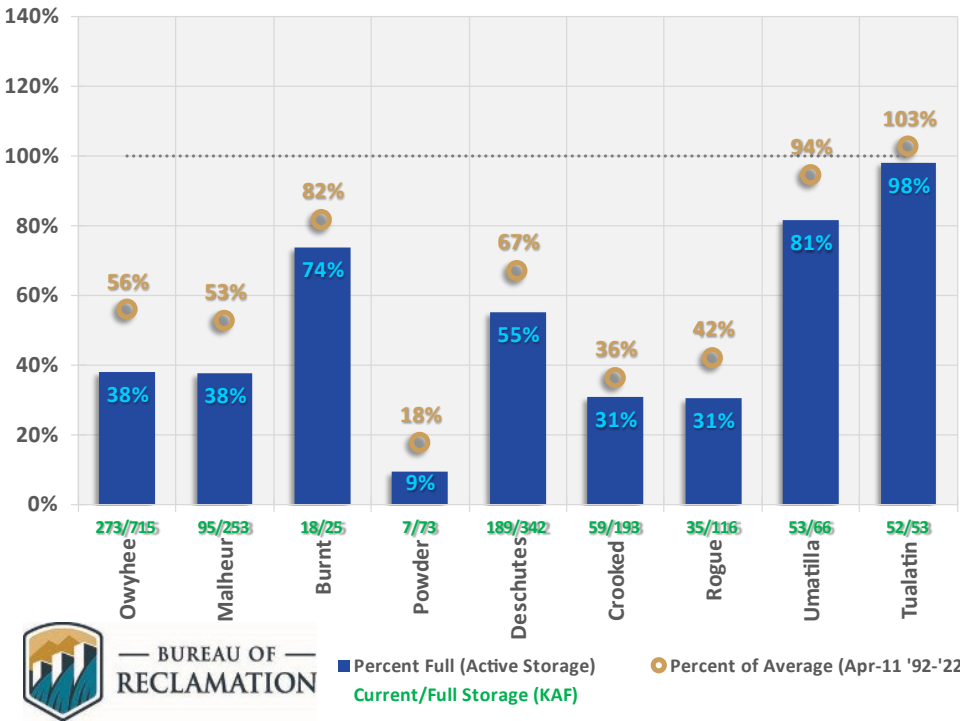
- **Operations Activities:**
 - A mix of active Flood Risk Management/Refill Management operations at some facilities (Scoggins, Malheur, Unity, Prineville) with other facilities releasing minimums to meet irrigation demands
 - Irrigation has been slow to start
- **Water Supply Notes**
 - Reservoirs filled dramatically during April/early May
 - Many facilities near full with most others at least back in or near the historical interquartile “normal” range



Storage Conditions

Oregon Reservoir Storage (May 9 2023)

Oregon Reservoir Storage (Apr 11 2023)



BUREAU OF RECLAMATION

■ Percent Full (Active Storage)
■ Current/Full Storage (KAF)

● Percent of Average (Apr-11 '92-'22)



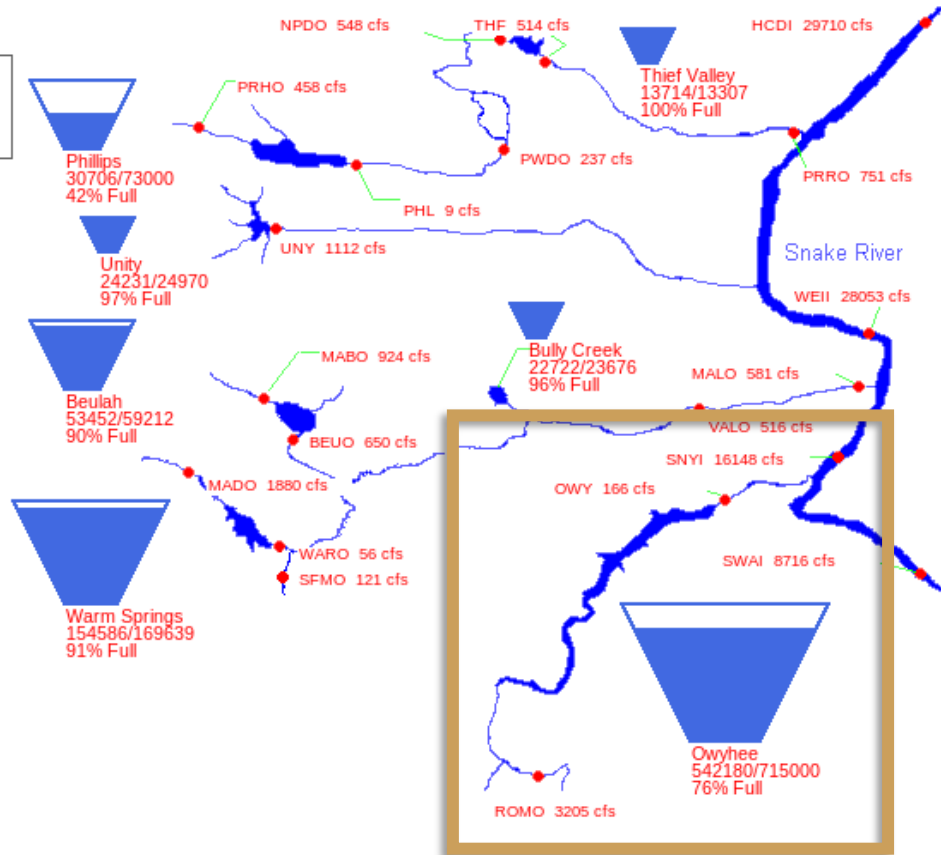
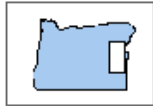
BUREAU OF RECLAMATION

■ Percent Full (Active Storage)
■ Current/Full Storage (KAF)

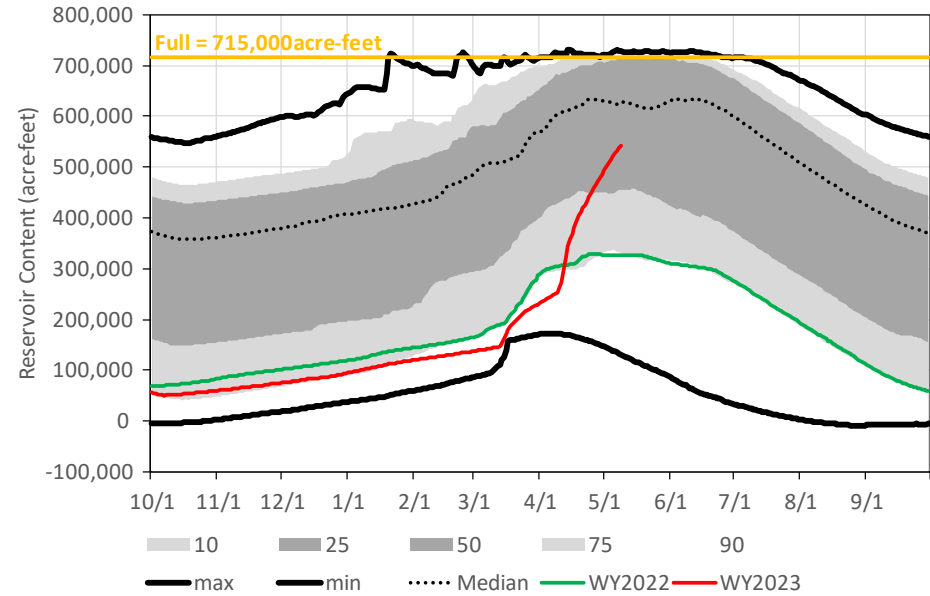
● Percent of Average (May-9 '92-'22)

Owyhee River Basin

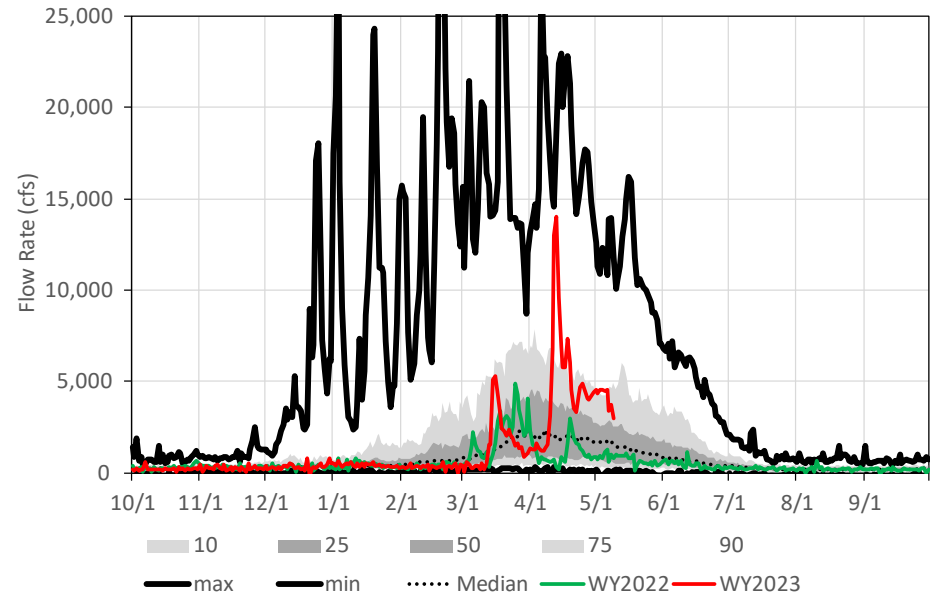
05/09/2023



Owyhee Reservoir
Historical Reservoir Content
Statistics based on WY1939WY2022 Data in Reclamation Hydromet Database

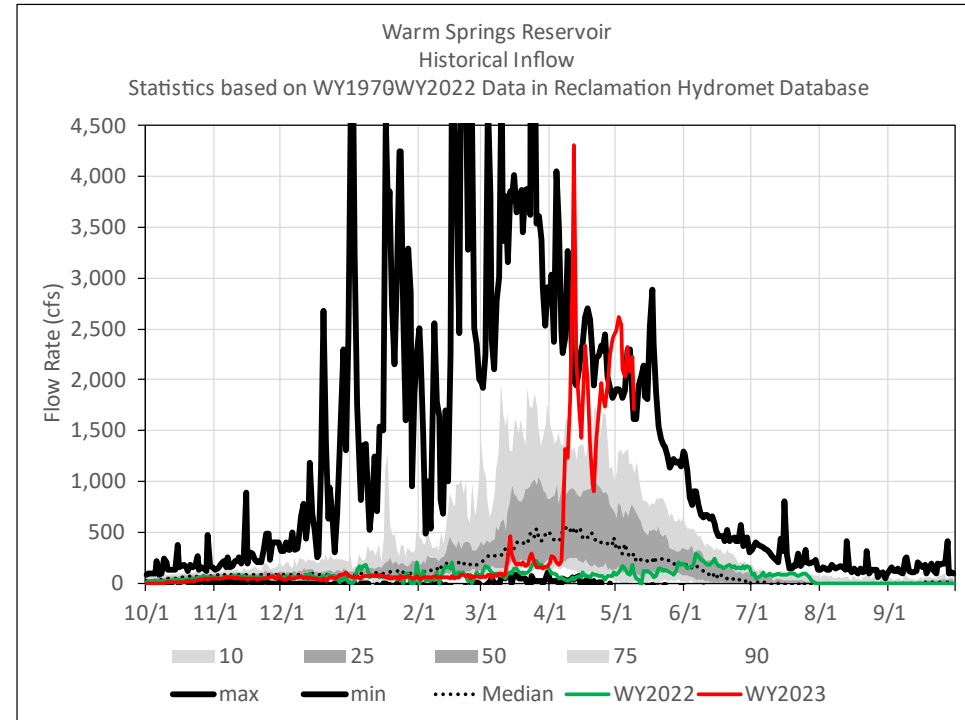
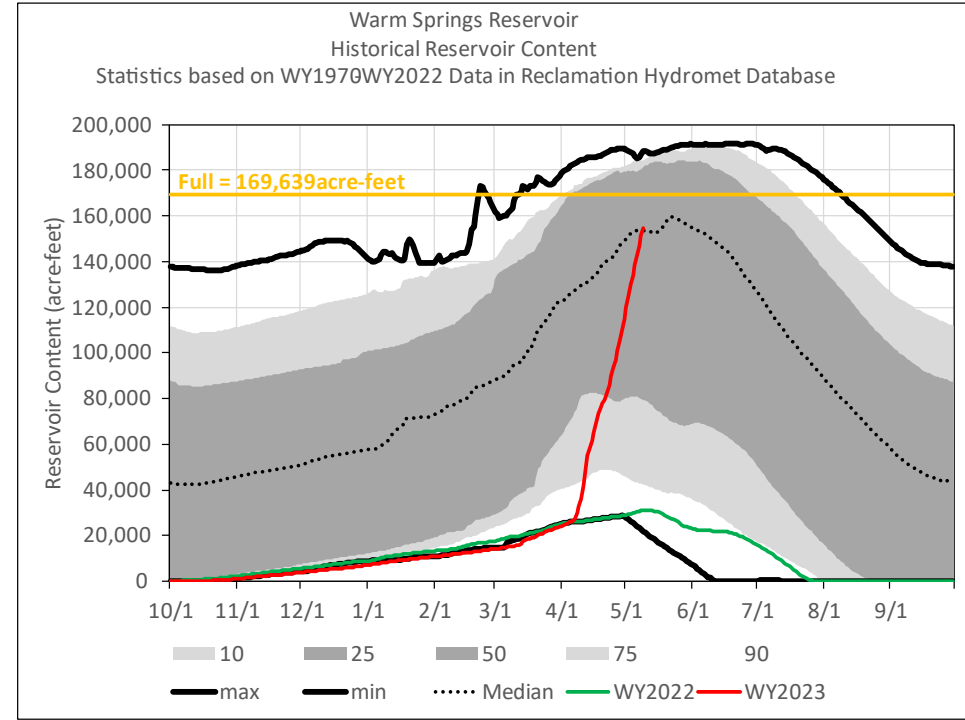
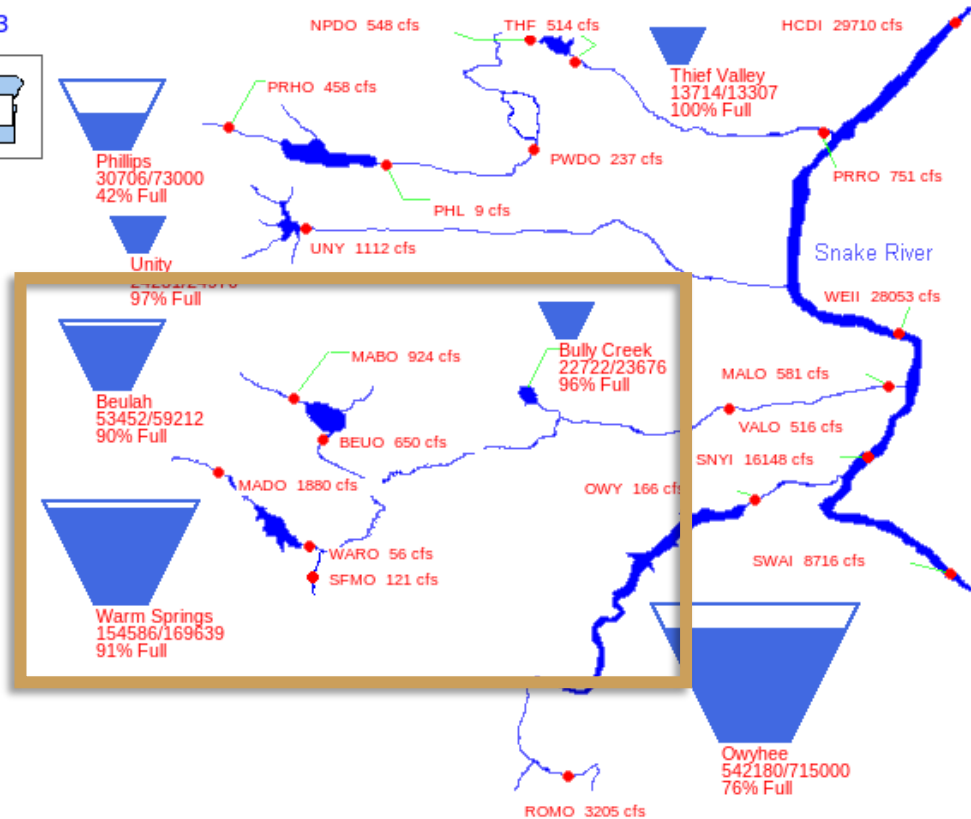
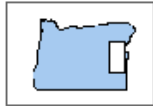


Owyhee Reservoir
Historical Inflow
Statistics based on WY1939WY2022 Data in Reclamation Hydromet Database



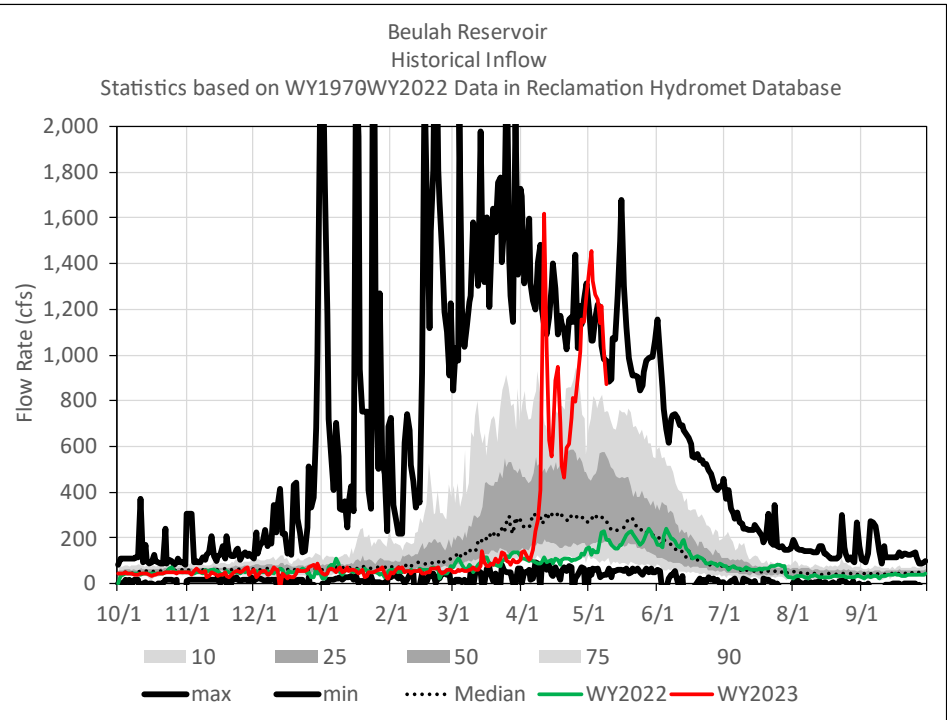
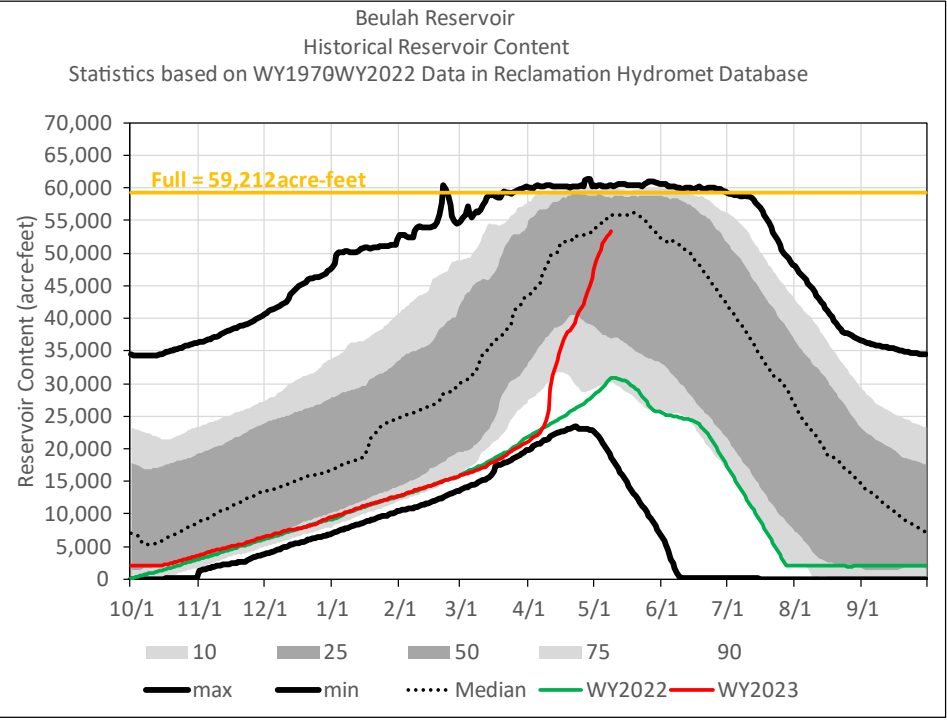
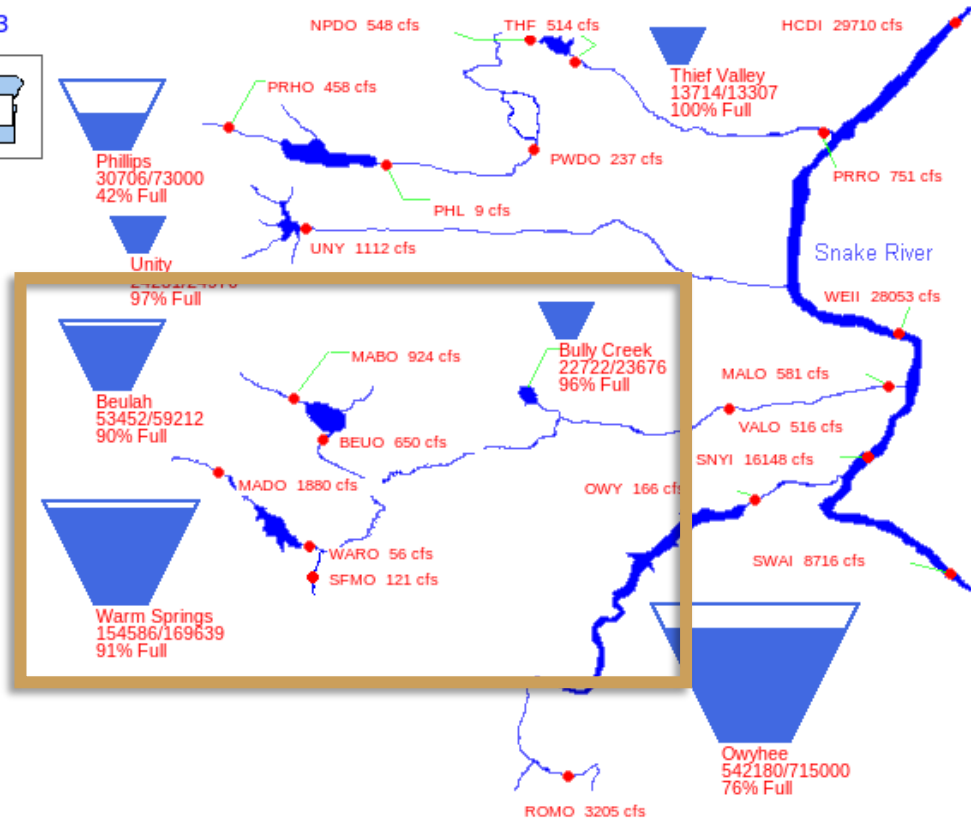
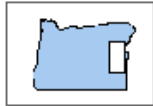
Malheur River Basin

05/09/2023



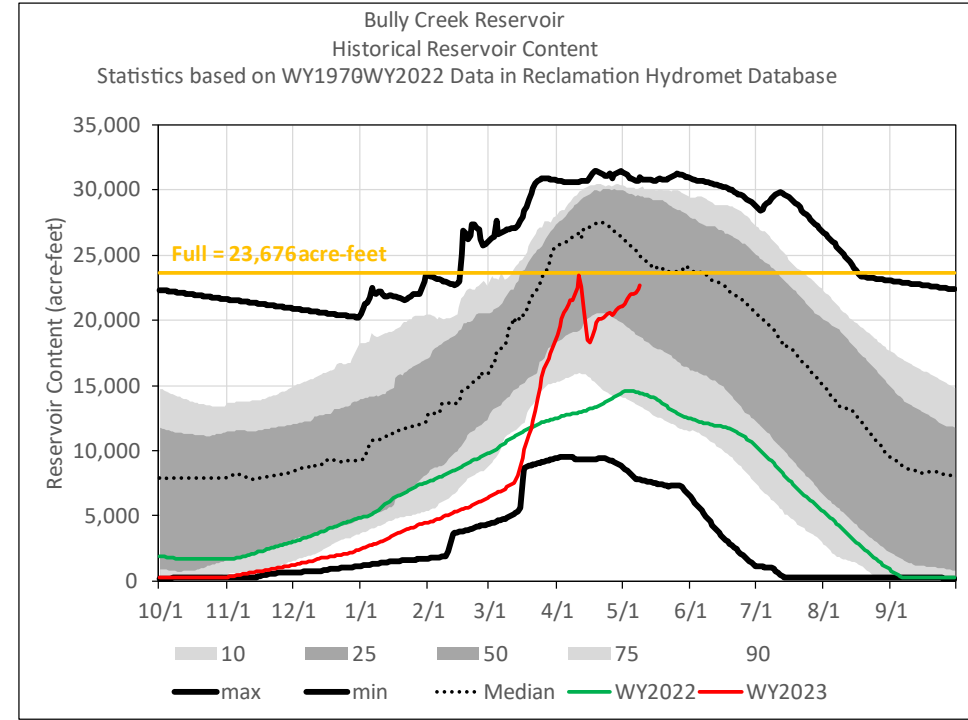
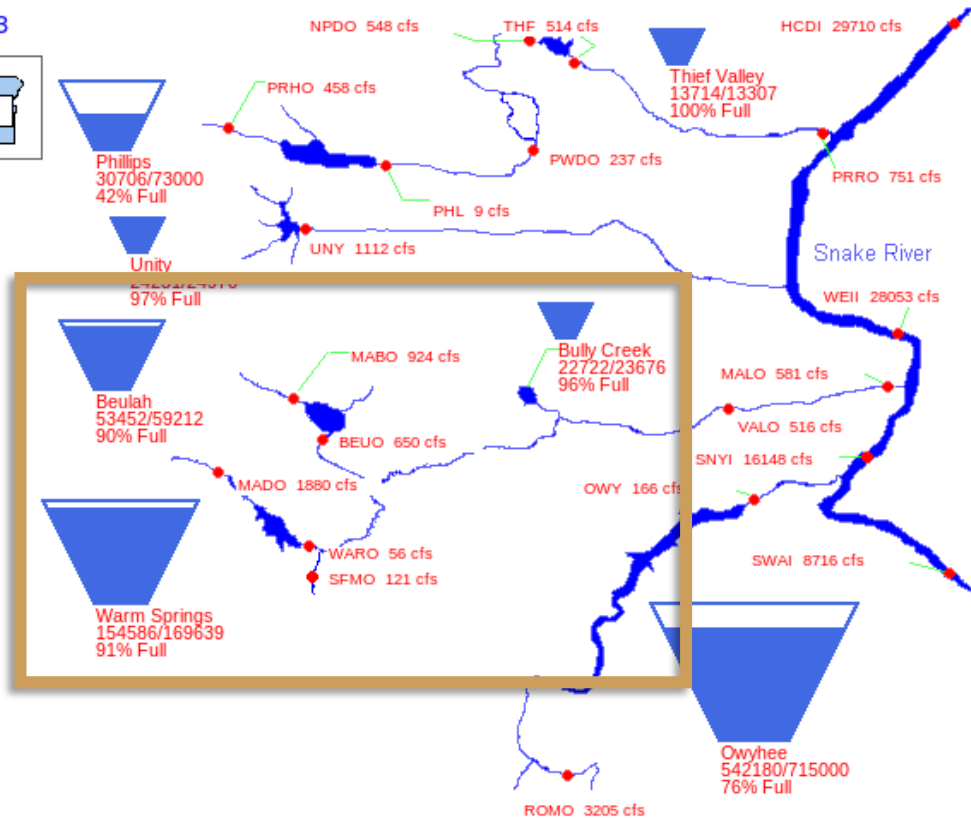
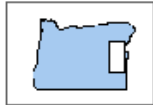
Malheur River Basin

05/09/2023



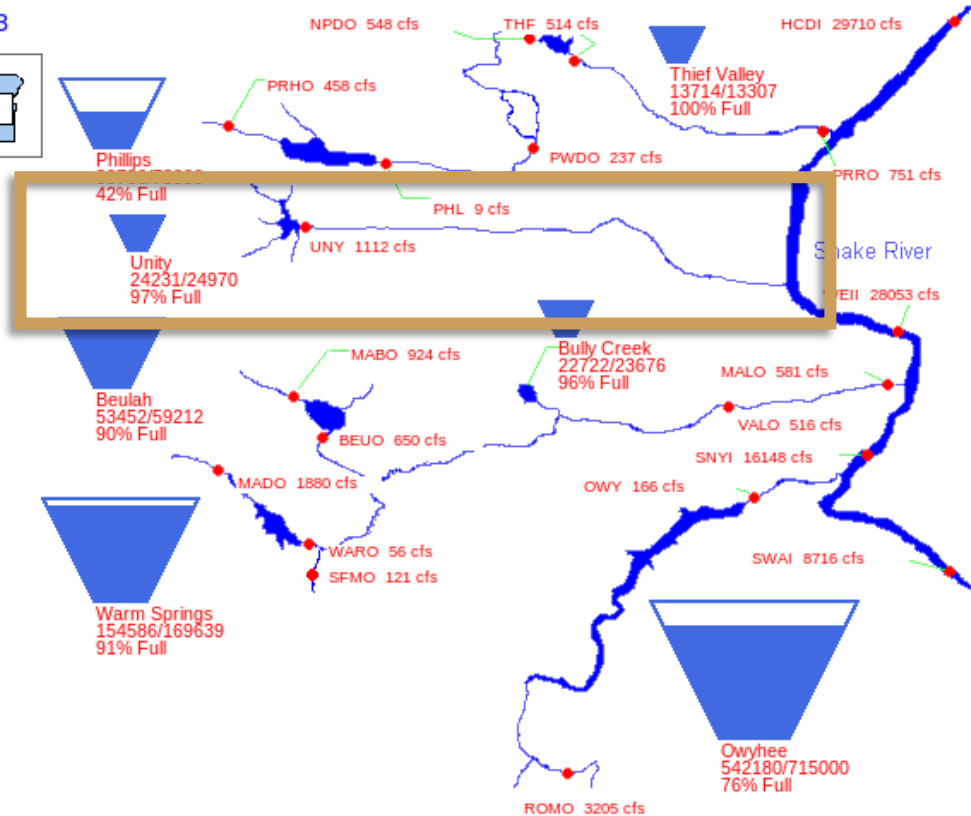
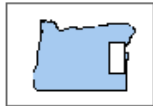
Malheur River Basin

05/09/2023

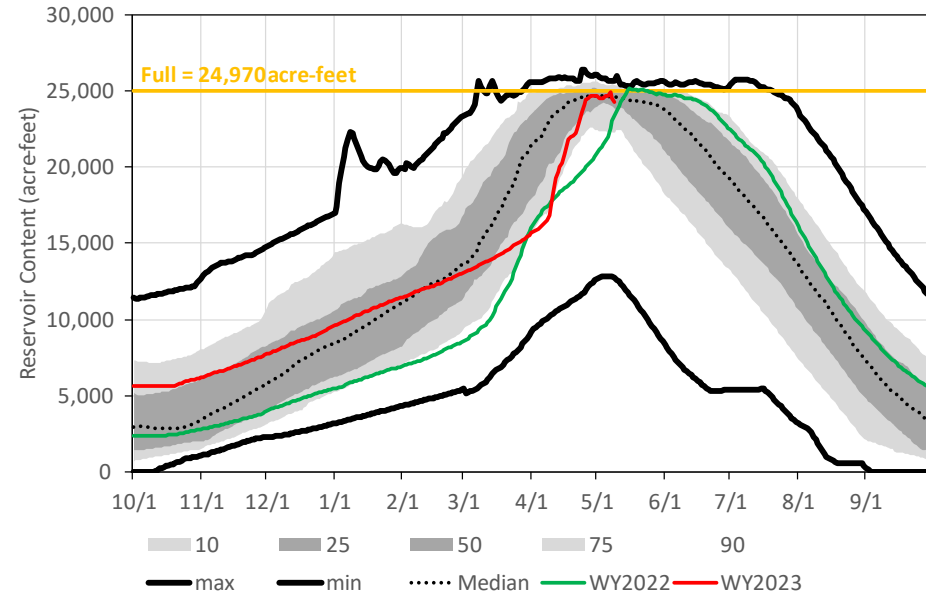


Burnt River Basin

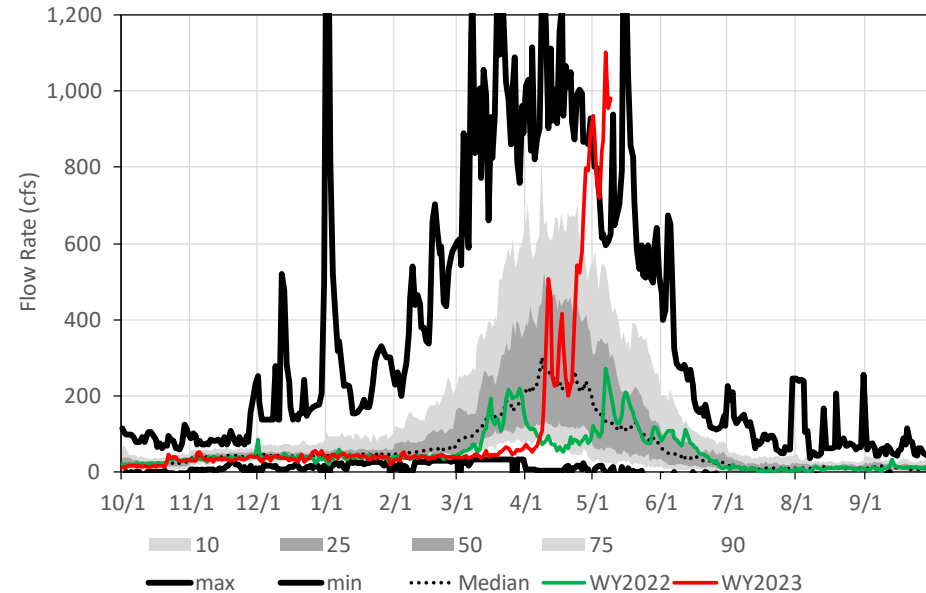
05/09/2023



Unity Reservoir
Historical Reservoir Content
Statistics based on WY1961-WY2022 Data in Reclamation Hydromet Database

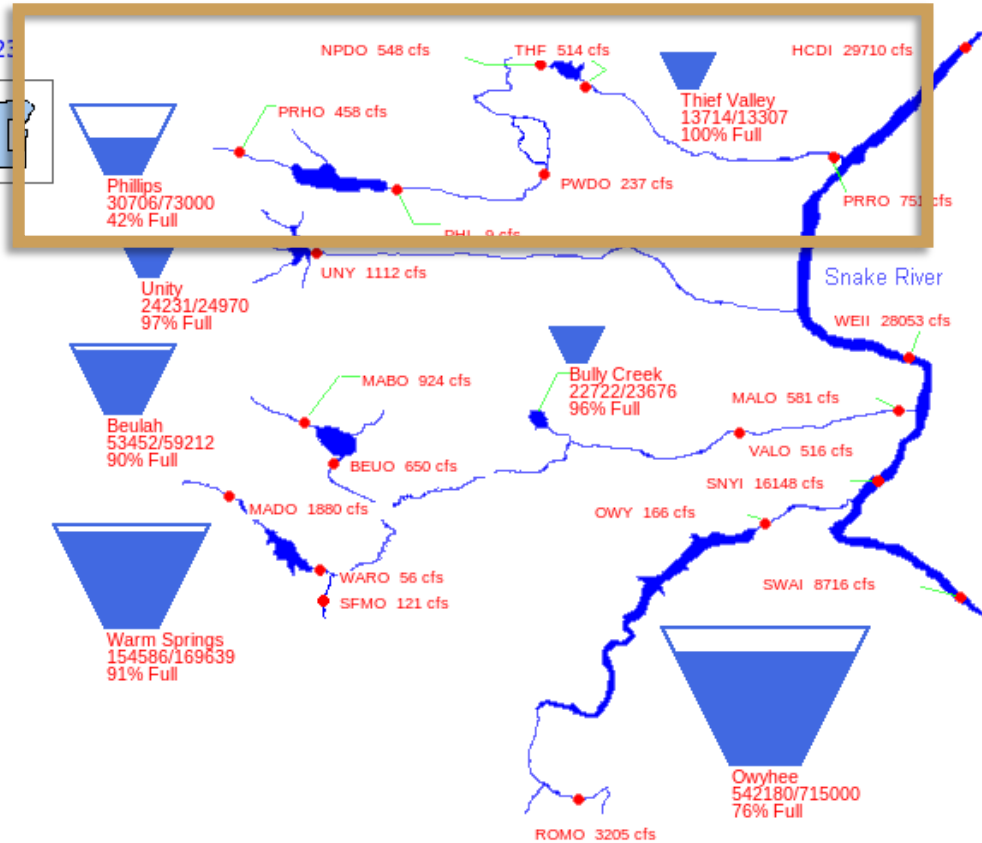


Unity Reservoir
Historical Inflow
Statistics based on WY1961-WY2022 Data in Reclamation Hydromet Database

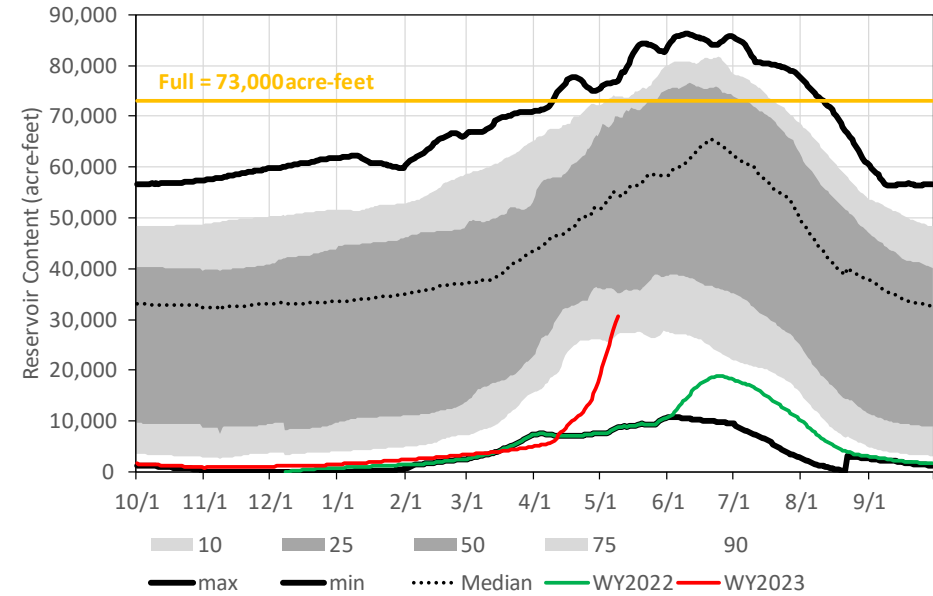


Powder River Basin

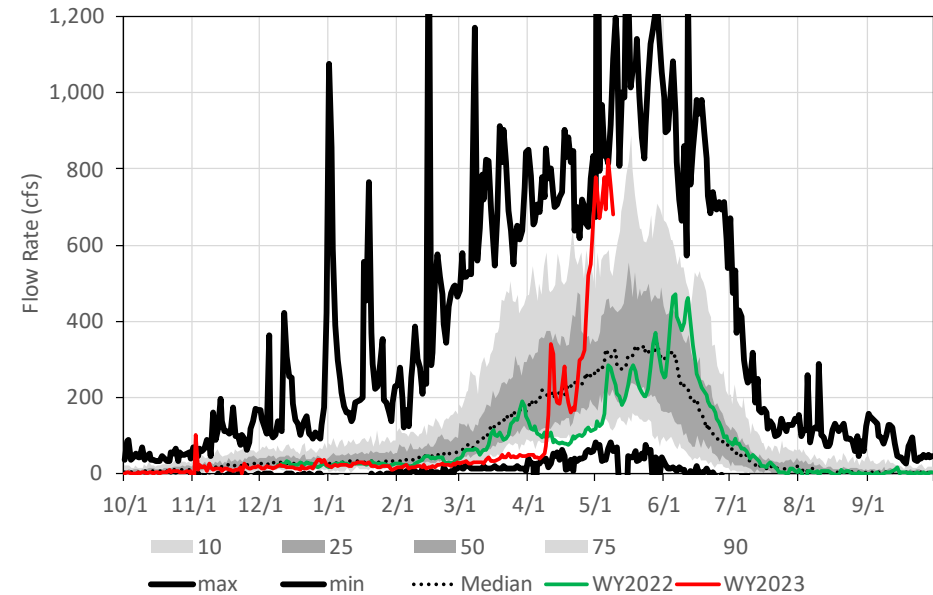
05/09/2023



Phillips Reservoir
Historical Reservoir Content
Statistics based on WY1968WY2022 Data in Reclamation Hydromet Database

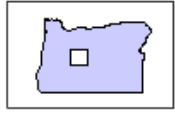


Phillips Reservoir
Historical Inflow
Statistics based on WY1968WY2022 Data in Reclamation Hydromet Database

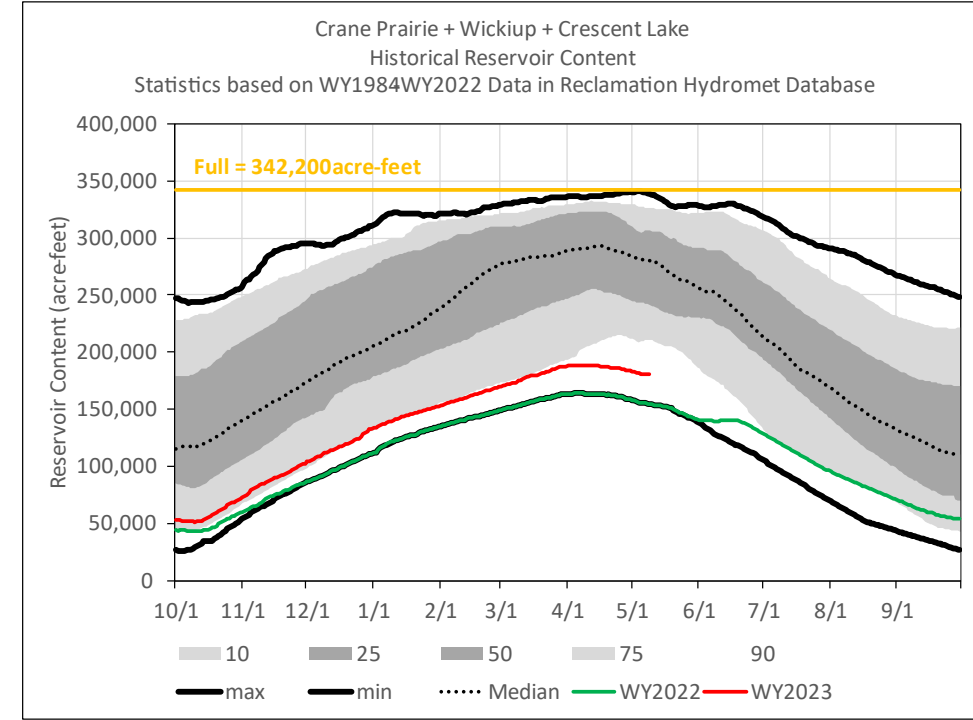
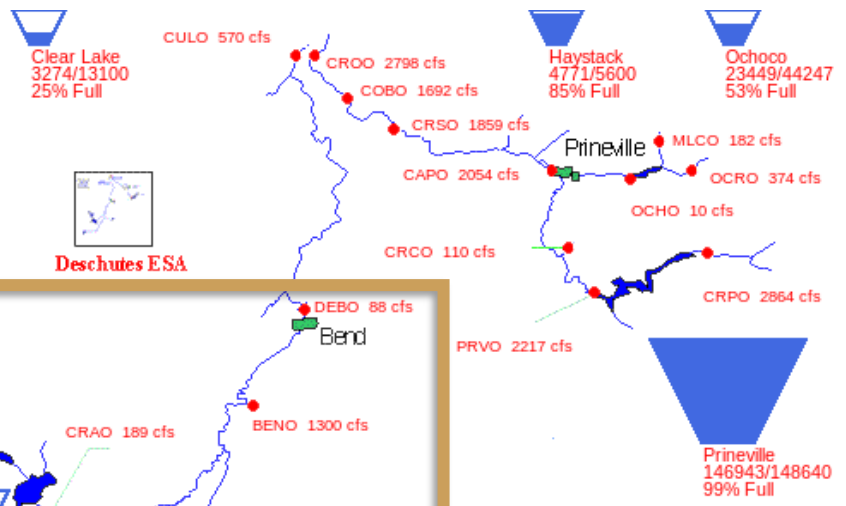
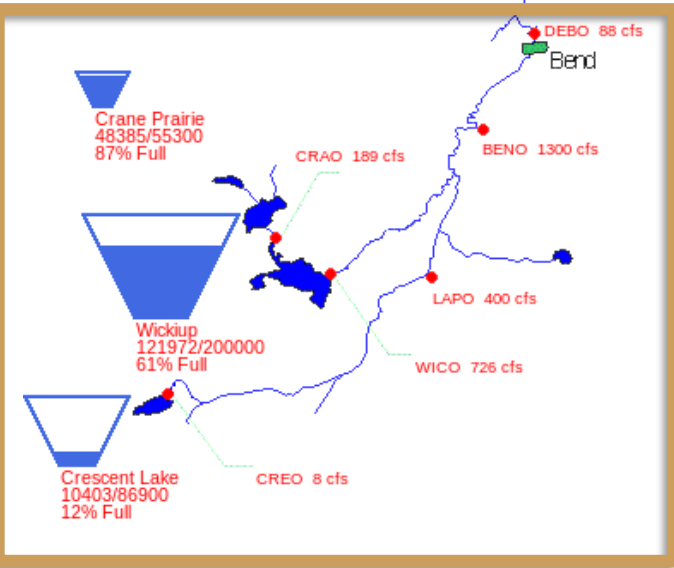


Deschutes River Basin

05/09/2023

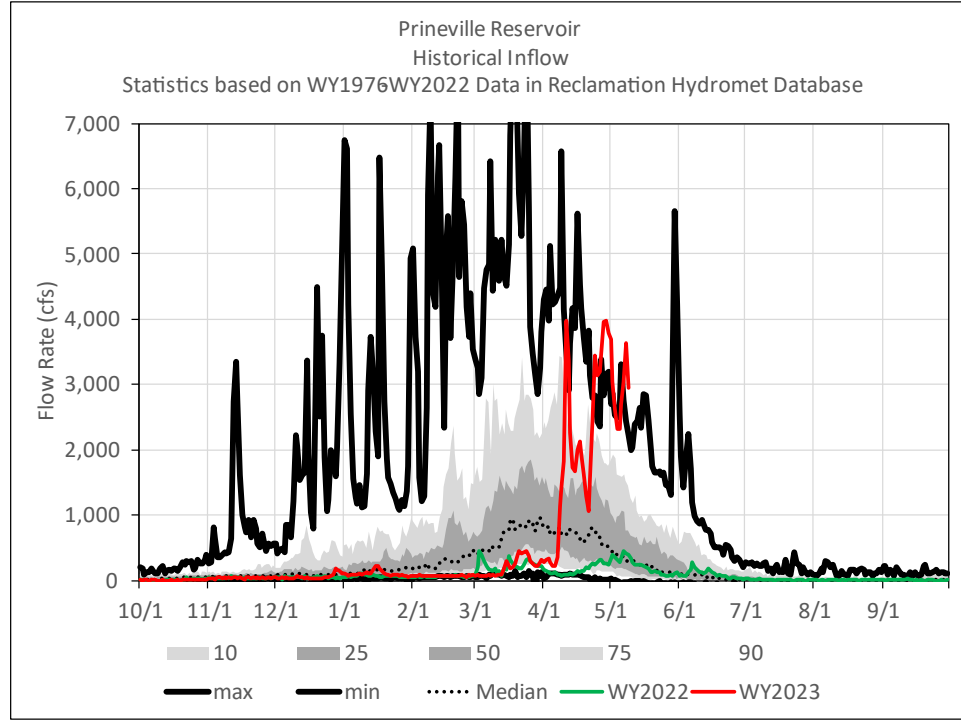
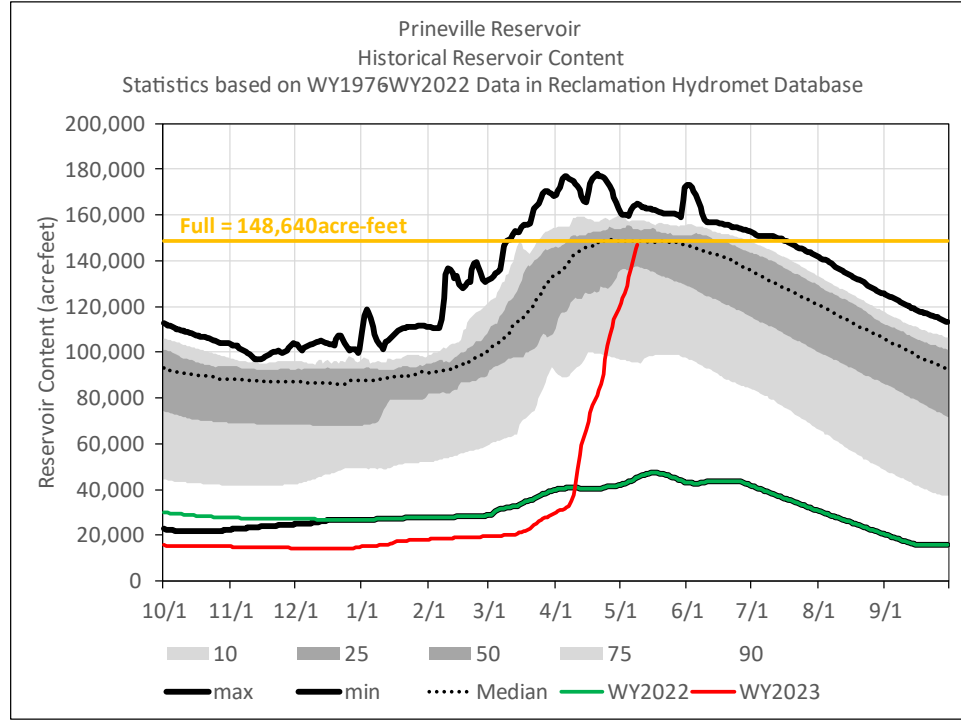
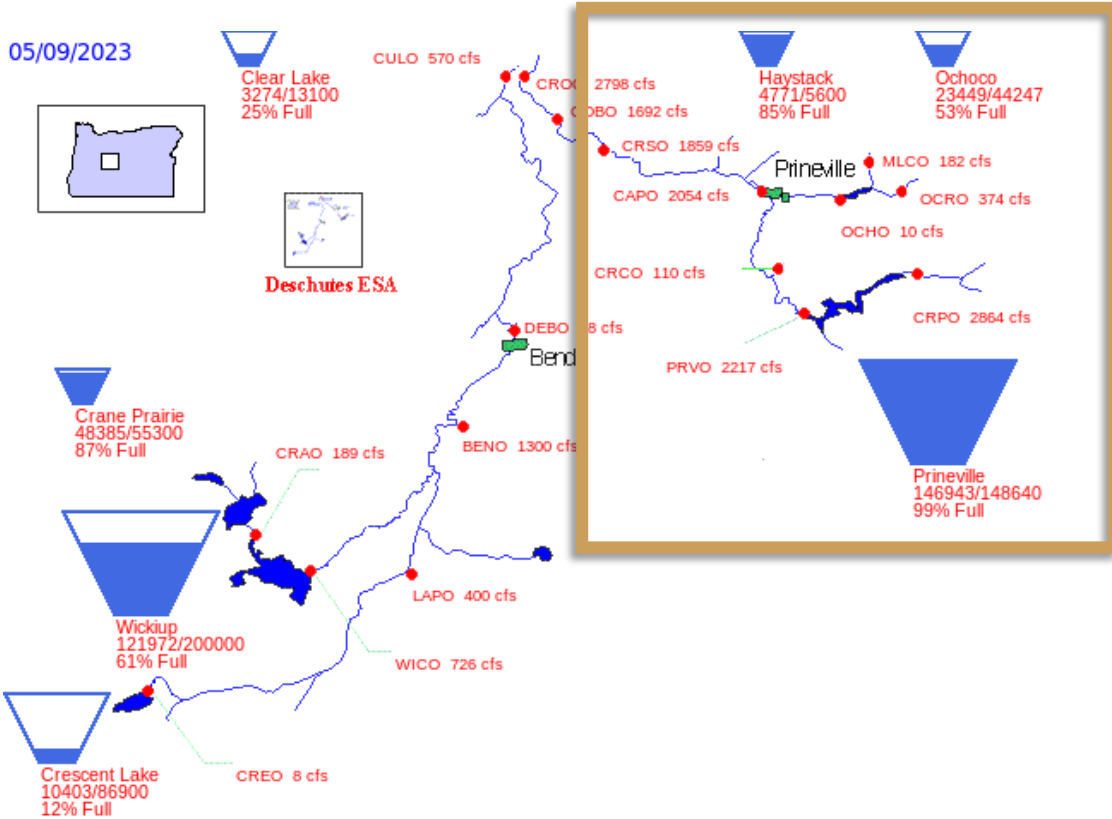


Deschutes ESA



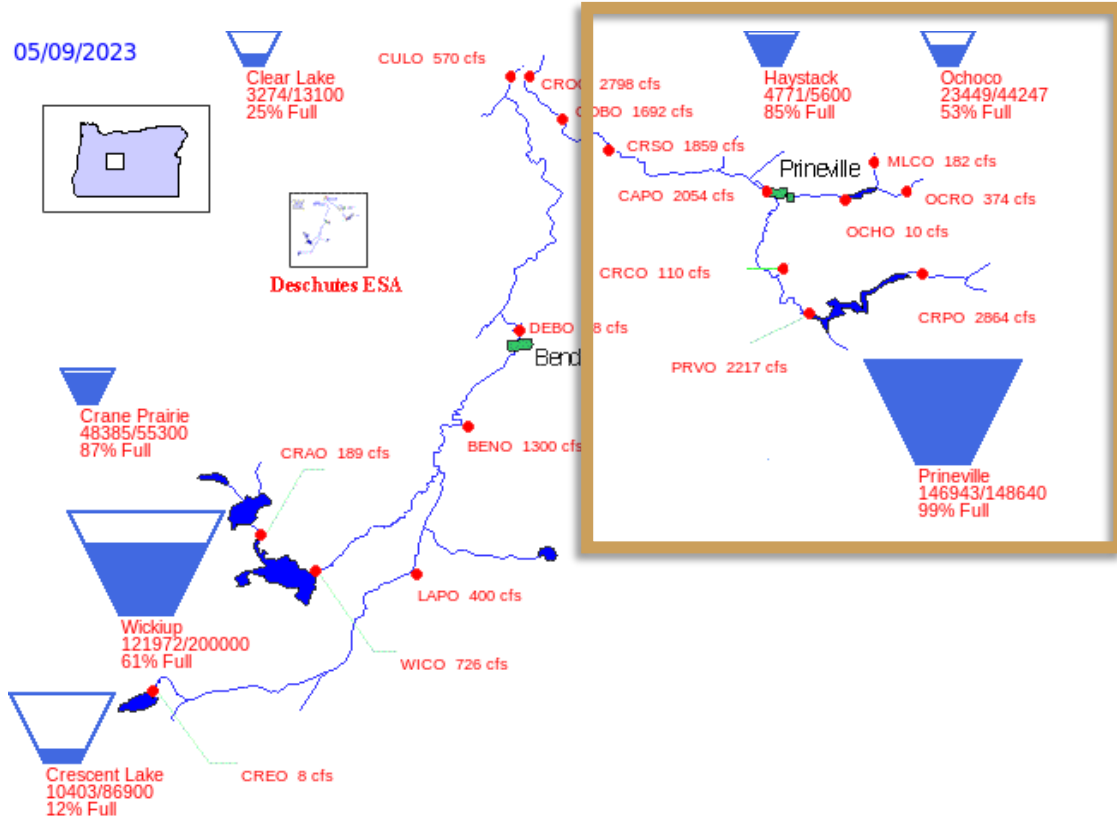
Crooked River Basin

05/09/2023

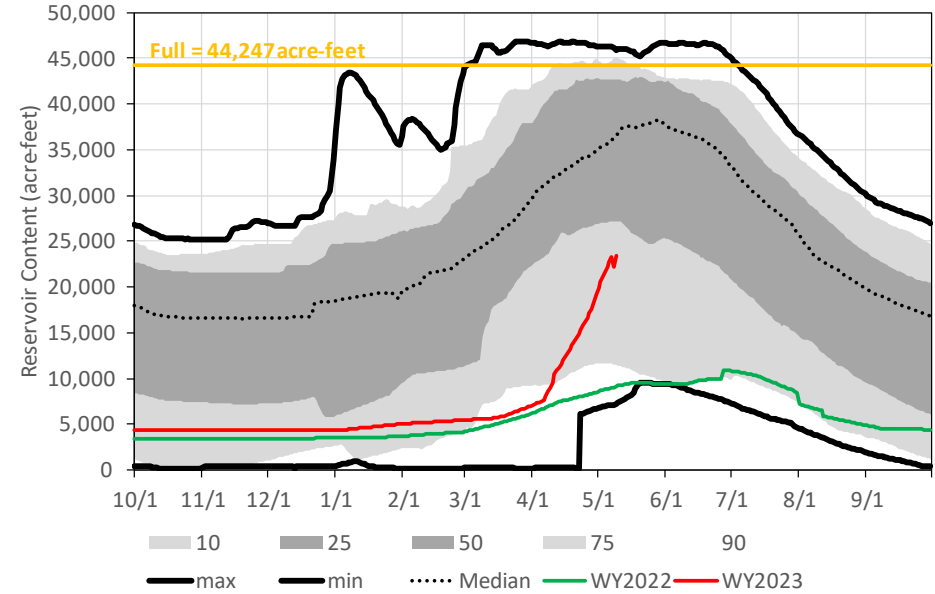


Crooked River Basin

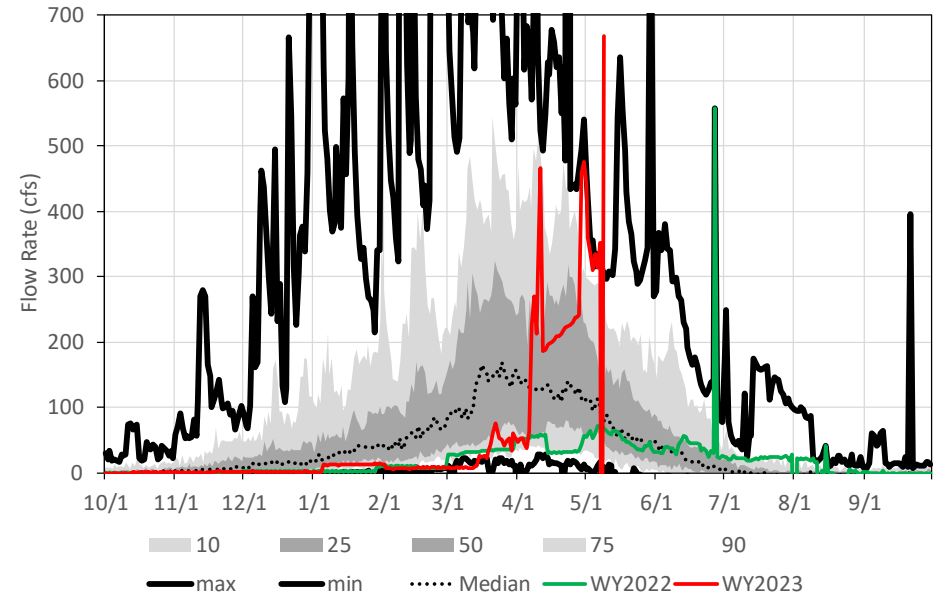
05/09/2023



Ochoco Reservoir
Historical Reservoir Content
Statistics based on WY1984WY2022 Data in Reclamation Hydromet Database

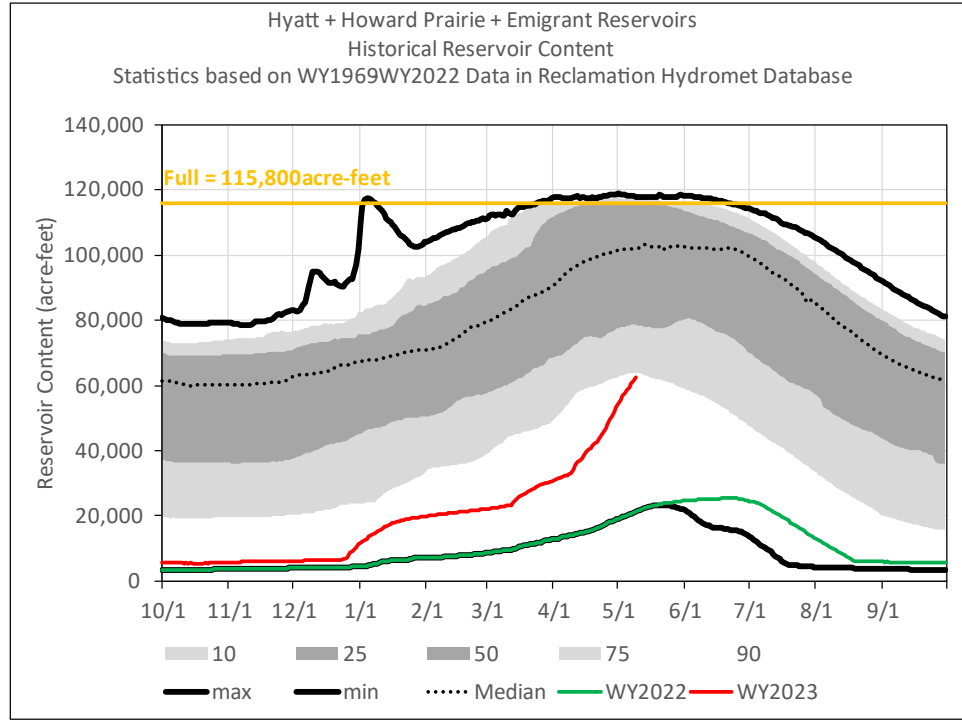
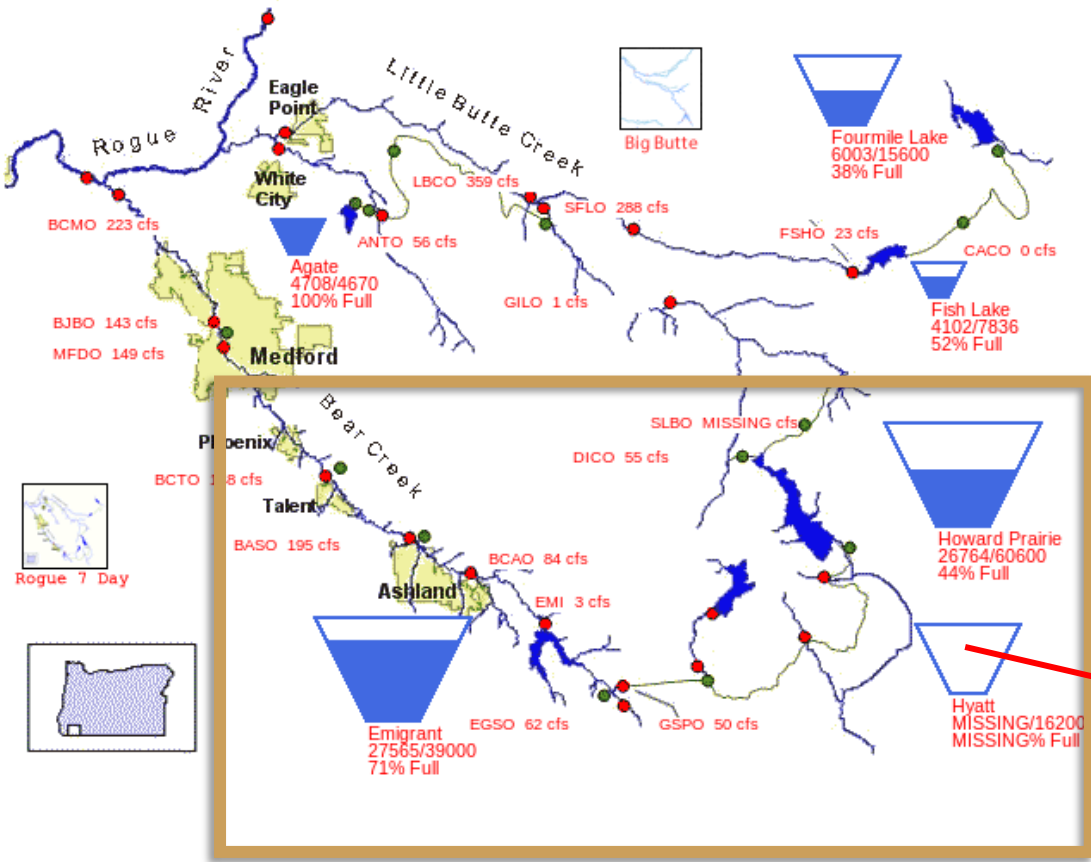


Ochoco Reservoir
Historical Inflow
Statistics based on WY1984WY2022 Data in Reclamation Hydromet Database



Rogue River Basin

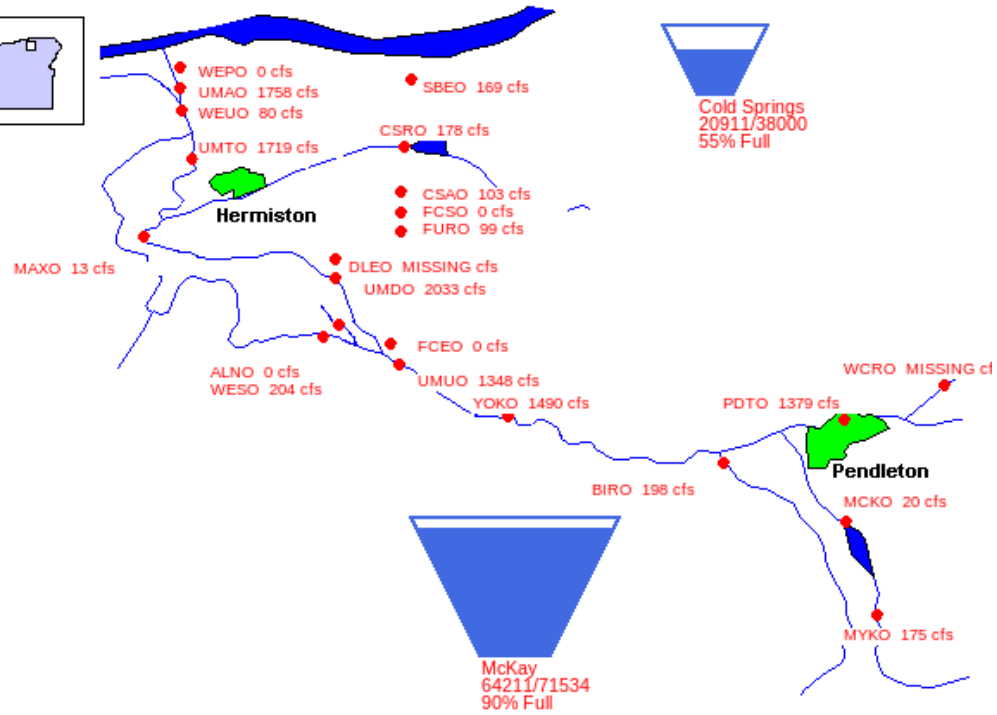
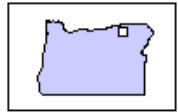
05/09/2023



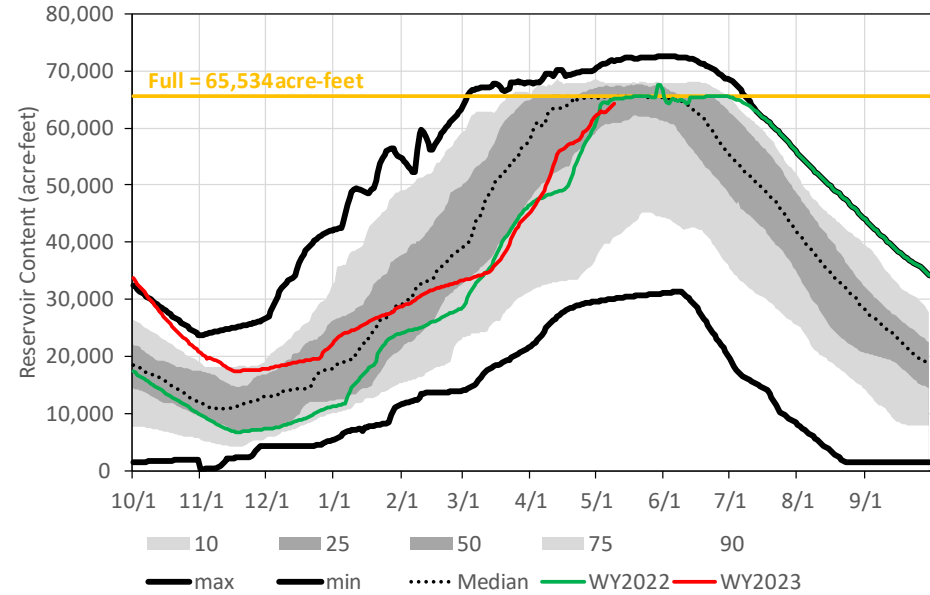
~8,000 ac-ft,
~50% capacity

Umatilla River Basin

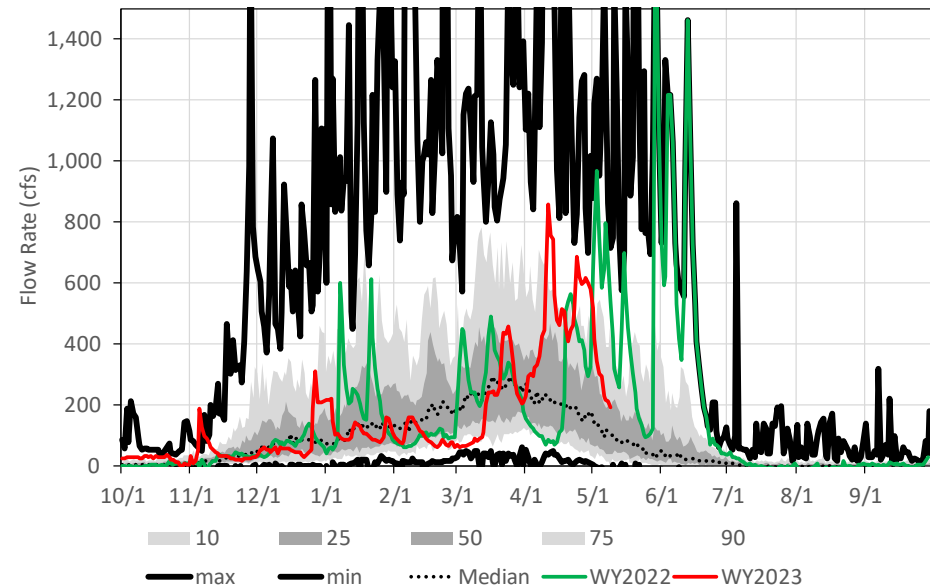
05/09/2023



McKay Reservoir
Historical Reservoir Content
Statistics based on WY1974-WY2022 Data in Reclamation Hydromet Database

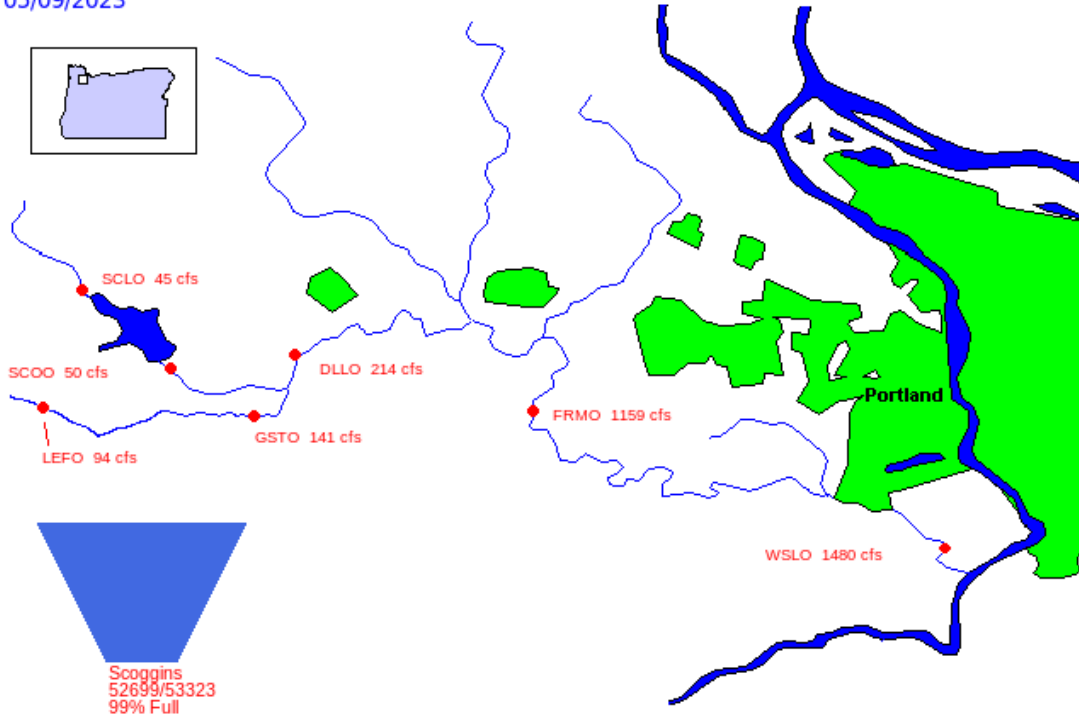


McKay Reservoir
Historical Inflow
Statistics based on WY1974-WY2022 Data in Reclamation Hydromet Database

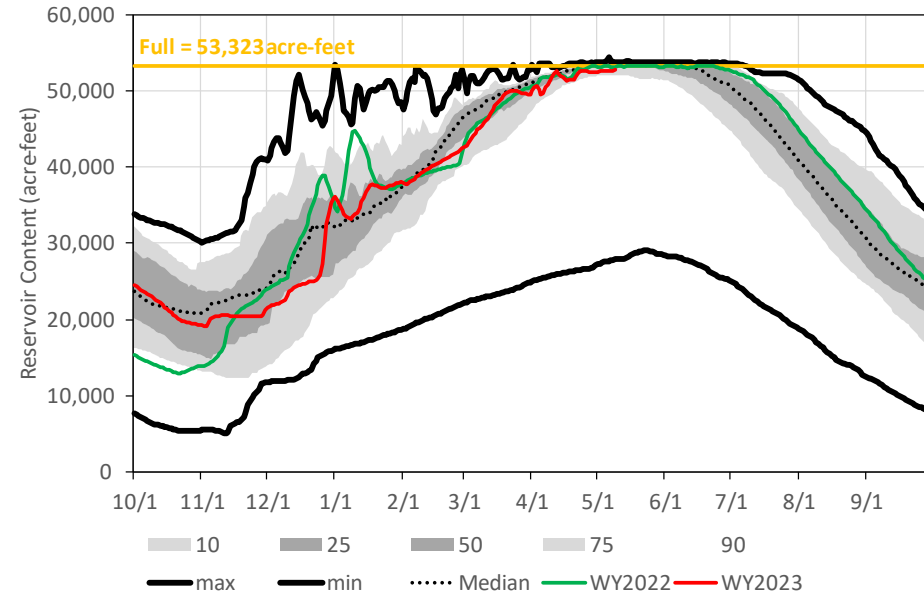


Tualatin River Basin

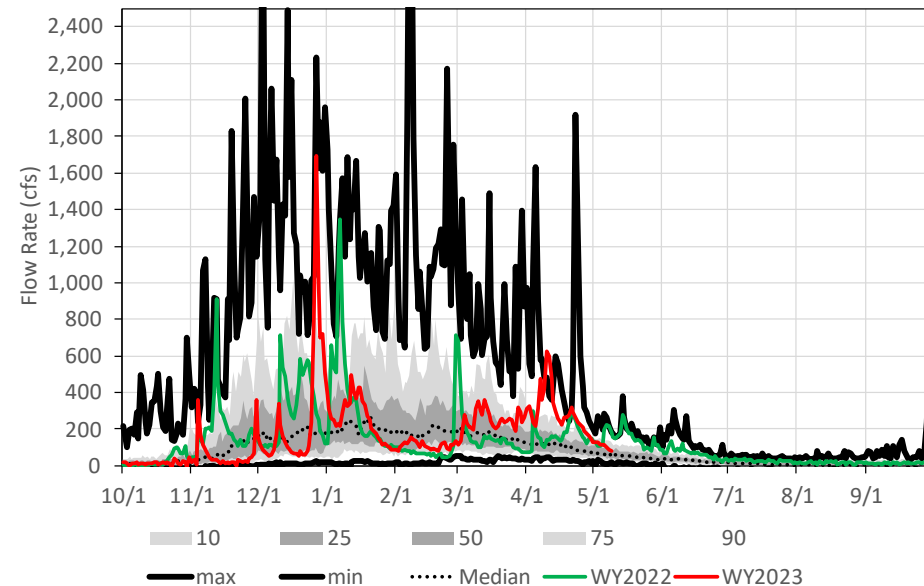
05/09/2023



Scoggins Reservoir
Historical Reservoir Content
Statistics based on WY1977WY2022 Data in Reclamation Hydromet Database



Scoggins Reservoir
Historical Inflow
Statistics based on WY1977WY2022 Data in Reclamation Hydromet Database



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— BUREAU OF —
RECLAMATION