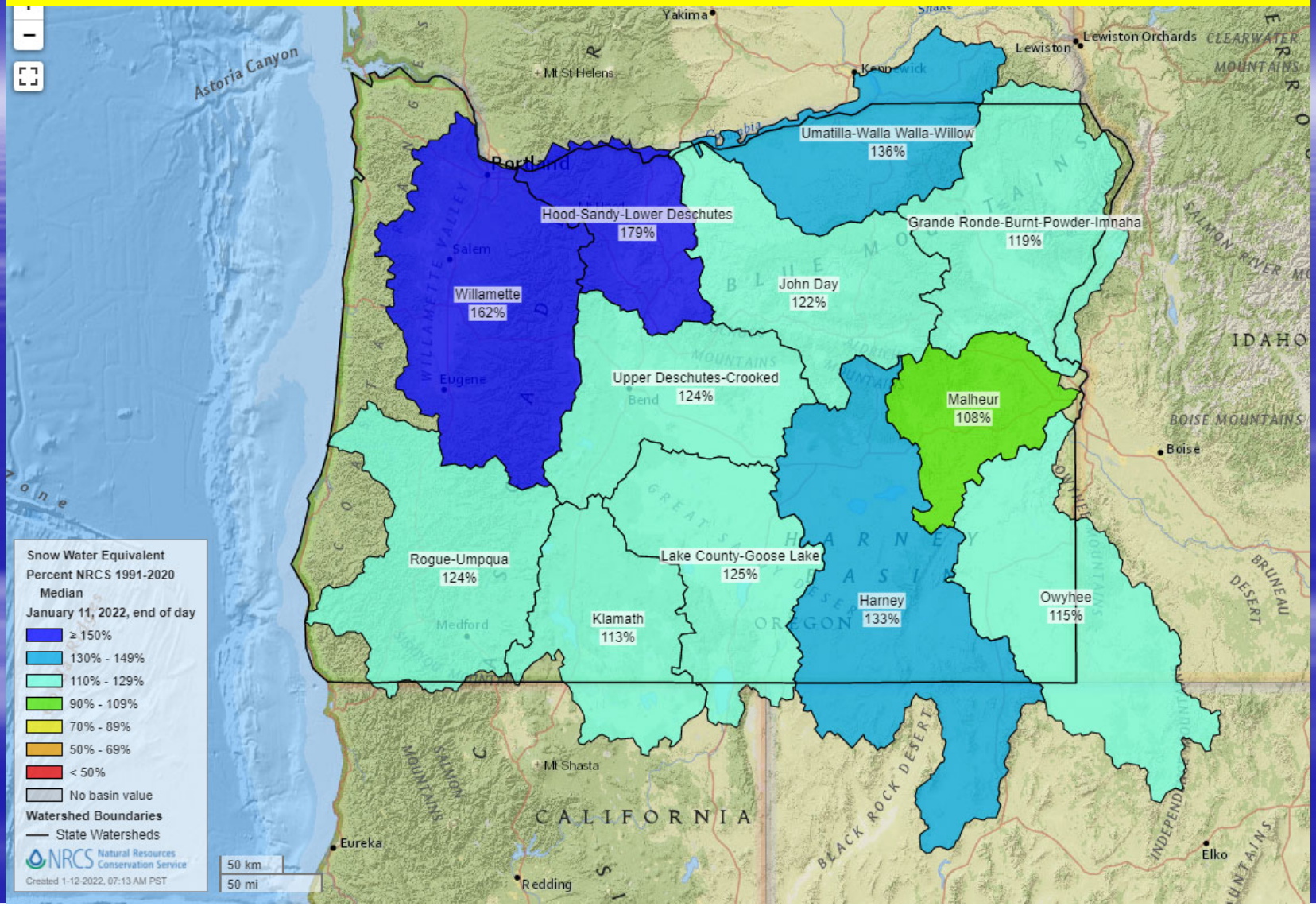
Anthony Lakes Snow Course January 26, 2022
Baker County

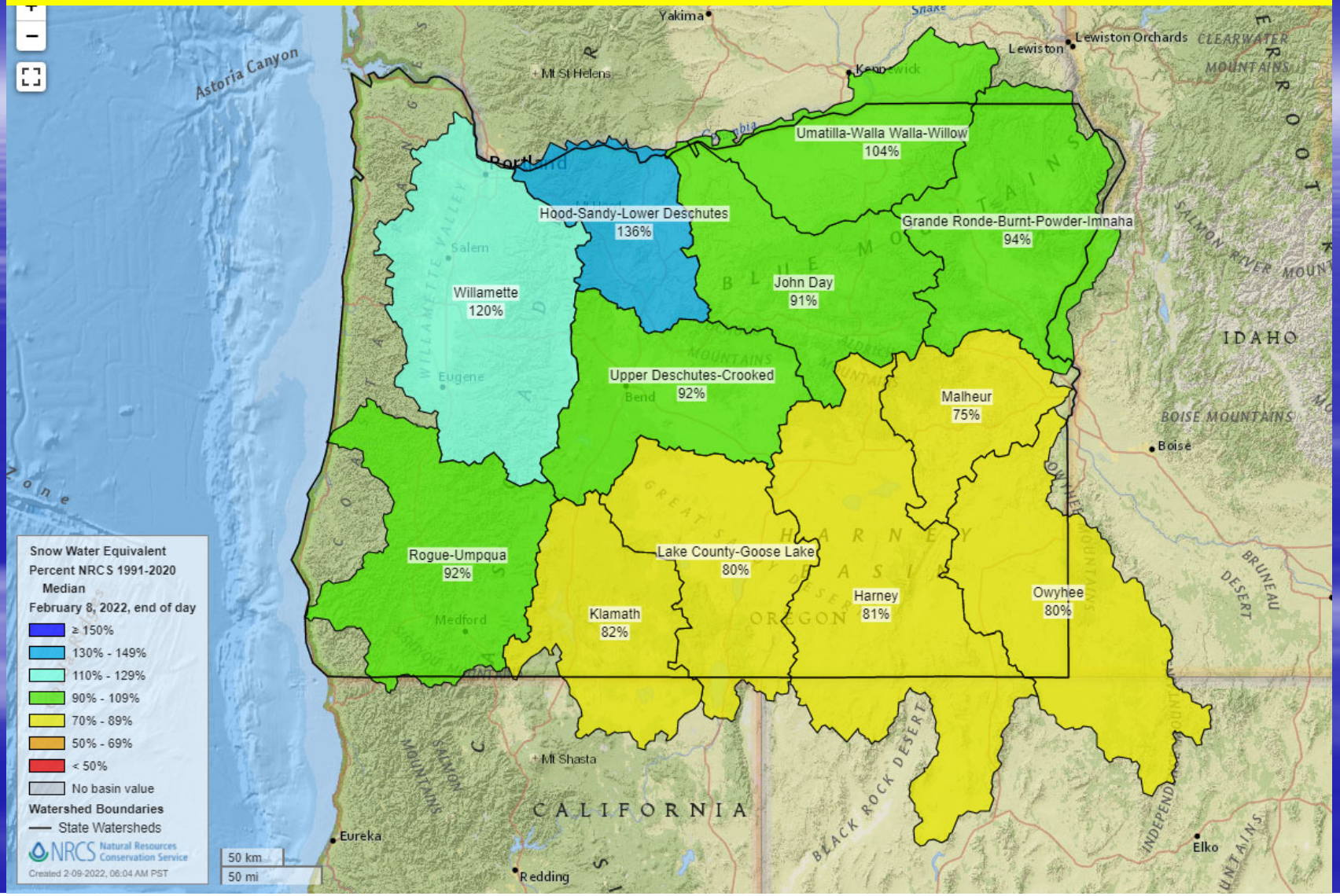
Oregon Water Supply Availability Committee
February 9, 2022

H. Scott Oviatt
USDA – Natural Resources Conservation Service
scott.oviatt@usda.gov
541-429-2359

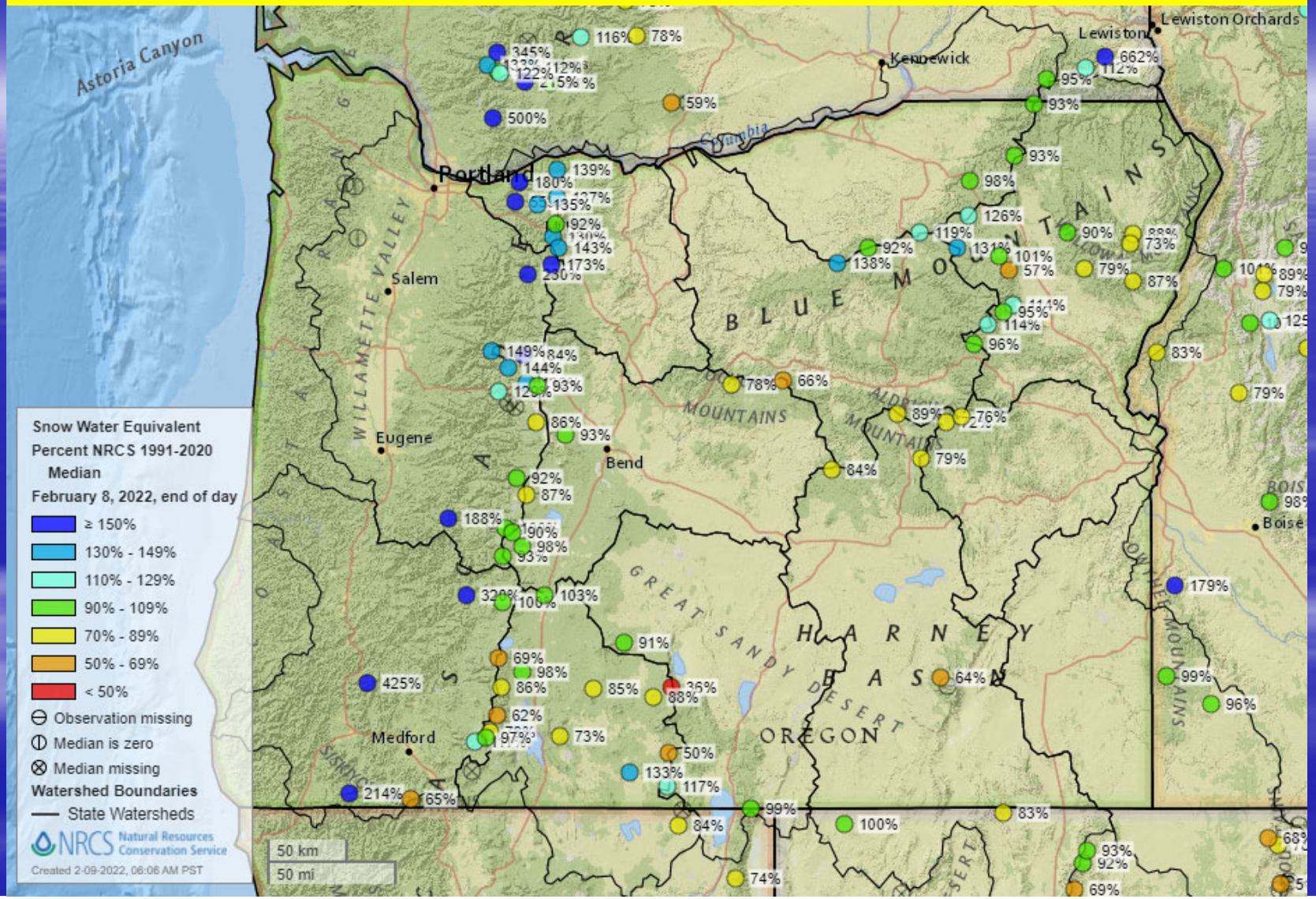
January 12, 2022, Statewide SNOTEL Snow Water Equivalent was 139% of 1991-2020 median



February 9, 2022, Statewide SNOTEL Snow Water Equivalent is 104% of 1991-2020 median

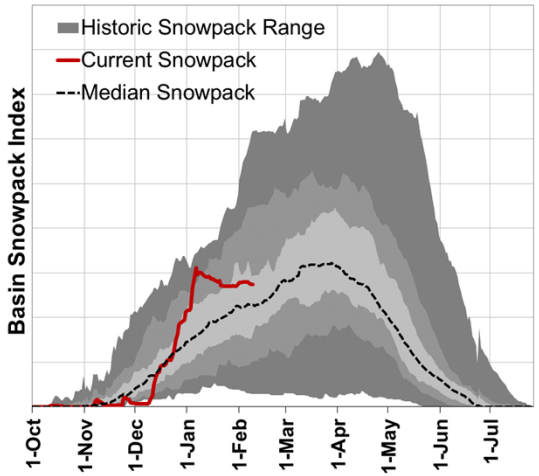


February 9, 2022, Statewide SNOTEL Snow Water Equivalent is 104% of 1991-2020 median

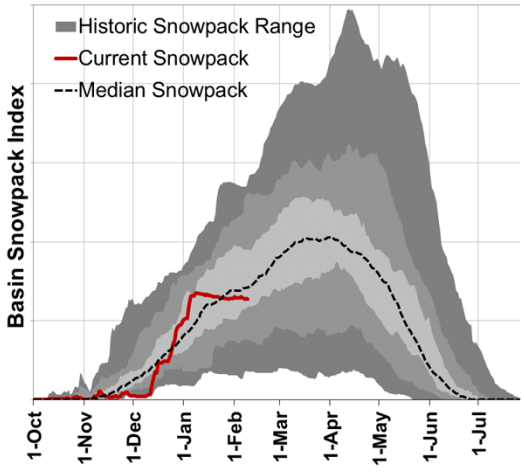


OREGON SNOWPACK GRAPHS – February 9, 2022

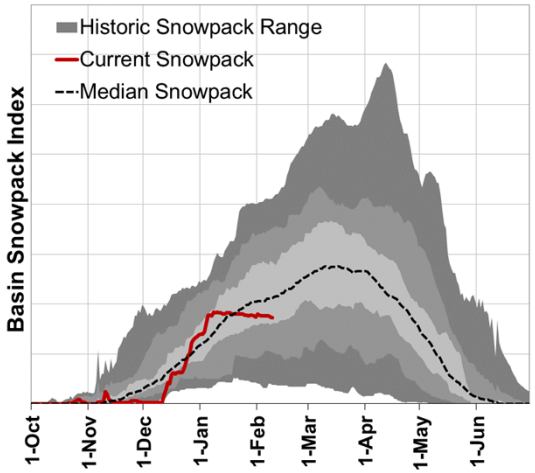
Willamette



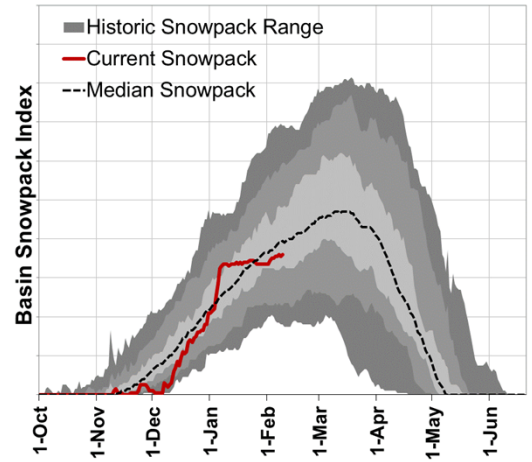
Rogue-Umpqua



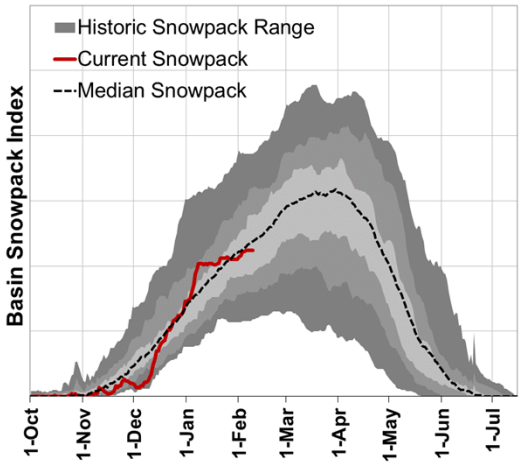
Klamath



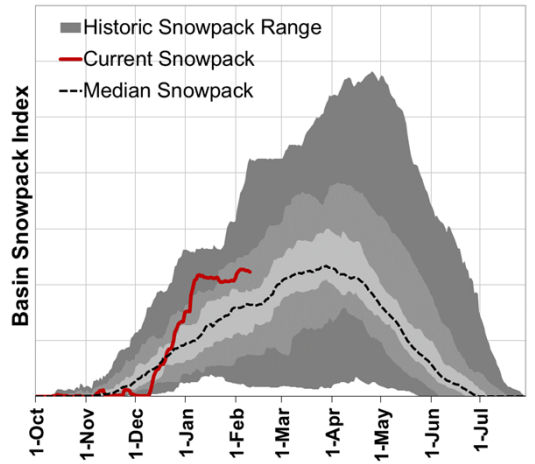
John Day



Grande Ronde-Burnt-Powder-Imnaha

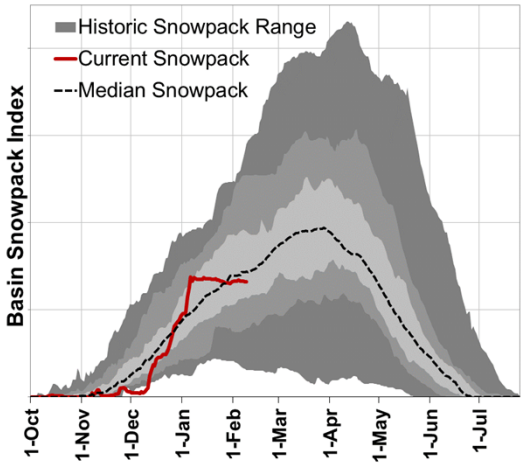


Hood-Sandy-Lower Deschutes

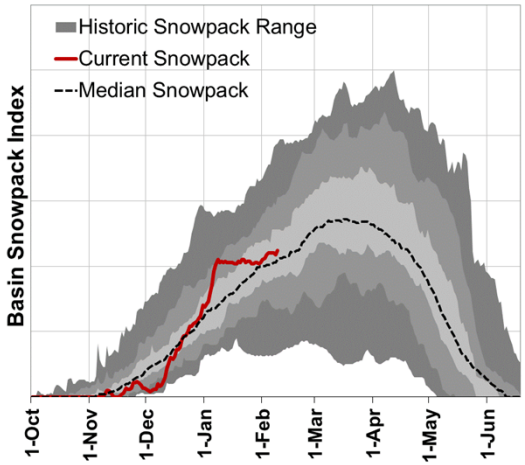


OREGON SNOWPACK GRAPHS – February 9, 2022

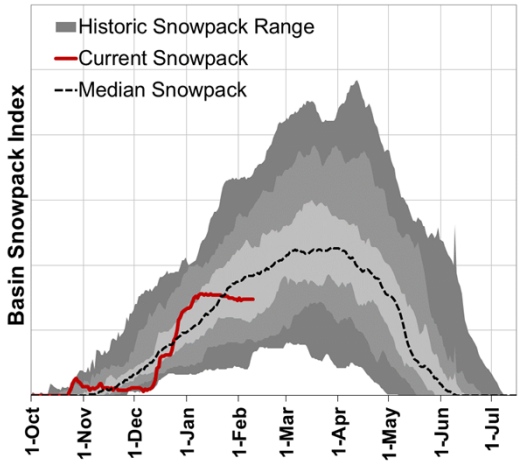
Upper Deschutes-Crooked



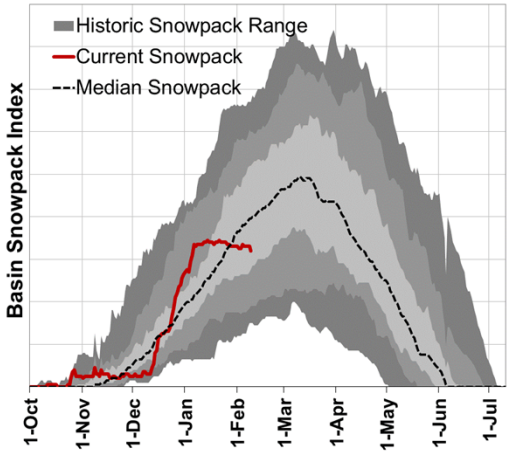
Umatilla-Walla Walla-Willow



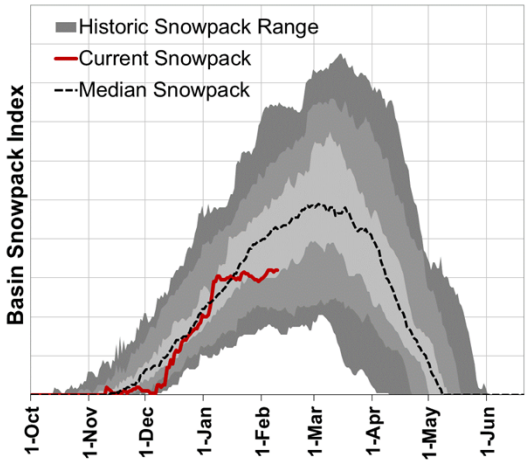
Lake County-Goose Lake



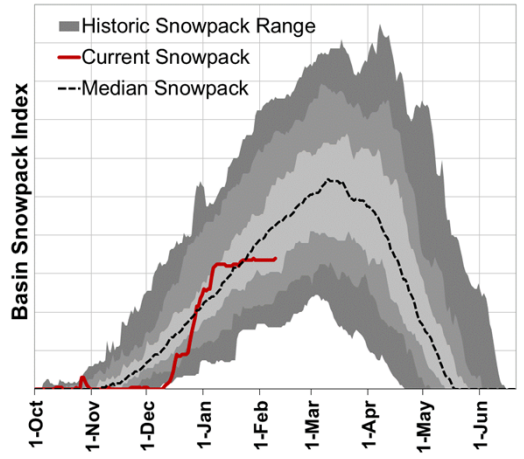
Harney



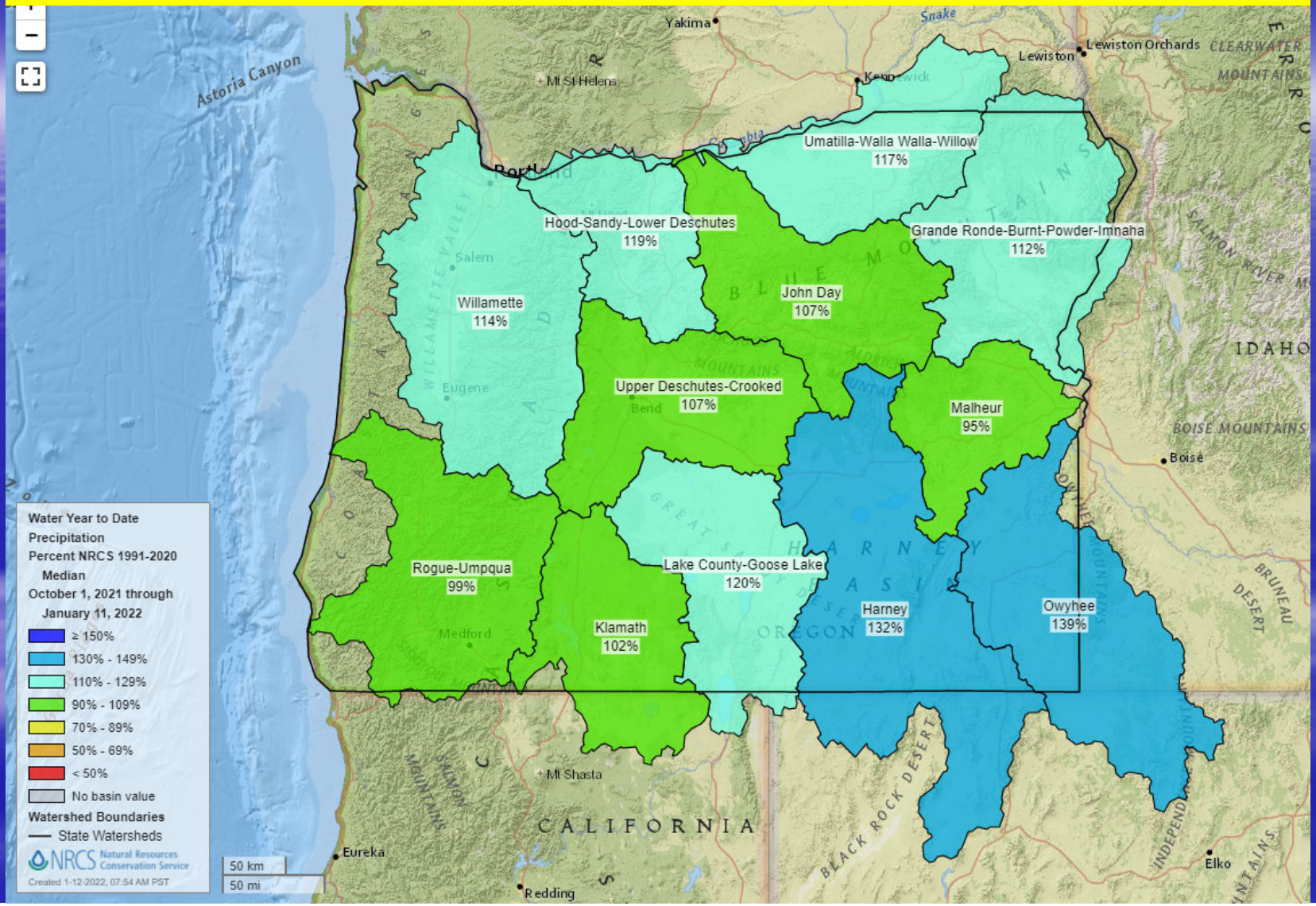
Malheur



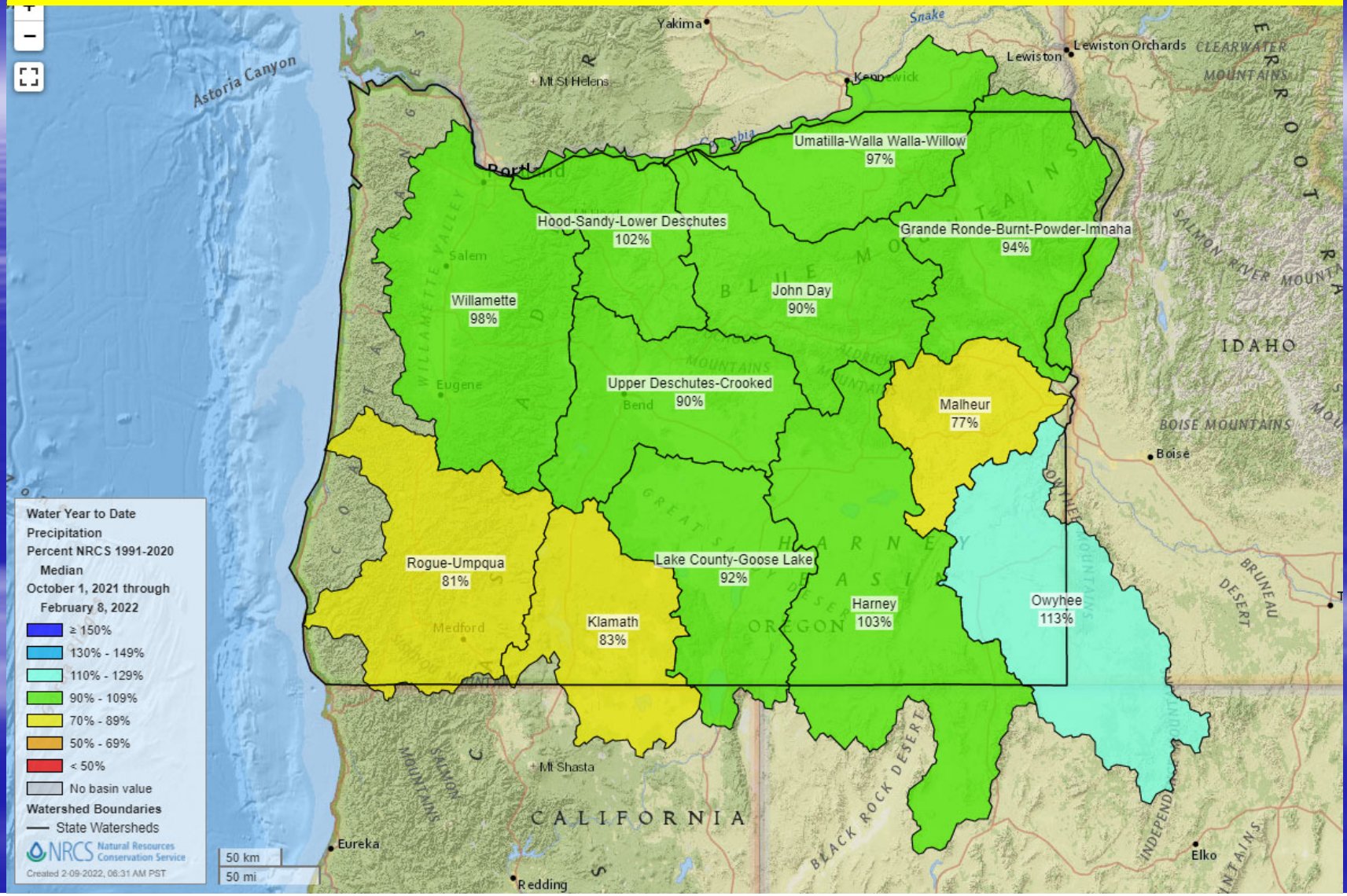
Owyhee



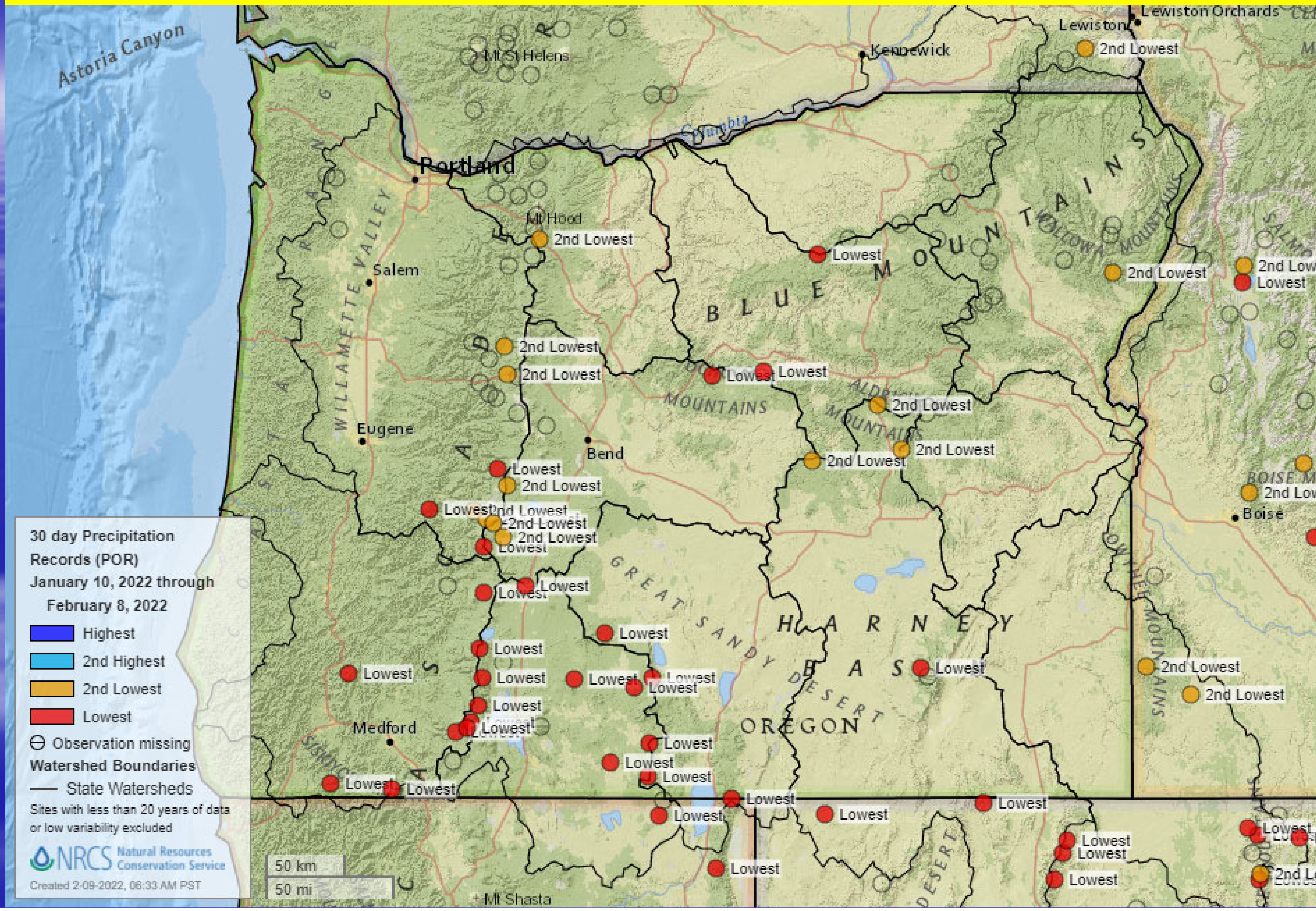
January 12, 2022, SNOTEL Water Year Precipitation was 111% of 1991-2020 median



February 9, 2022, SNOTEL Water Year Precipitation is 94% of 1991-2020 median



SNOTEL 30-Day Precipitation Records – January 10, 2022, through February 8, 2022

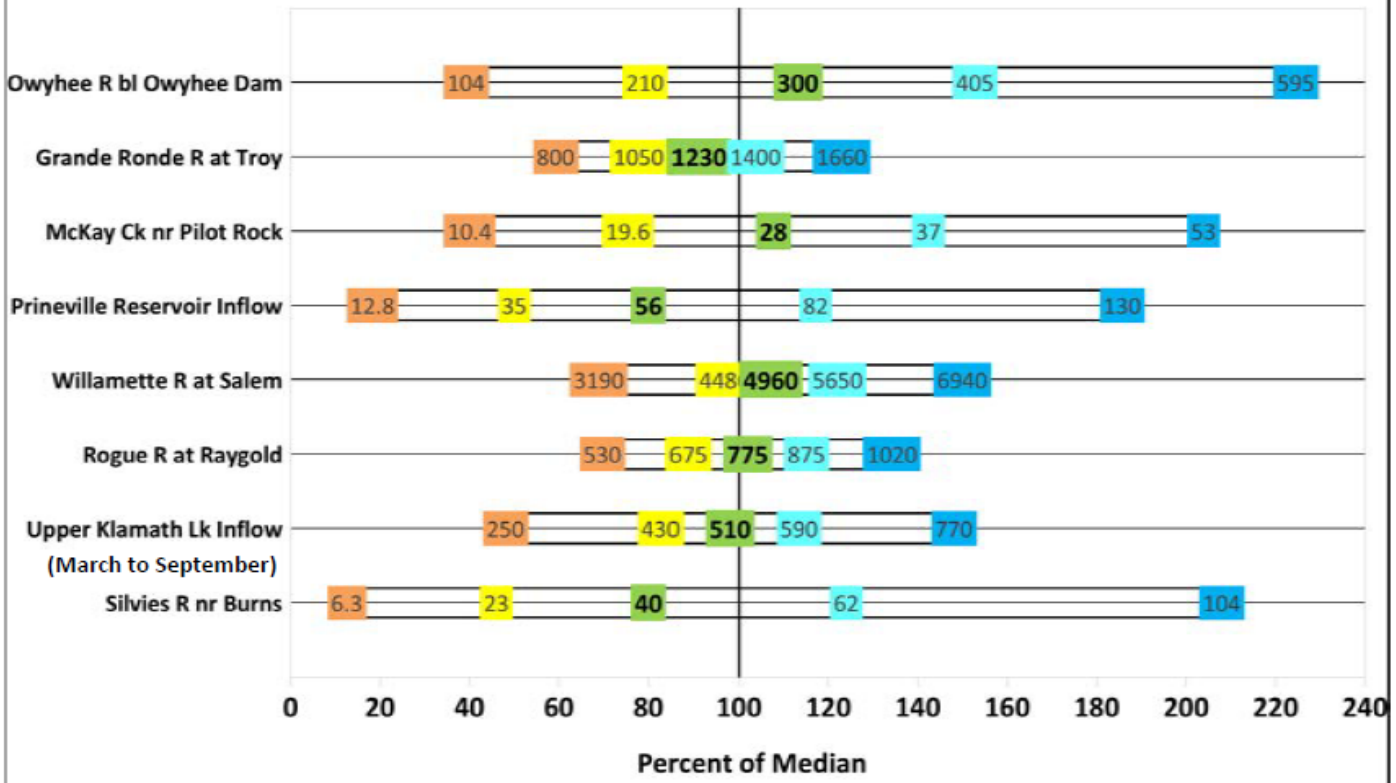


February 2022

Summary of Streamflow Forecasts across Oregon

April through September Forecast Volumes at a Selection of Streamflow Points

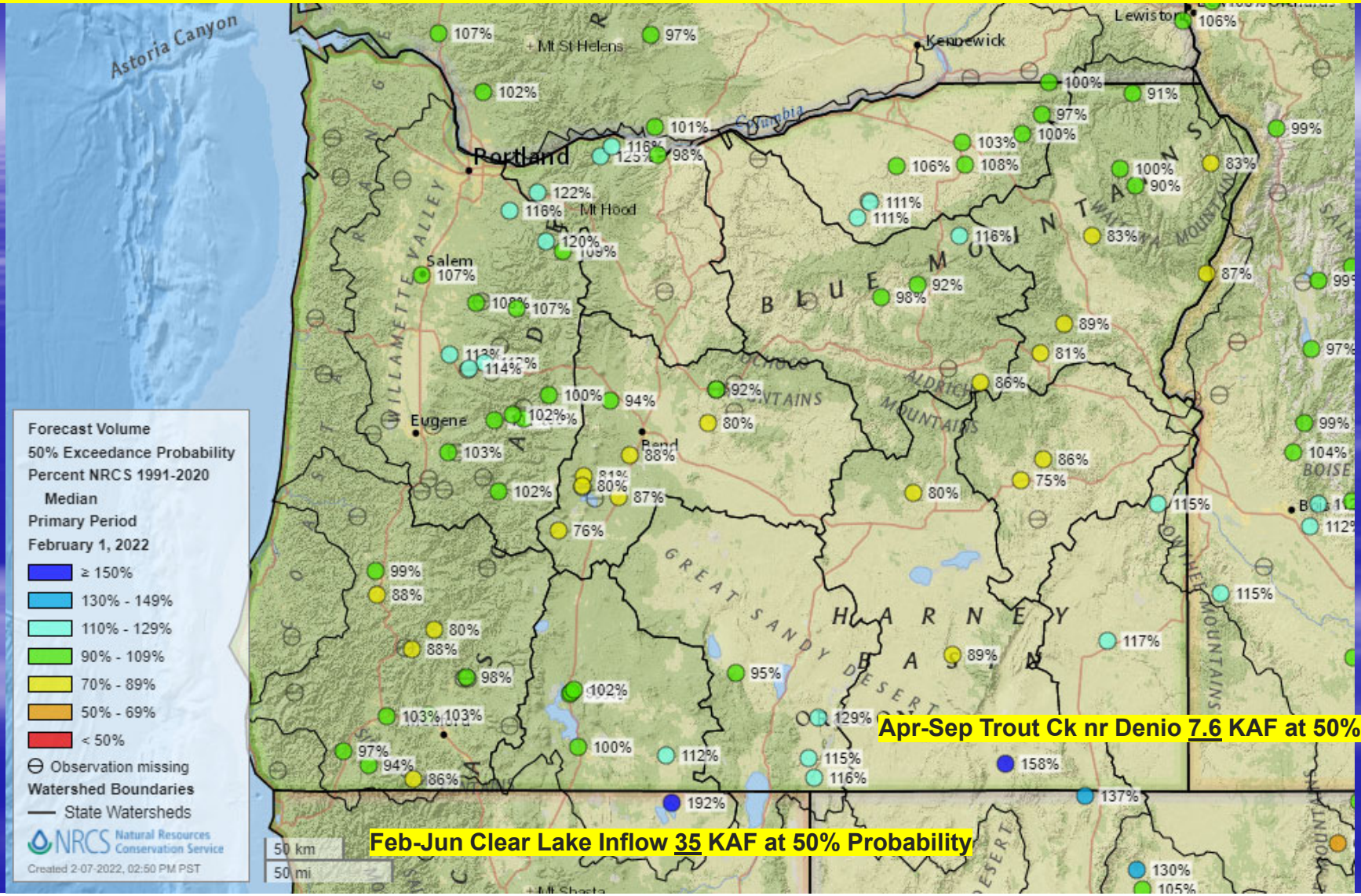
(Volumes listed in KAF)



Legend: ←----------Drier----------**Future Conditions**----------Wetter----------→

90% Exceedance Forecast (KAF)	70% Exceedance Forecast (KAF)	50% Exceedance Forecast (KAF)	30% Exceedance Forecast (KAF)	10% Exceedance Forecast (KAF)
There is a 90% chance that flows will exceed this volume.	There is a 70% chance that flows will exceed this volume.	There is a 50% chance that flows will exceed this volume.	There is a 30% chance that flows will exceed this volume.	There is a 10% chance that flows will exceed this volume.

February 1, 2022, Streamflow Volume Forecast (Primary Period or April – September) % of 1991-2020 Median 50% Exceedance Probability



Thank you

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Anthony Lakes Snow Course January 26, 2022
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H. Scott Oviatt
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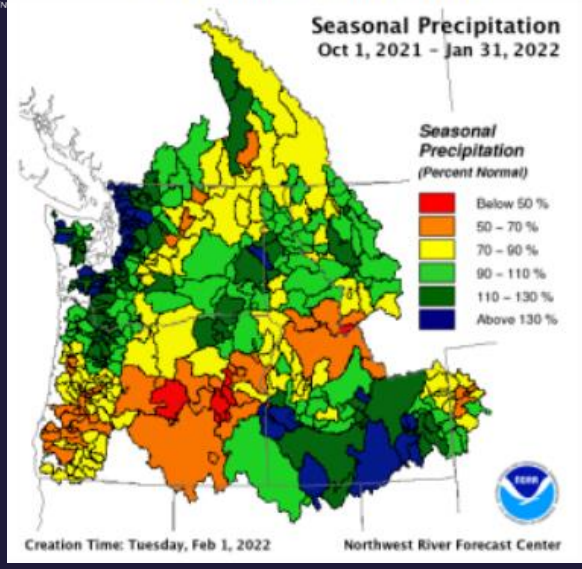
541-429-2359

February 2022 Update for Precipitation & Temperatures

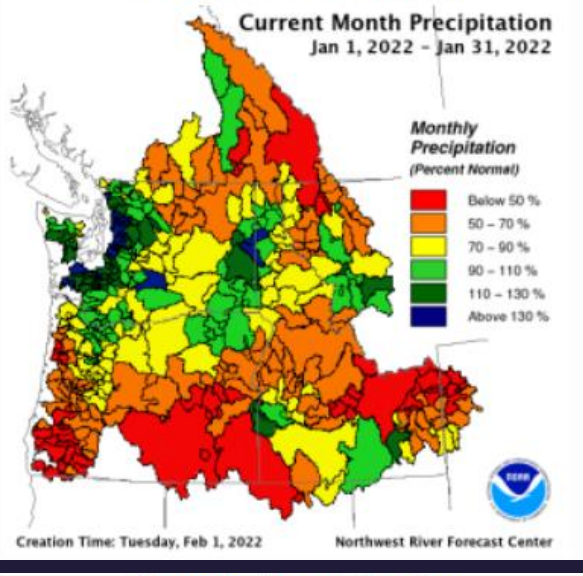
Andy Bryant
Service Hydrologist
NOAA/NWS Portland
Weather Forecast Office

Precipitation & Temperatures for Pacific Northwest

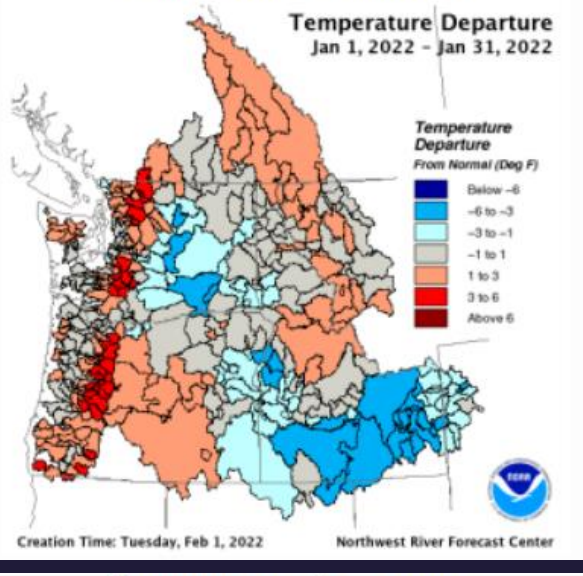
Seasonal Precipitation



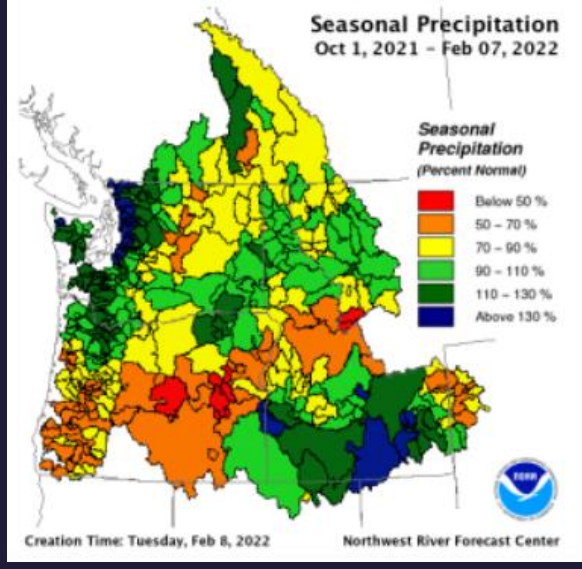
Monthly Precipitation



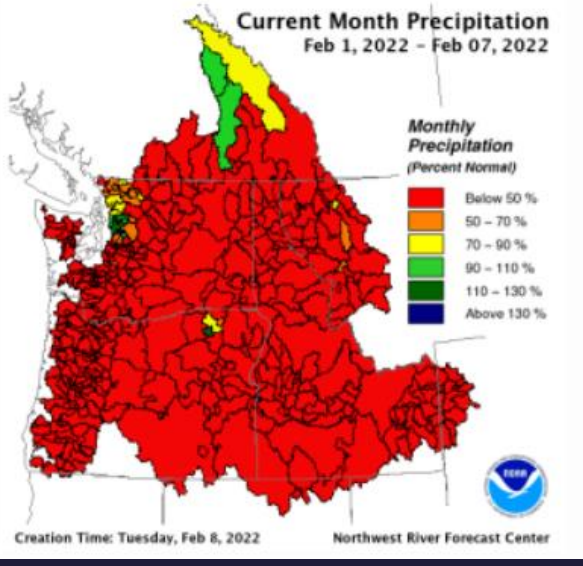
Temperature Departure



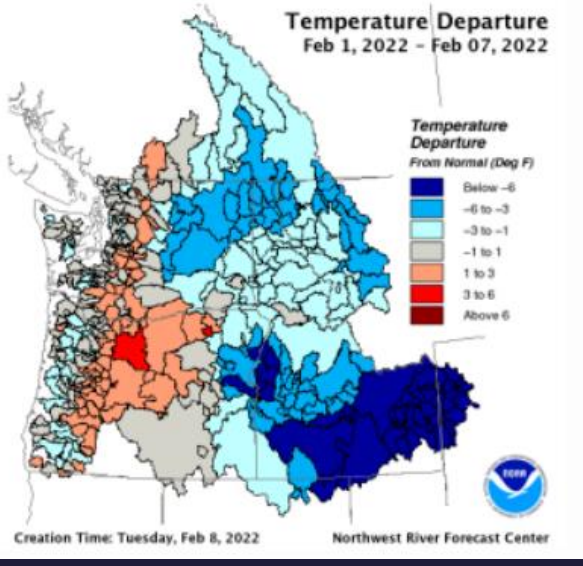
Seasonal Precipitation



Monthly Precipitation



Temperature Departure

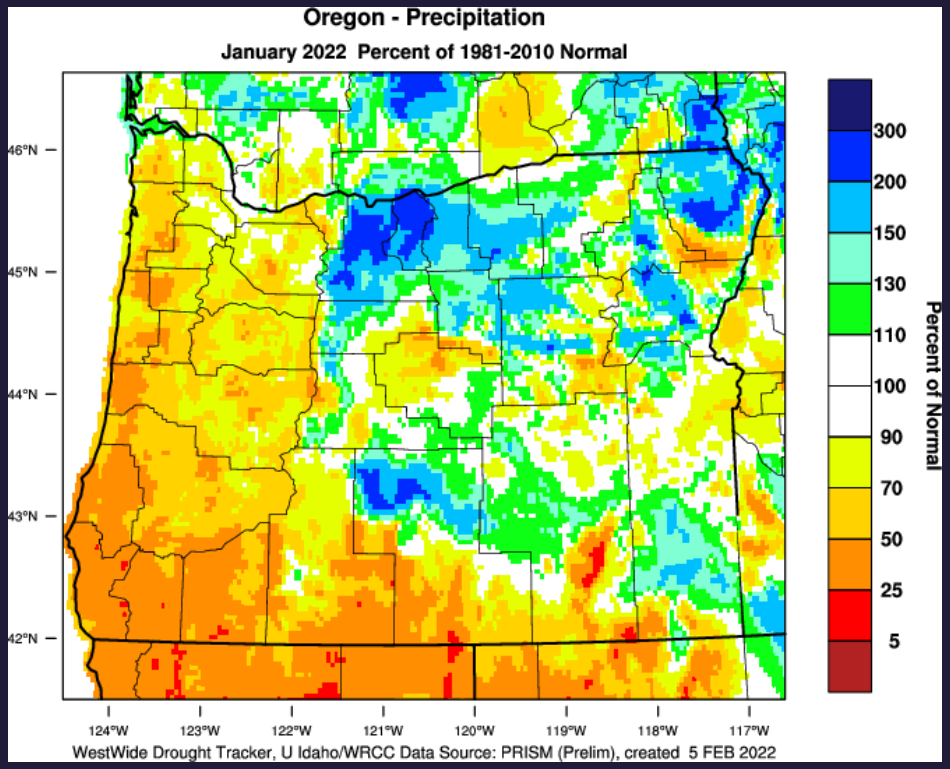


Precipitation Data as of Feb 8, 2022

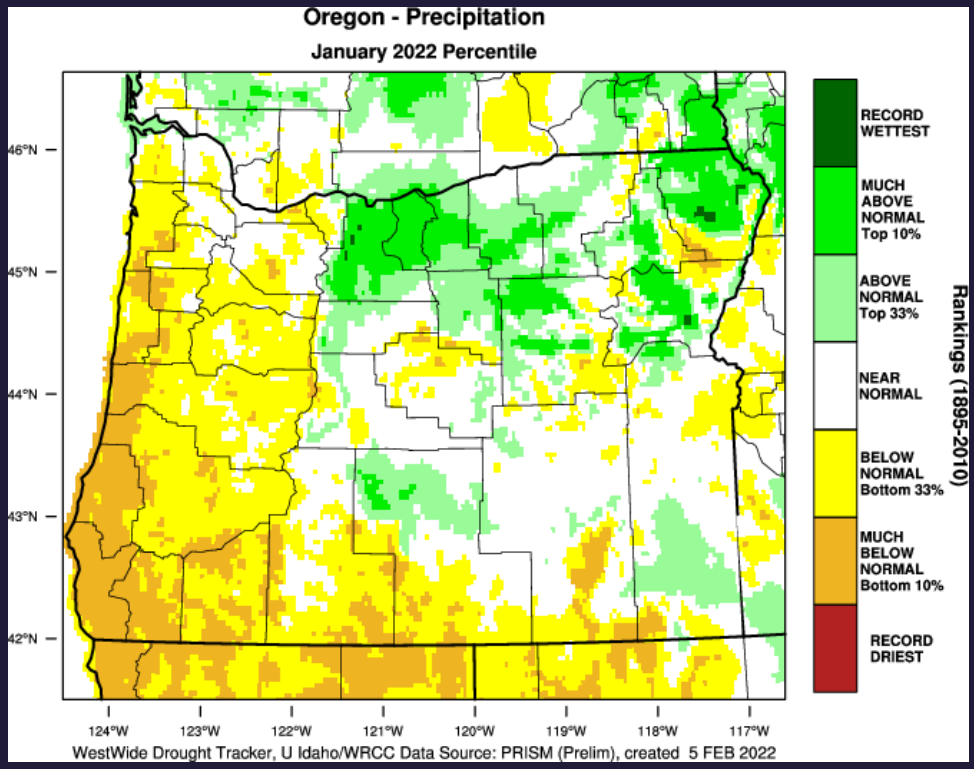
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

January Precipitation

January – Percent of Normal



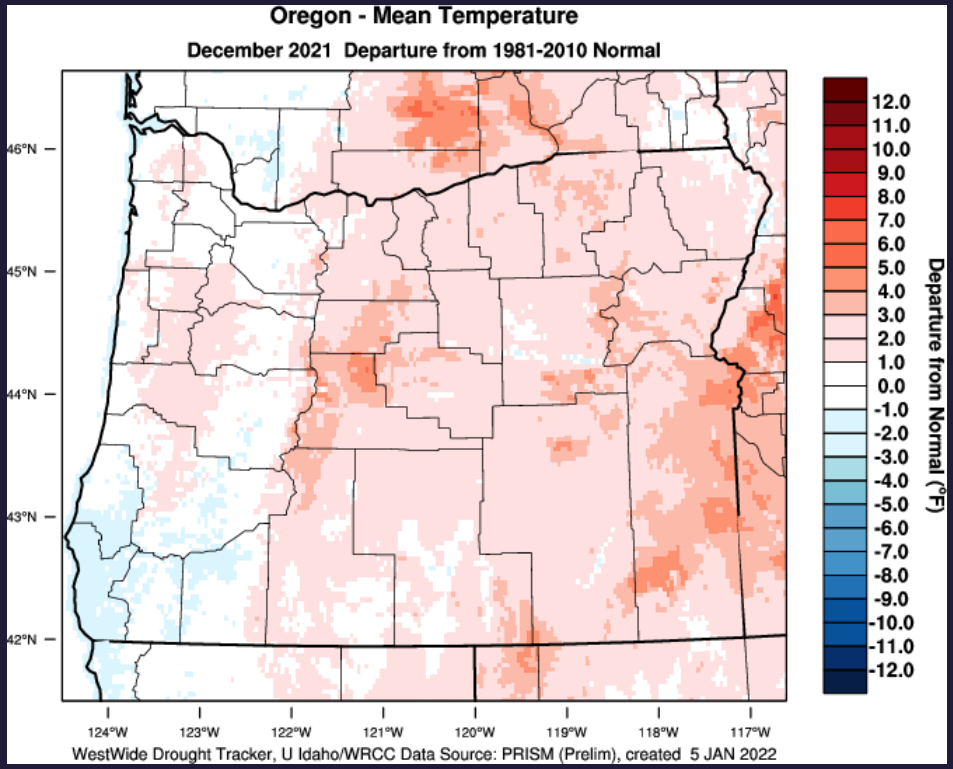
January – Percentile



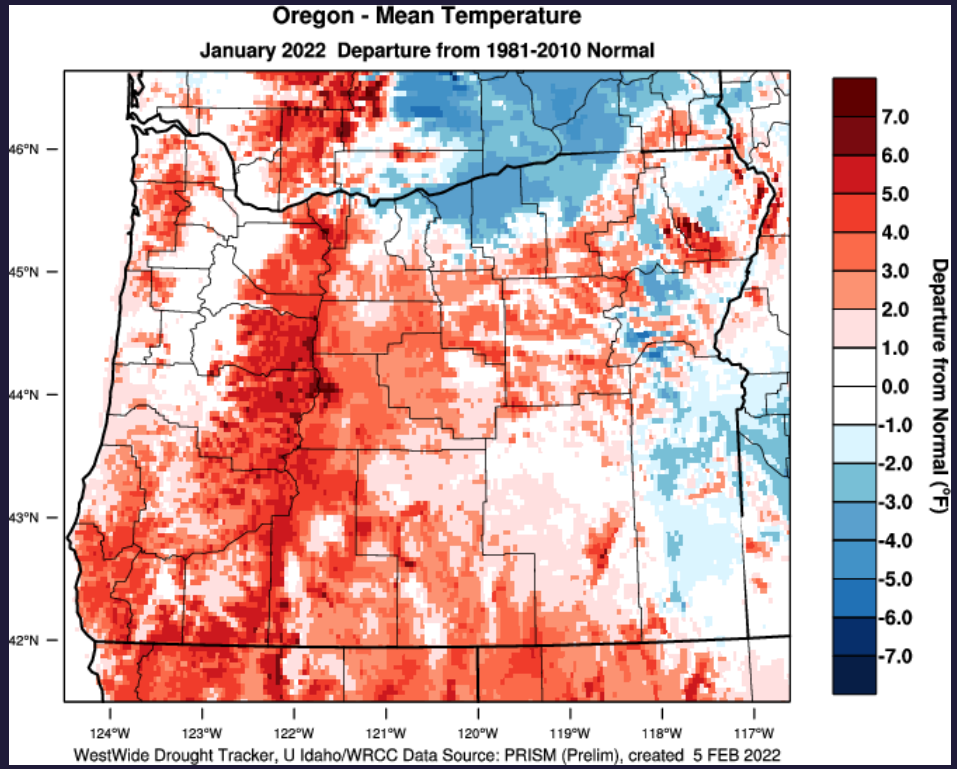
wrcc.dri.edu/wwdt/index.php?region=or

Recent Temperatures

December

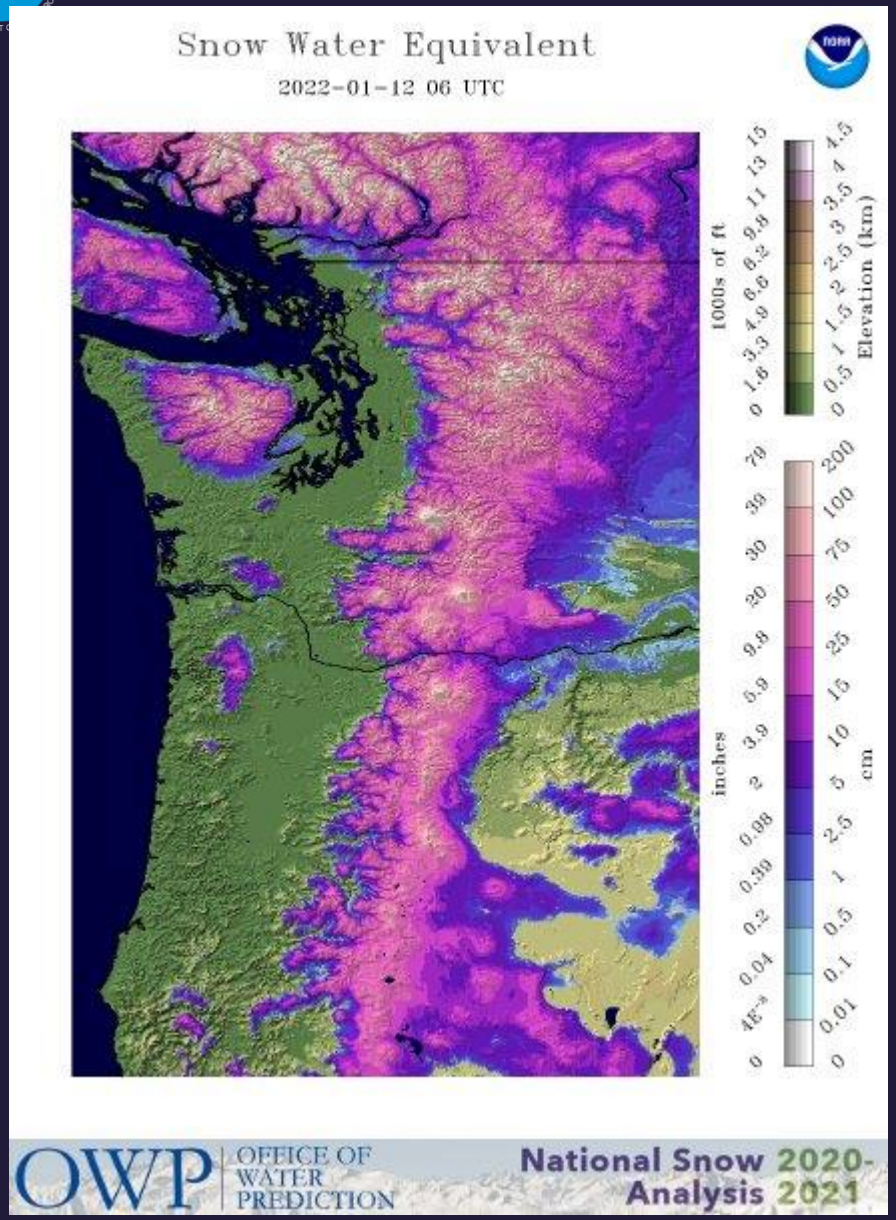


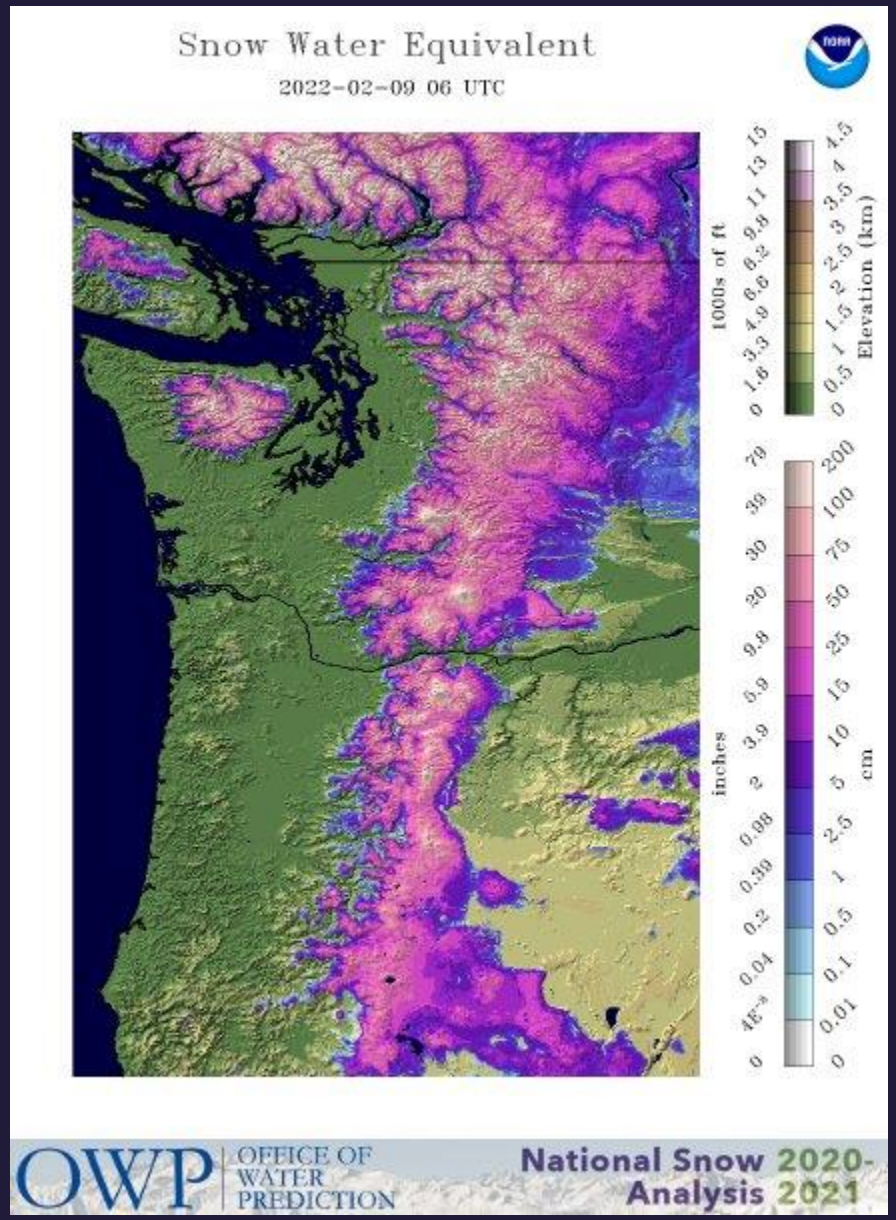
January



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

Snow Analysis from NOAA/NWS Remote Sensing Center

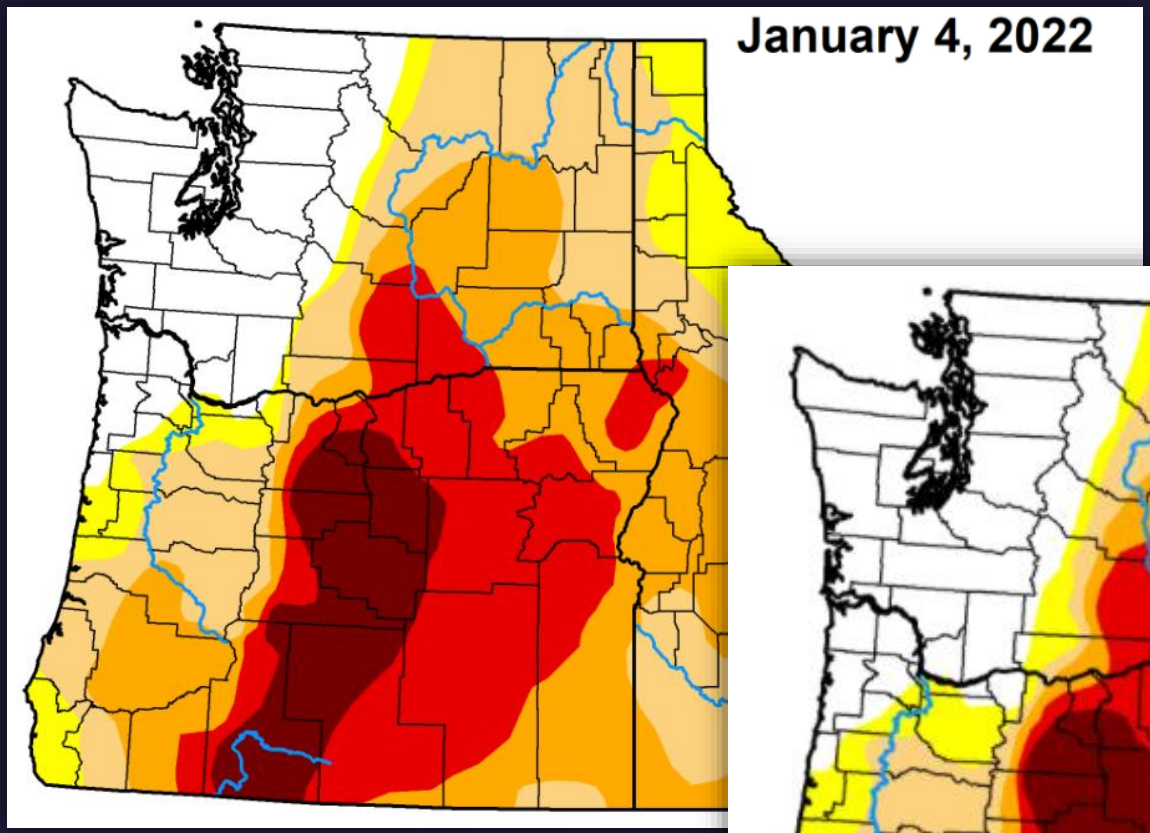


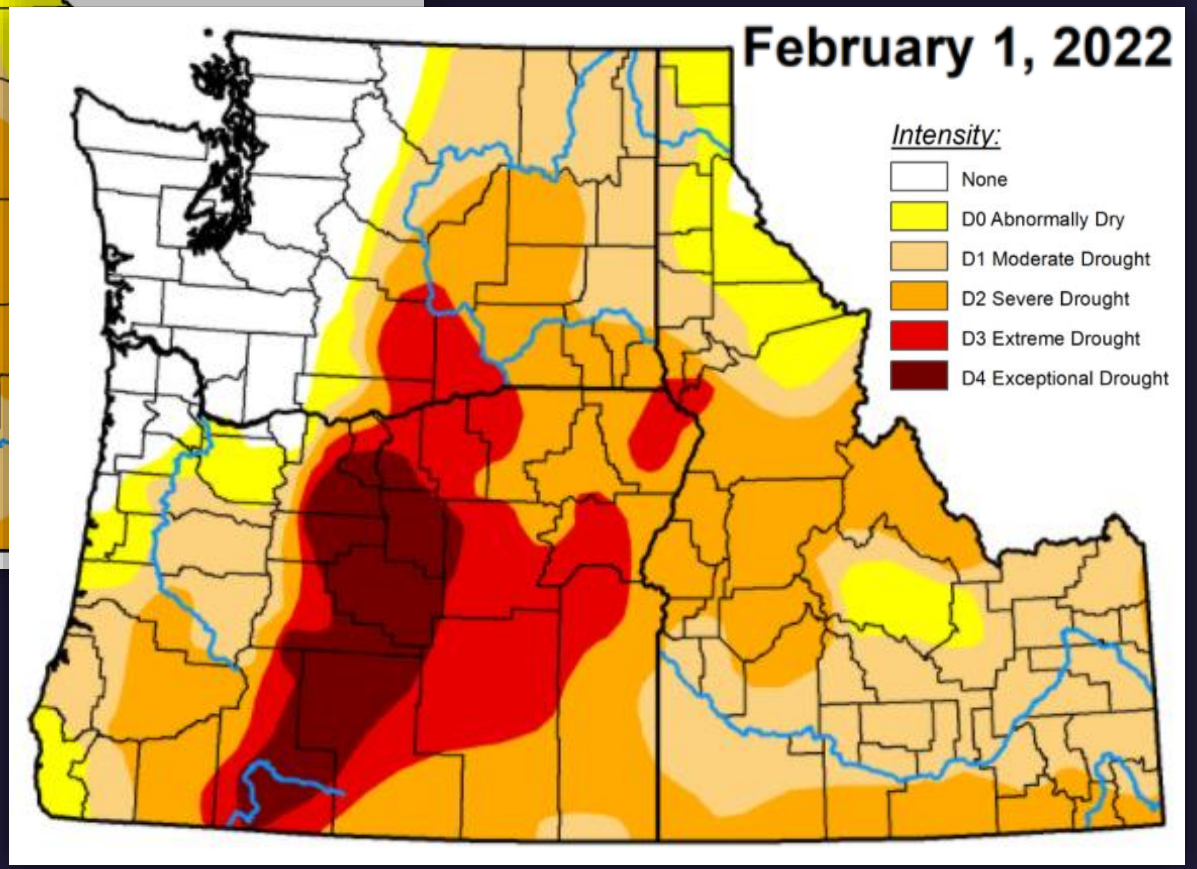


https://www.nohrsc.noaa.gov/nsa/index.html

Drought Monitor

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	74.33	25.67	22.96	14.44	5.45	1.89
Last Week *01-25-2022*	74.27	25.73	22.97	14.44	5.45	1.89
3 Months Ago *11-02-2021*	73.07	26.93	26.39	24.64	14.25	4.65
Start of Calendar Year *01-04-2022*	74.10	25.90	23.79	15.09	6.81	2.01
Start of Water Year *09-28-2021*	70.14	29.86	27.67	24.87	18.54	7.83
One Year Ago *02-02-2021*	65.33	34.67	12.46	7.60	2.64	0.00

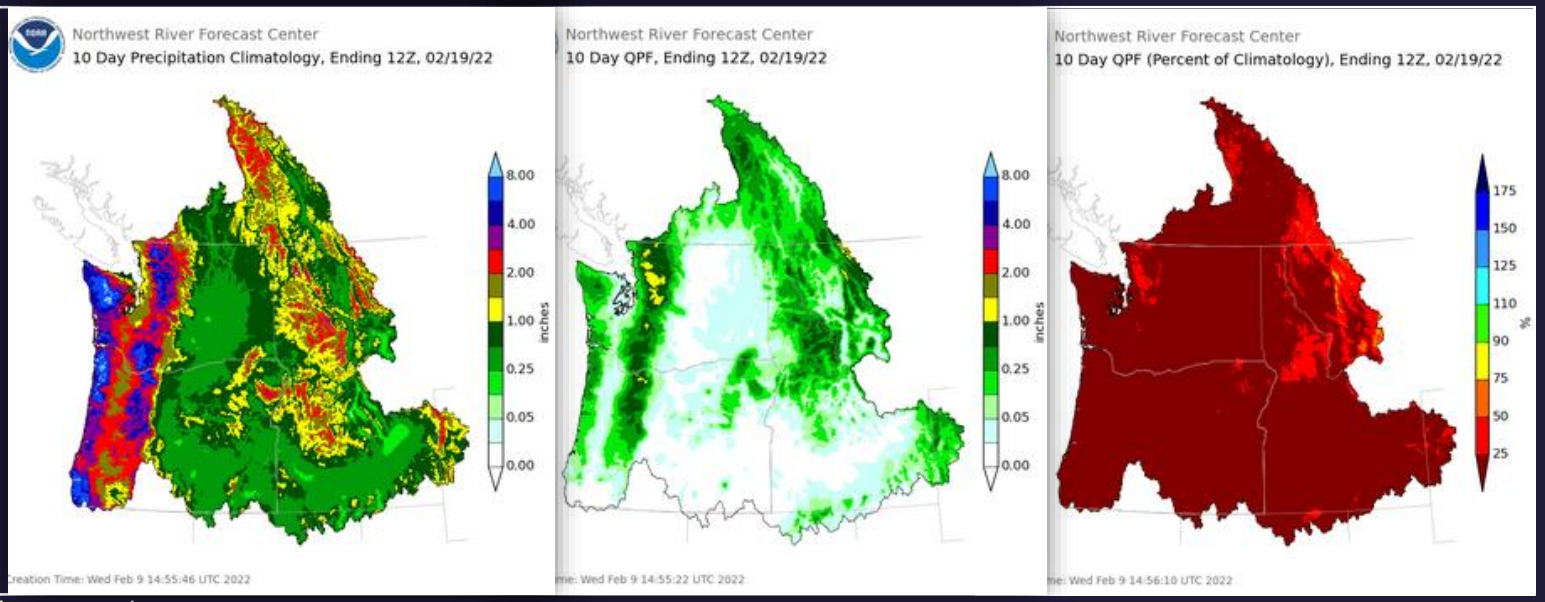




https://droughtmonitor.unl.edu

Mid February Outlook

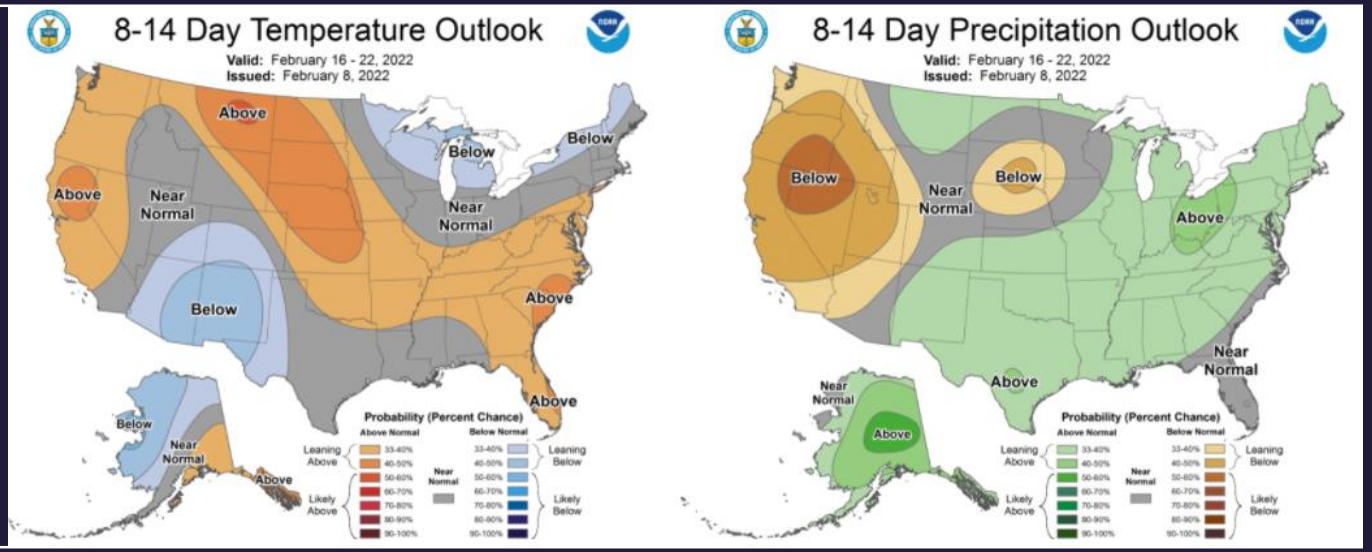
NWRFC
10-DAY
PRECIPITATION
FORECAST



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

CPC
8 – 14 DAY
OUTLOOK

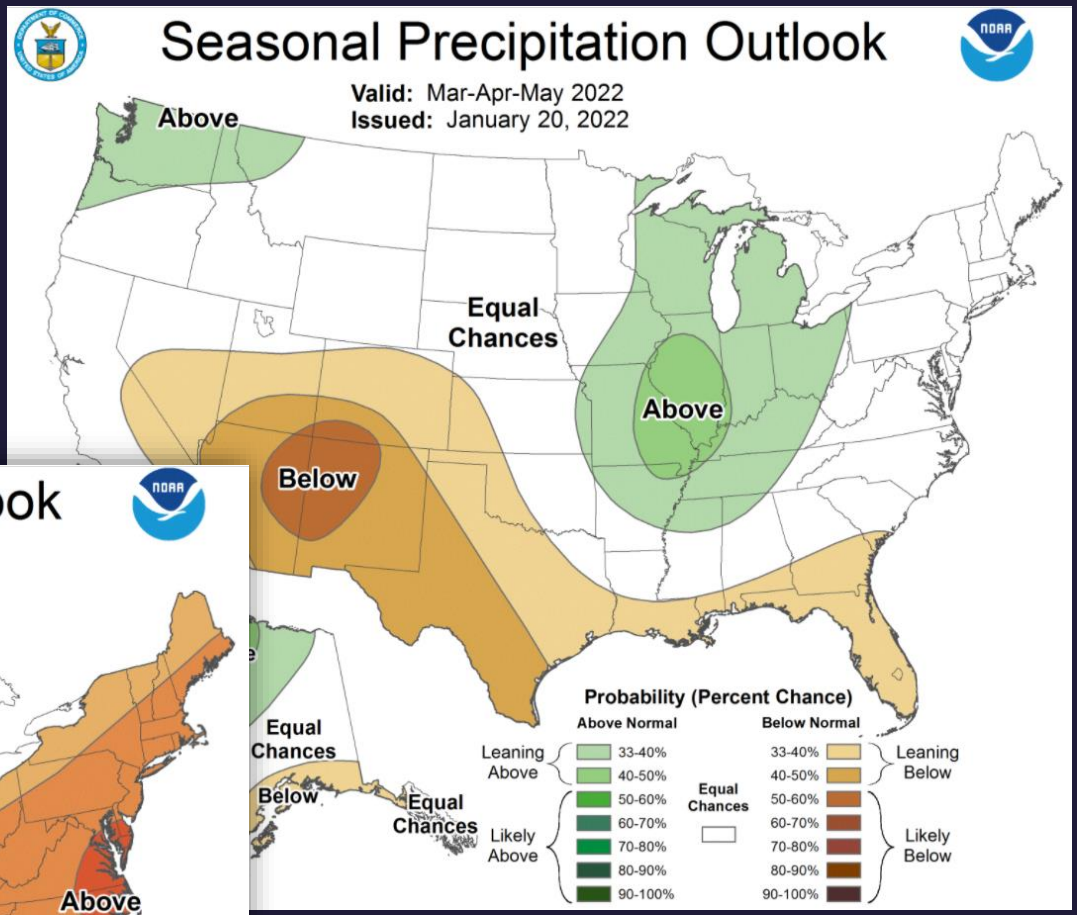
www.cpc.ncep.noaa.gov

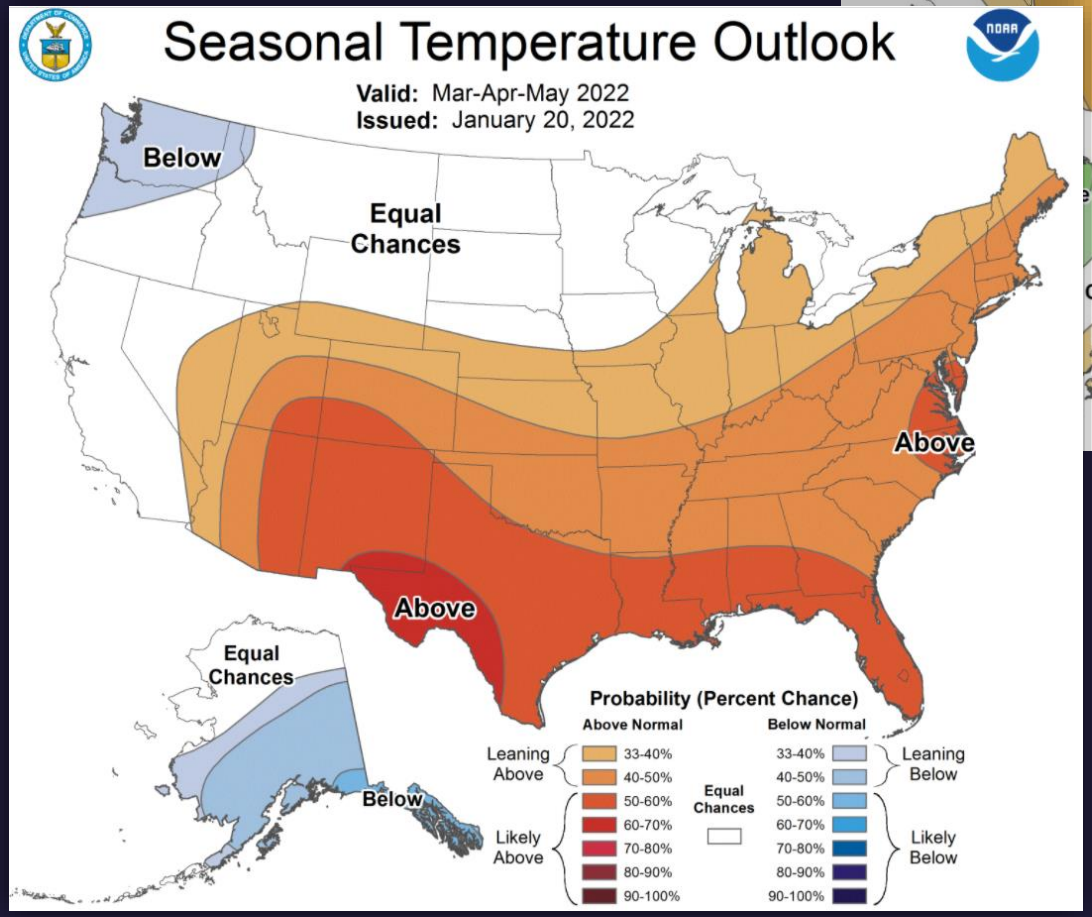


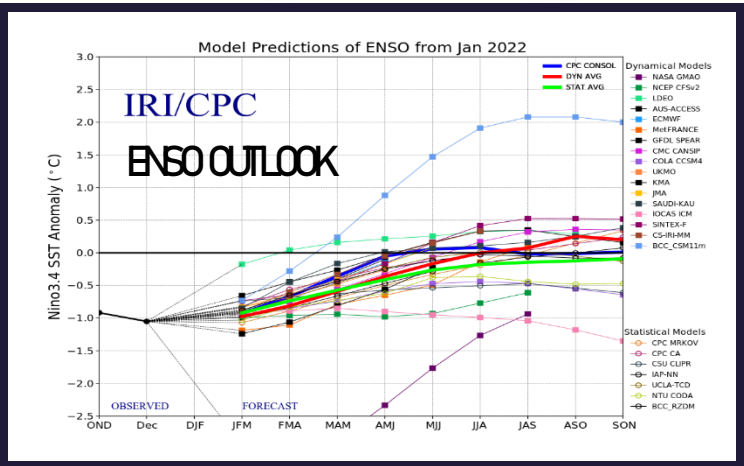
Climate Prediction Center Outlook

Mar-Apr-May 2022

www.cpc.ncep.noaa.gov

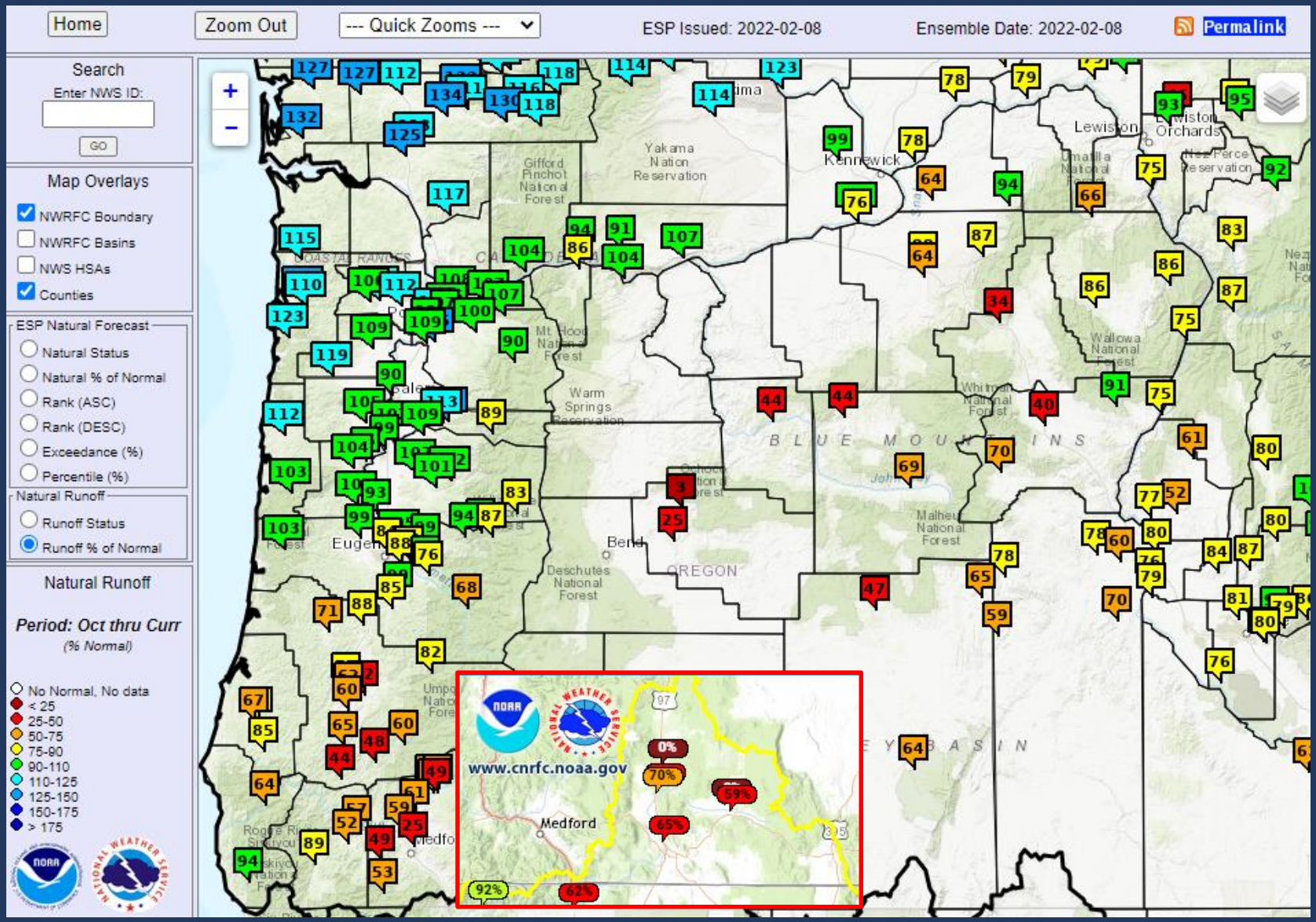






Current WY Runoff

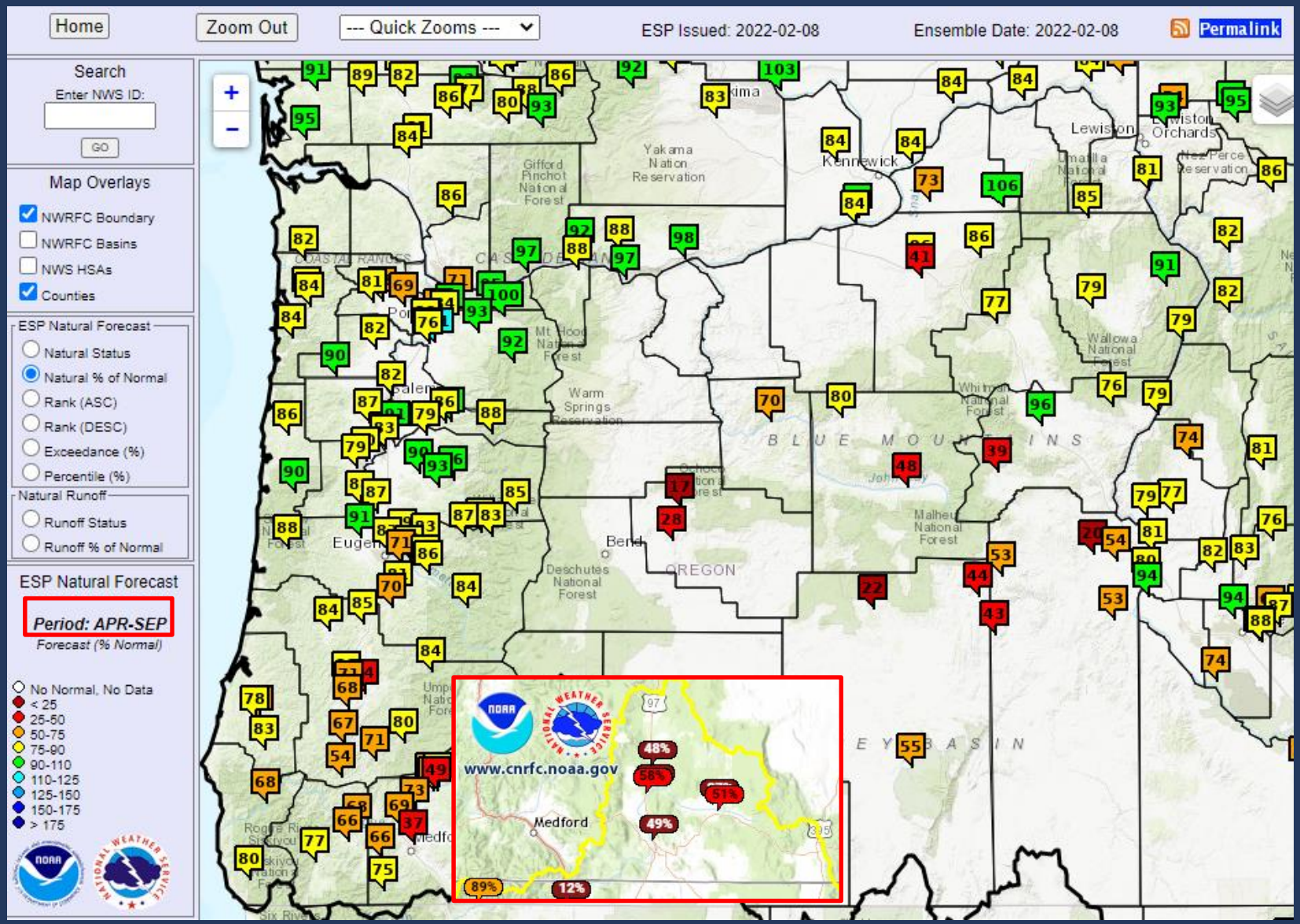
% of Average from Oct 1 – Feb 7



https://www.nwrfc.noaa.gov/natural/index.html

Seasonal Volume Forecast

April – September ESP Natural - % of Average



https://www.nwrfc.noaa.gov/natural/index.html

Streamflow WY Volume Forecast

Willamette at Salem

WILLAMETTE - AT SALEM (SLMO3)
Forecasts for Water Year 2022

Official Water Supply

ESP with 10 Days QPF ***Ensemble:*** 2022-02-08 ***Issued:*** 2022-02-08

Forecast Period	Forecasts Are in KAF 90 %	50 %	% Average	10 %	30 Year Average (1991-2020)
APR-SEP	3101	4212	82	5958	5119
APR-JUL	2724	3710	81	5421	4554
JAN-SEP	8128	10084	82	12054	12224
JAN-JUL	7660	9580	82	11528	11659
OCT-SEP	12112	14067	85	16037	16605

Experimental Water Supply

HEFS with 15 days EQPF ***Ensemble:*** 2022-02-08 ***Issued:*** 2022-02-08

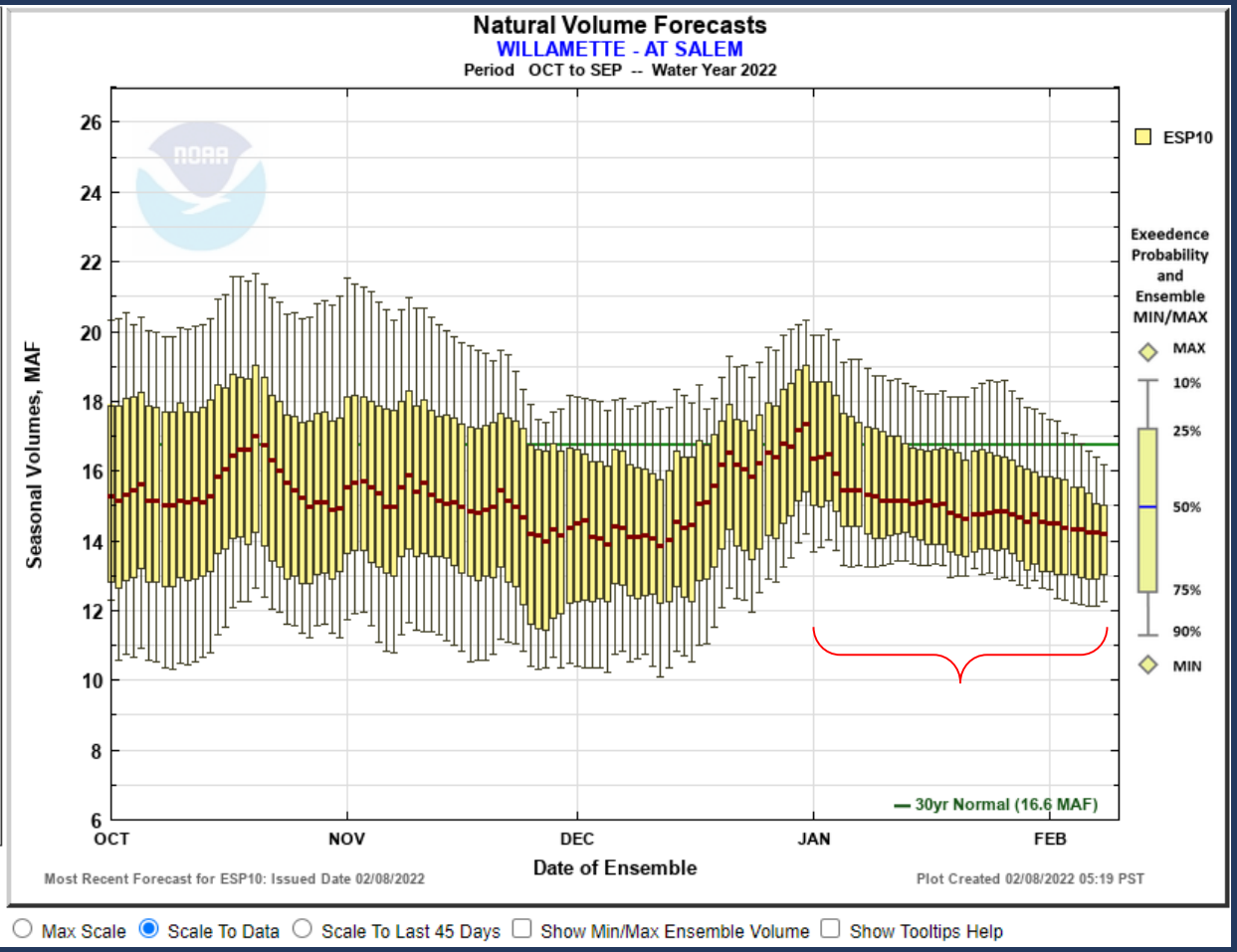
APR-SEP	3038	4186	82	5938	5119
APR-JUL	2679	3688	81	5403	4554
JAN-SEP	7975	9766	80	12176	12224
JAN-JUL	7550	9305	80	11677	11659
OCT-SEP	11959	13749	83	16159	16605

Reference

ESP with 0 Days QPF ***Ensemble:*** 2022-02-08 ***Issued:*** 2022-02-08

APR-SEP	3181	4355	85	6340	5119
APR-JUL	2808	3929	86	5753	4554
JAN-SEP	8640	10536	86	13817	12224
JAN-JUL	8100	10123	87	13306	11659
OCT-SEP	12624	14519	87	17800	16605

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



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

Streamflow WY Volume Forecast

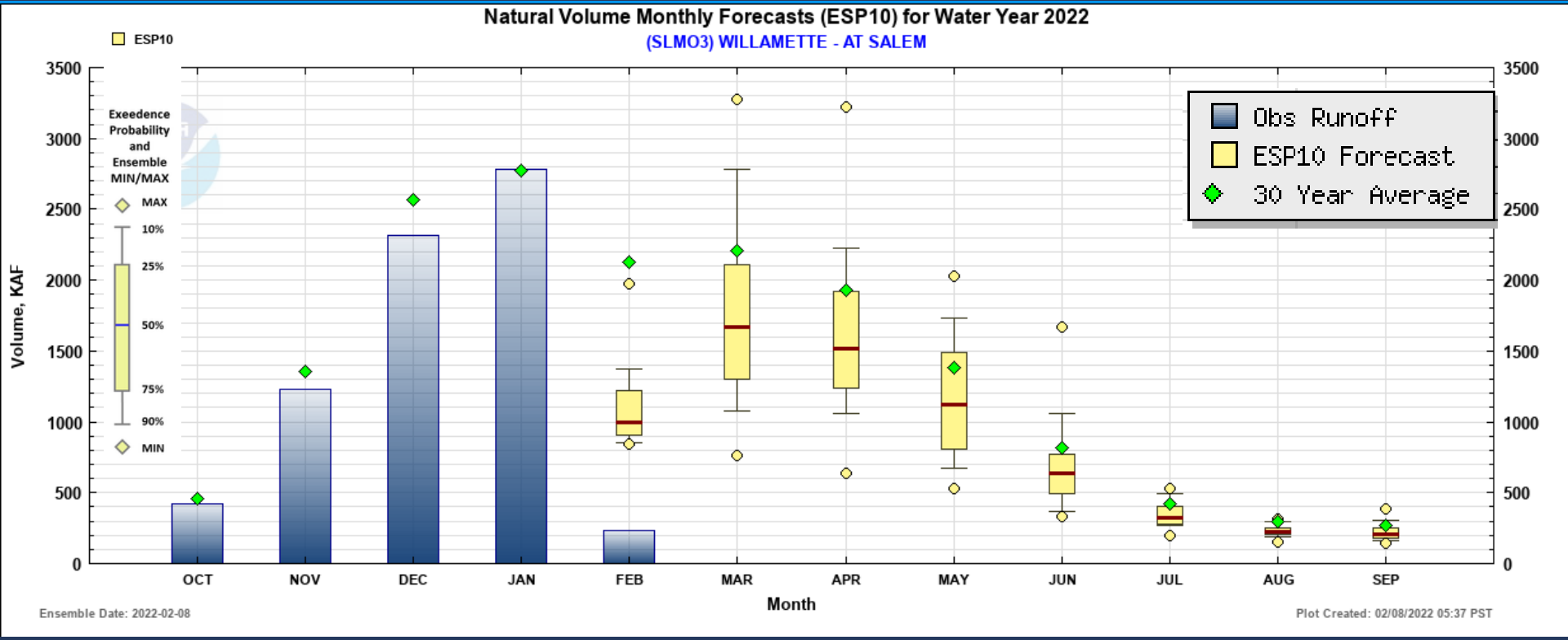
ESP 10-day vs Reference

Site	10-day forecast %	Reference forecast %
Willamette R at Salem	85	87
Rouge R nr Agnes	66	73
Umatilla R nr Umatilla	79	86
Owyhee Dam	69	77

10-day lack of forecast precipitation is noticeable in water supply

Streamflow WY Monthly Volume Forecast

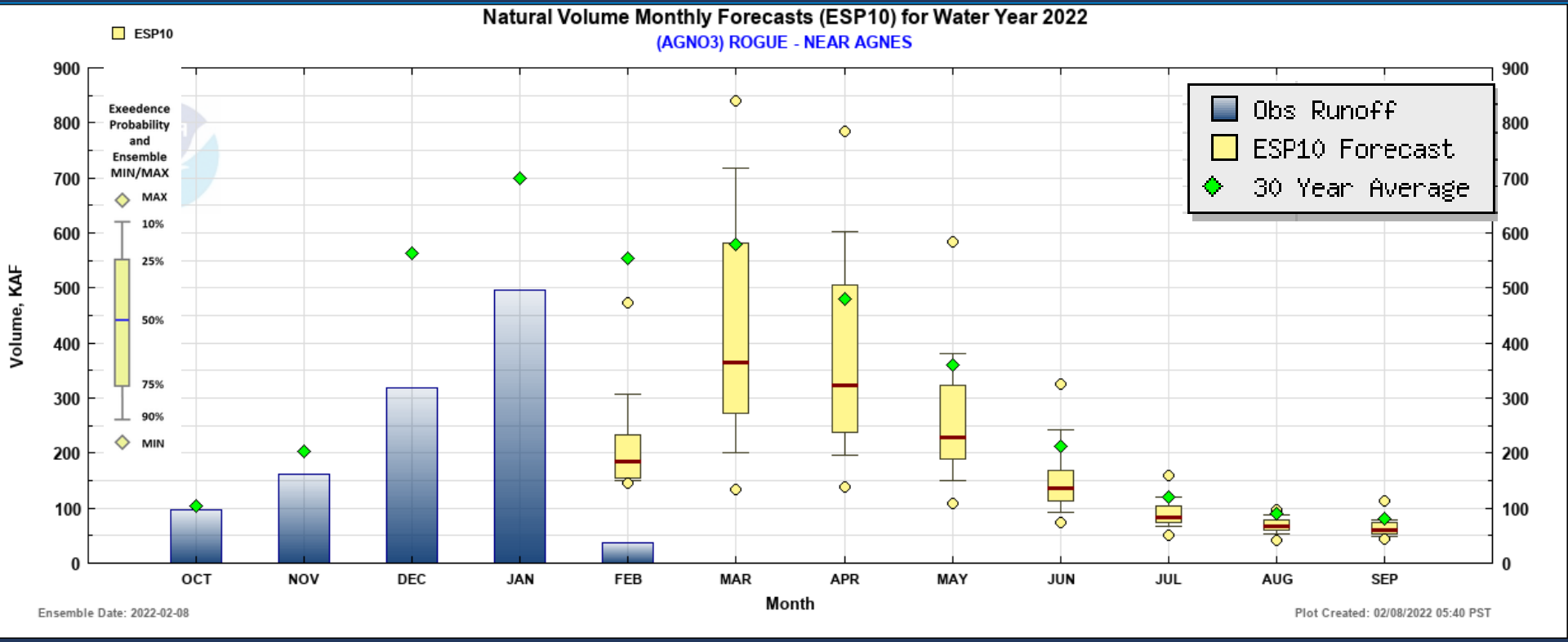
Willamette at Salem



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

Streamflow WY Monthly Volume Forecast

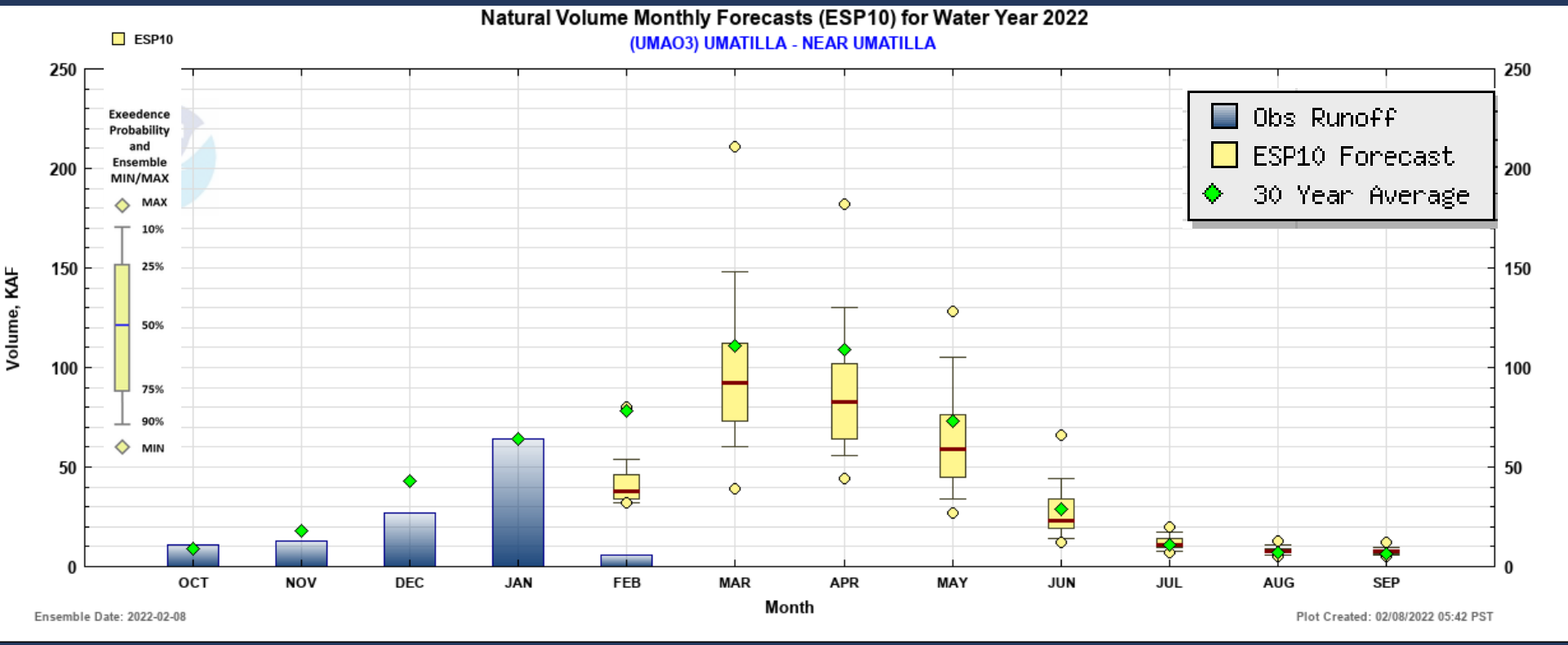
Rogue near Agnes



https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=AGNO3

Streamflow WY Monthly Volume Forecast

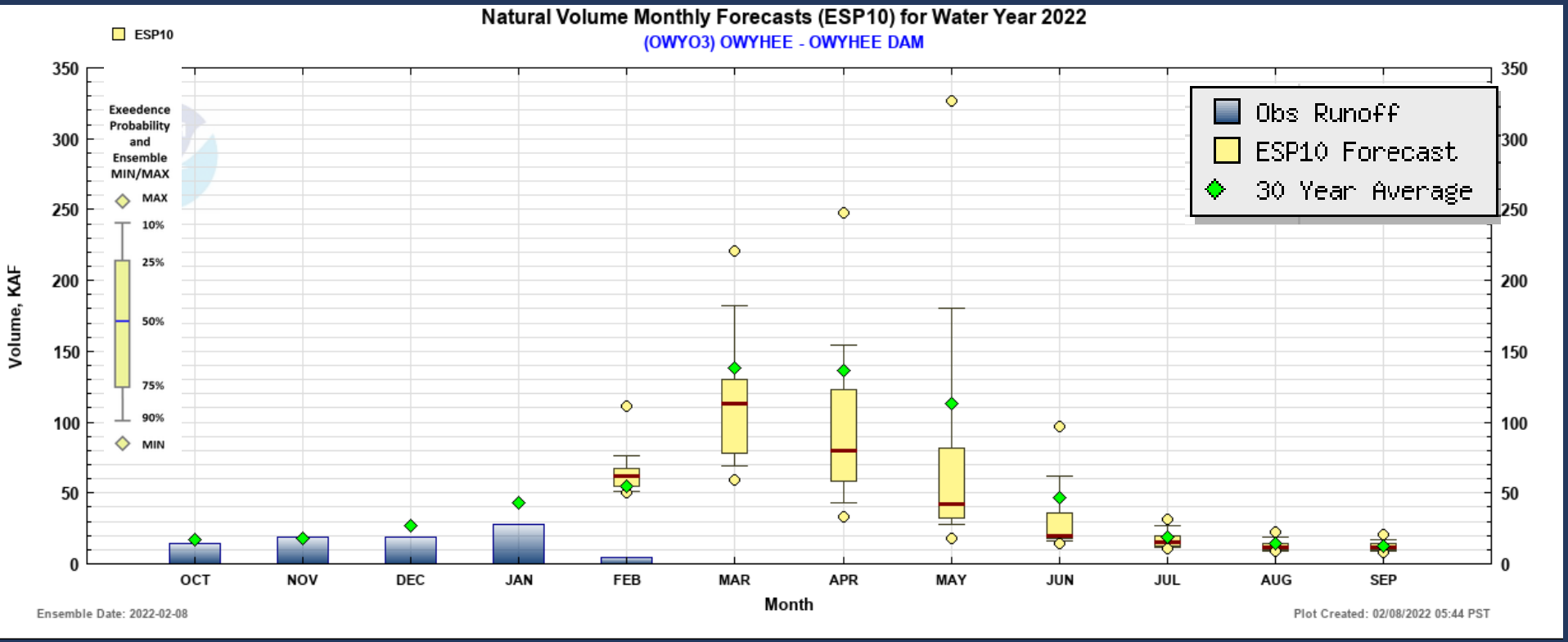
Umatilla near Umatilla



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

Streamflow WY Monthly Volume Forecast

Owyhee Dam



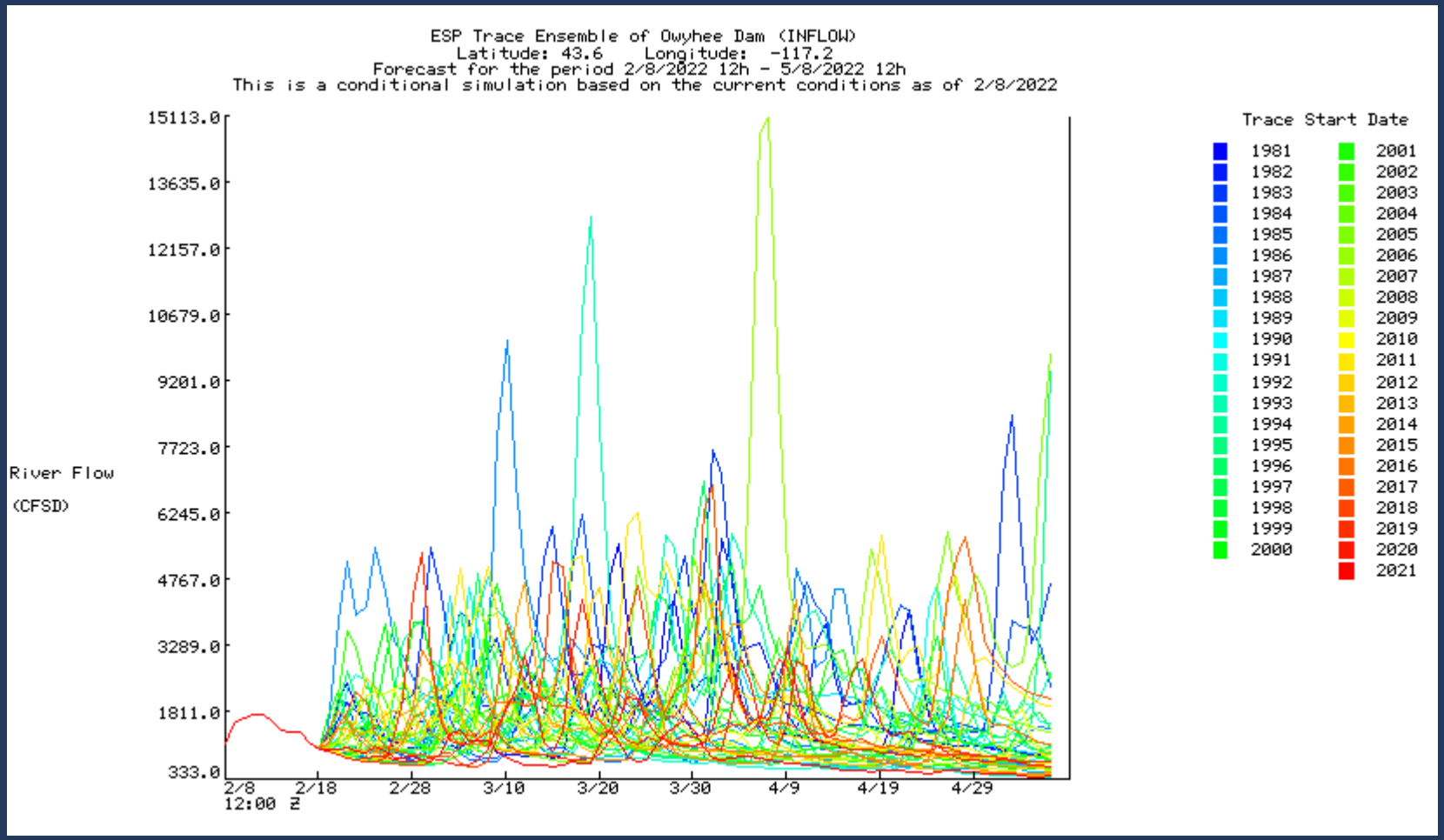
https://www.nwrfc.noaa.gov/natural/plot/monthly/monthly_natural_forecasts.php?id=SLM03

NWRFC Water Supply Briefings Schedule

2022 Schedule for *Live* Water Supply Briefings					
Jan	Feb	Mar	Apr	May	June
6	*3*	*3*	*7*	*5*	*TBD*
All presentations held at 10:00am PDT/PST, unless noted otherwise					
Click here for Registration Information					

https://www.nwrfc.noaa.gov/water_supply/ws_schd.cgi?version=20190204v1

Extra slide- NWRFC ESP Traces
Owyhee Dam



https://www.nwrfc.noaa.gov/espadp/espadp.cgi

USGS
science for a changing world

Oregon Water Supply Availability Meeting

February 2022

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

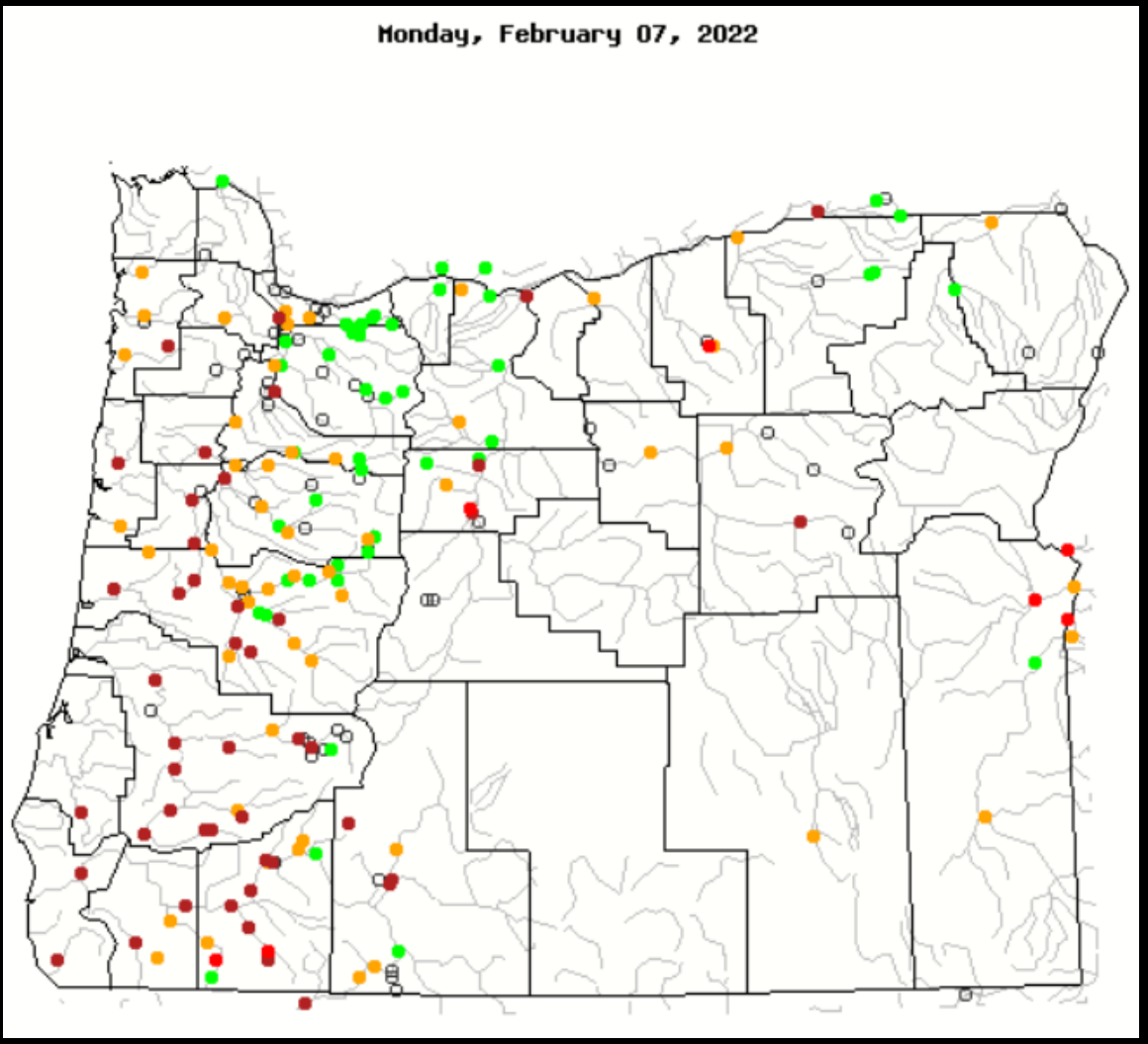
USGS Update on Surface Water Conditions

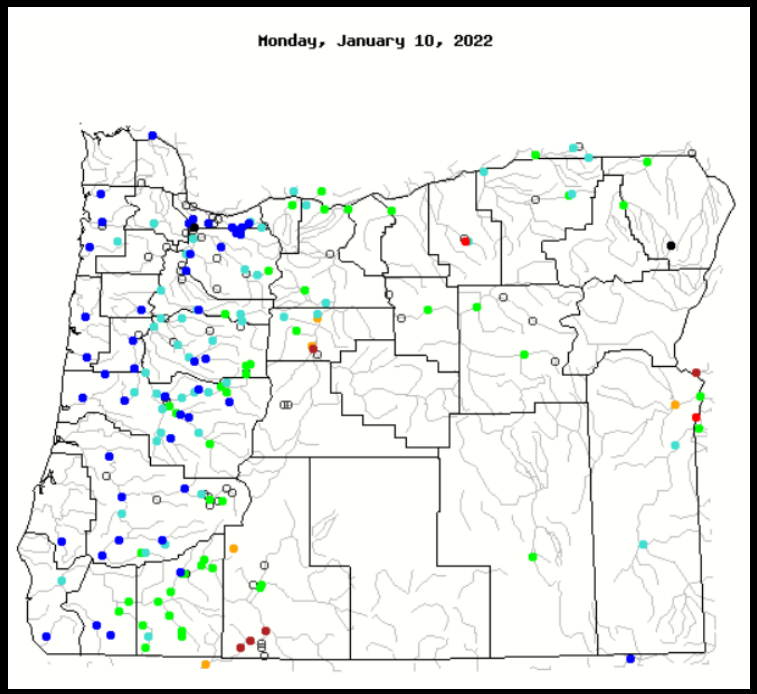
Carrie Boudreau & Marc Stewart
Oregon Water Science Center

Photo: Lisa Hoaks, Santiam River

Streamflow Conditions

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



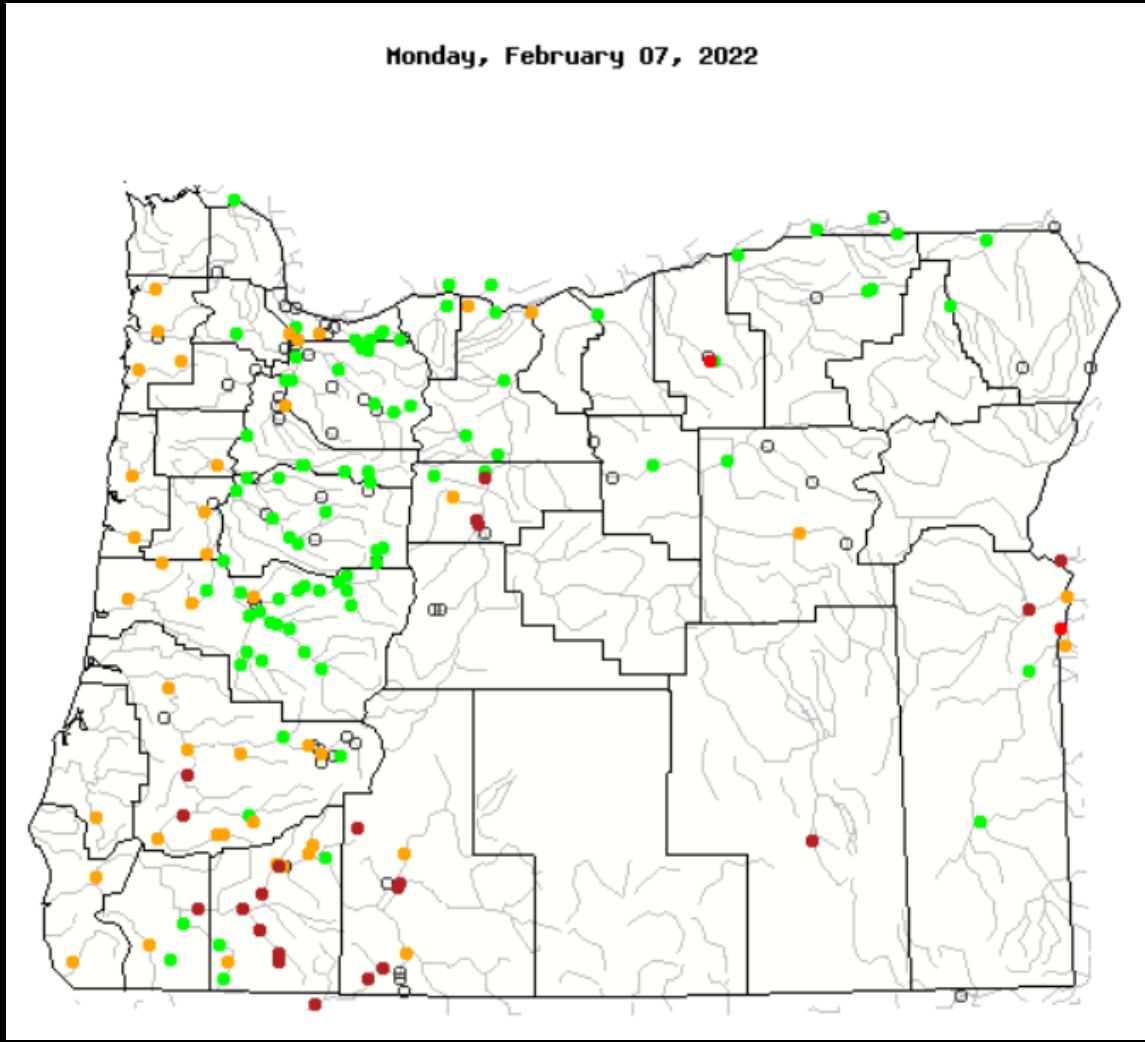


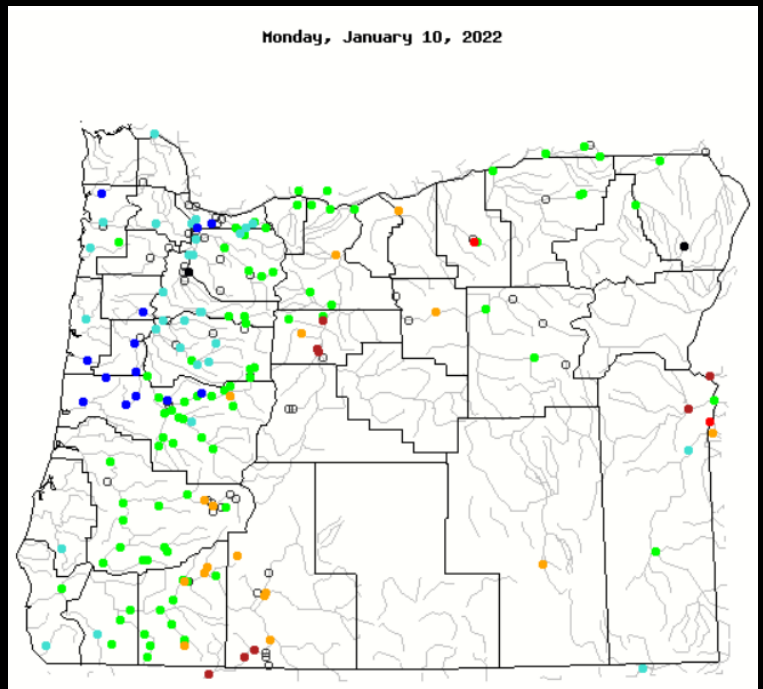
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

USGS

Streamflow Conditions

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

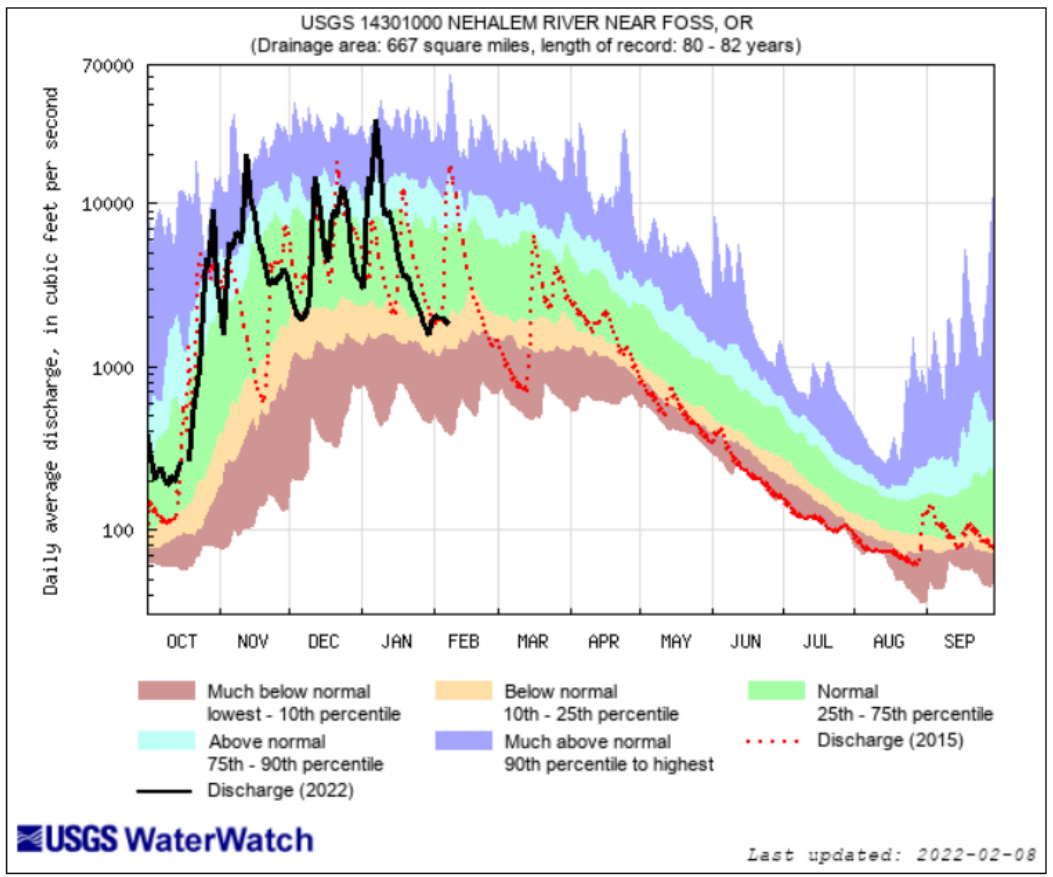


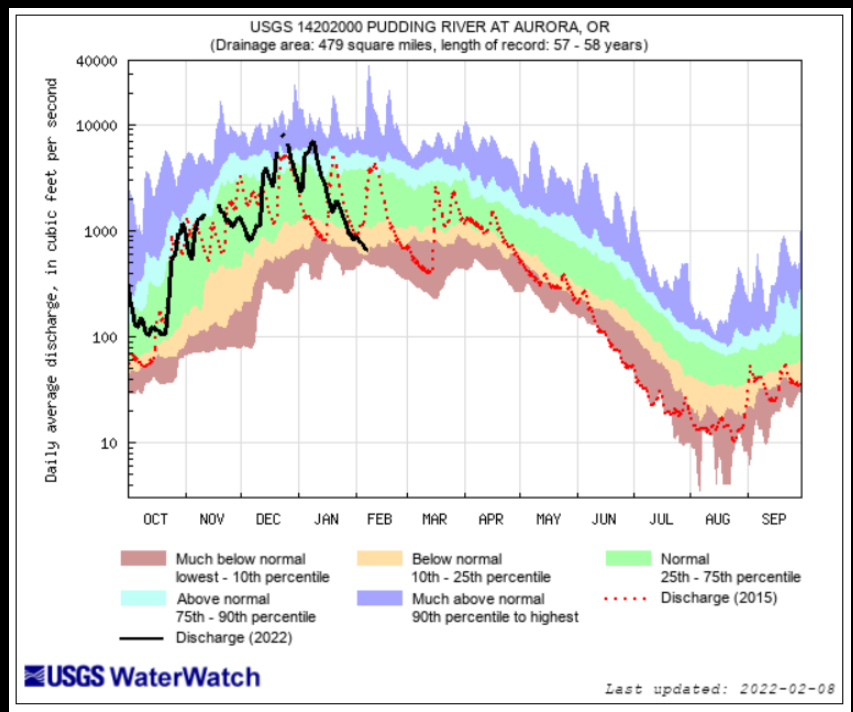


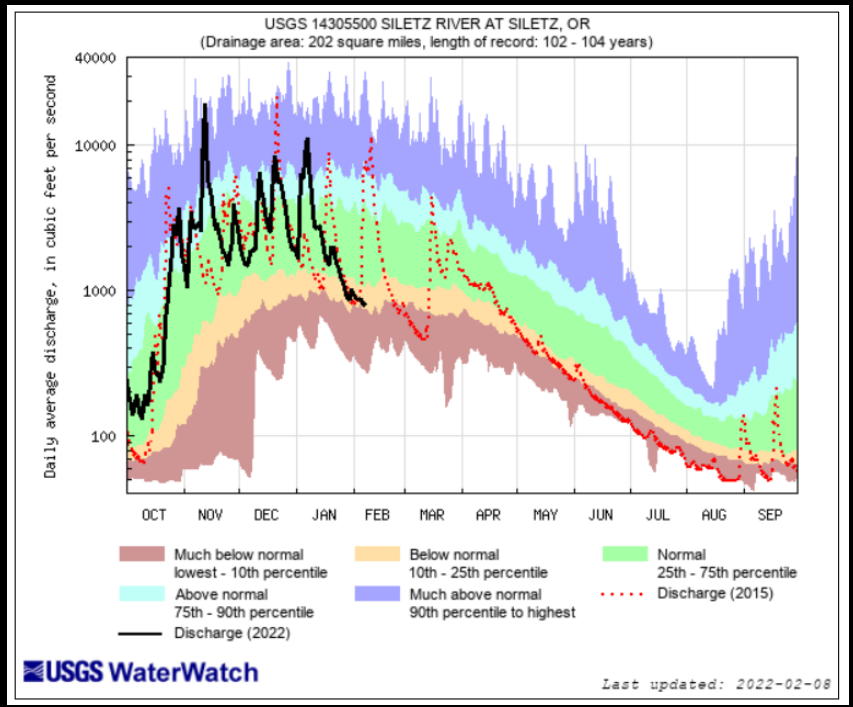
USGS

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

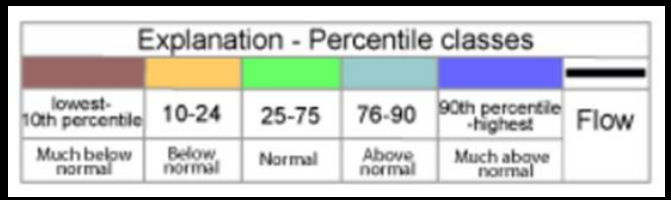
Northwestern OR



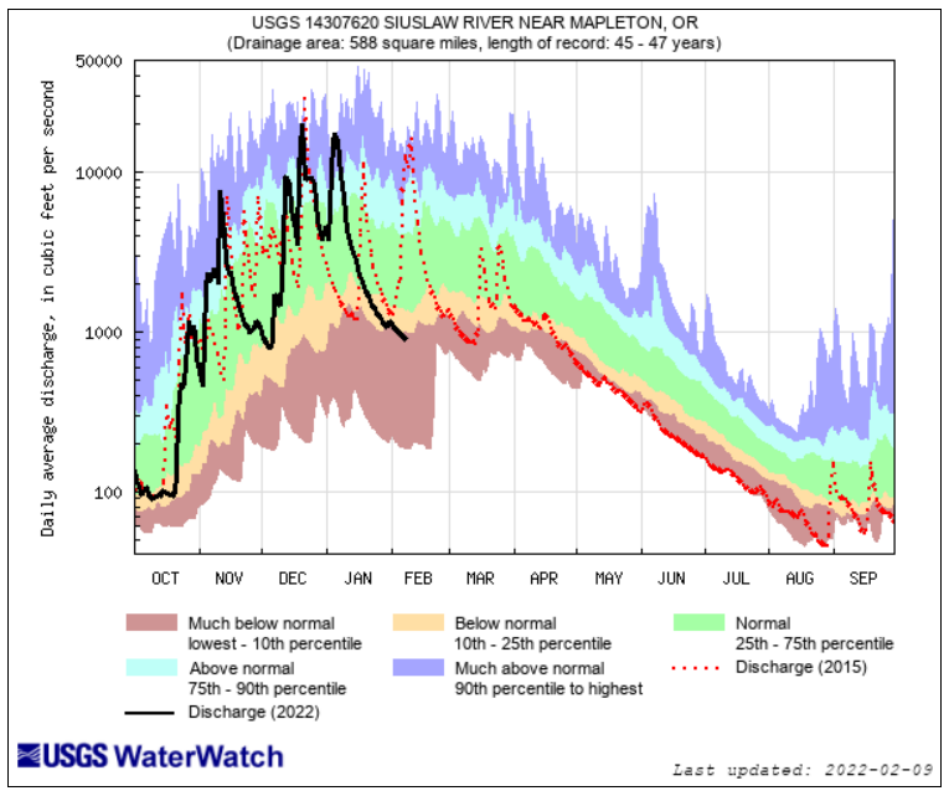


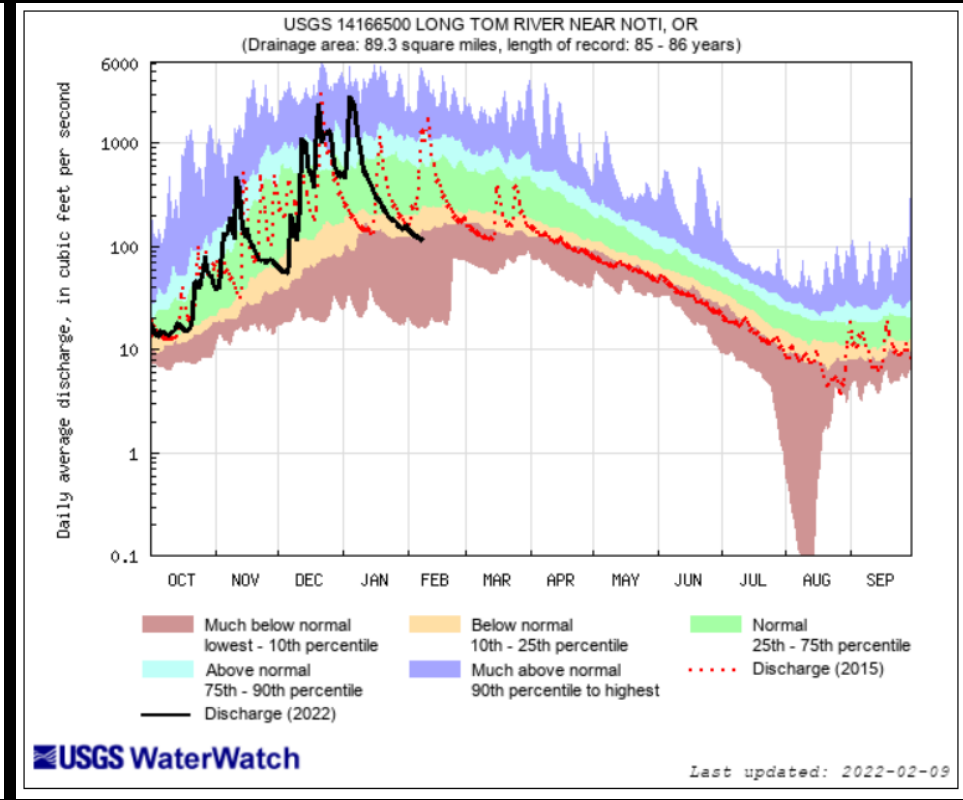


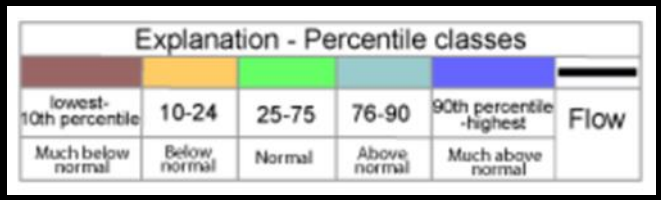
USGS



Lane County

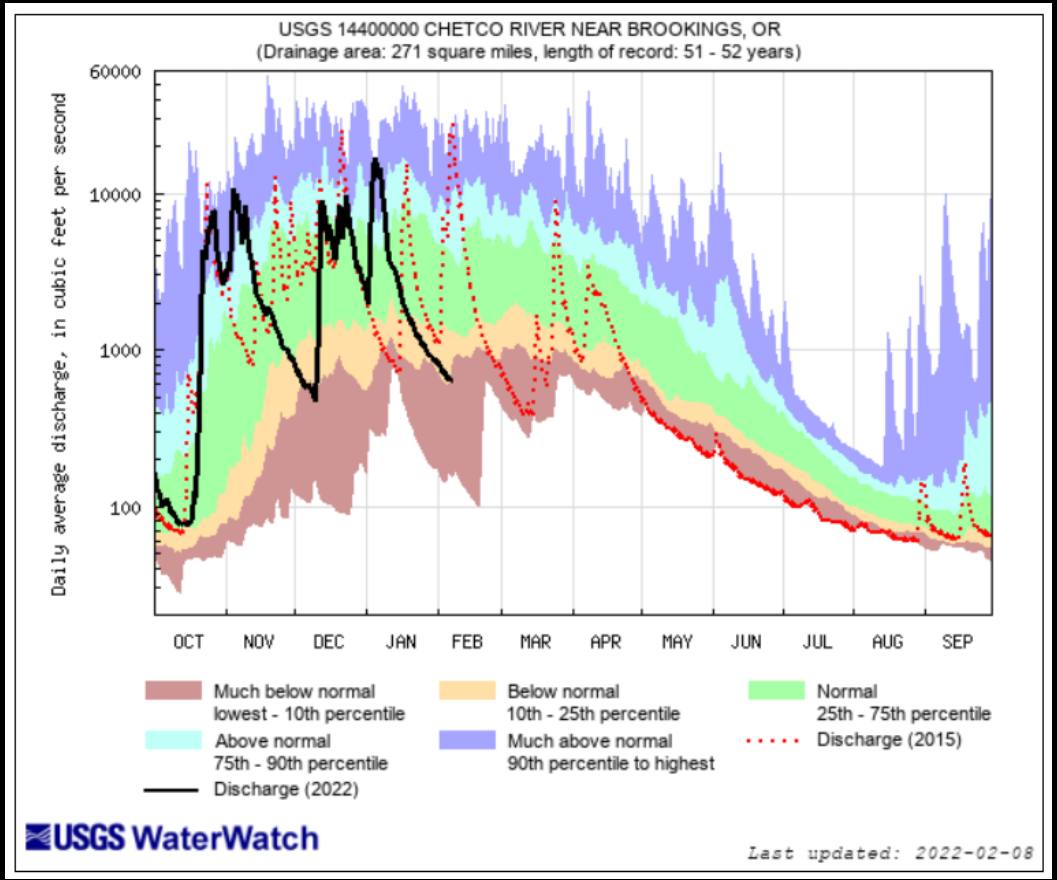


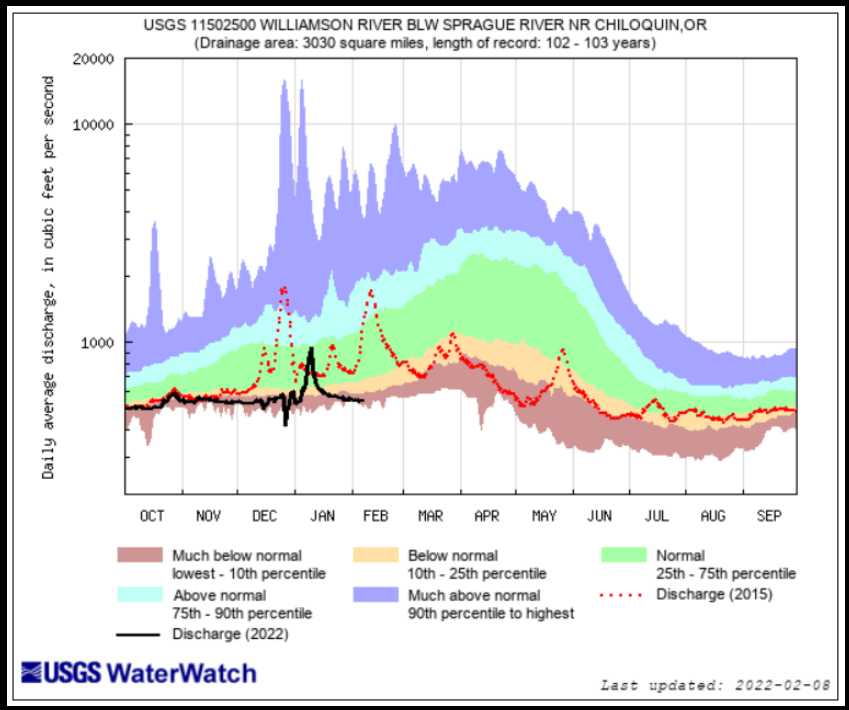


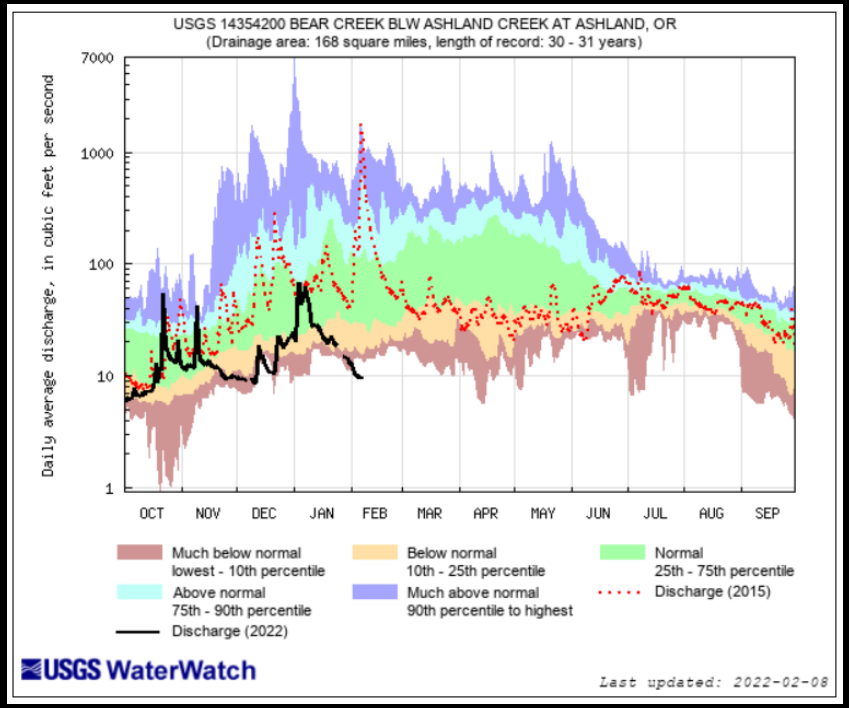


USGS

Southwestern OR



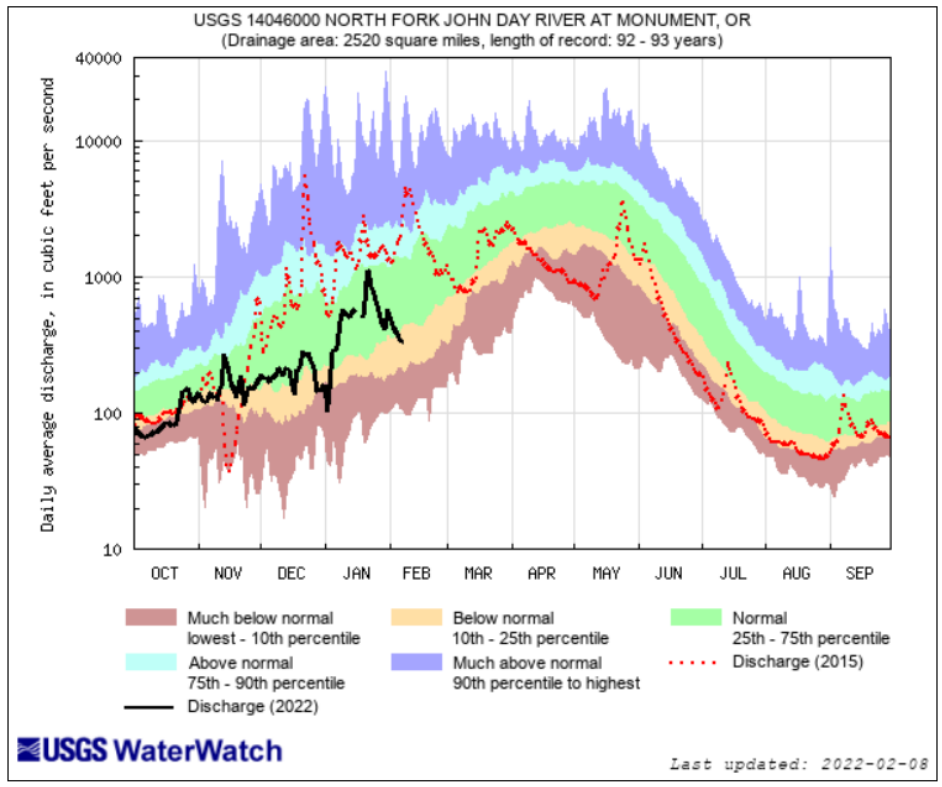


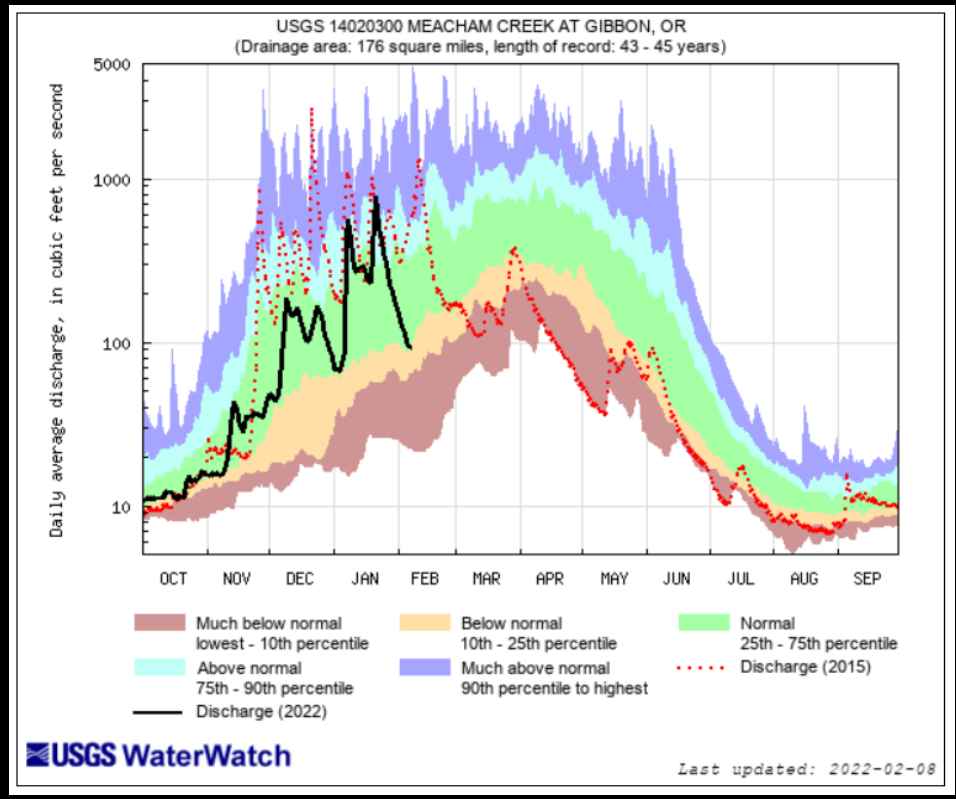


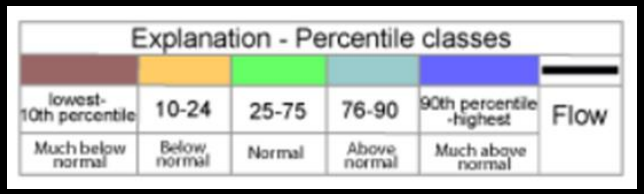
USGS

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	

Northeastern OR

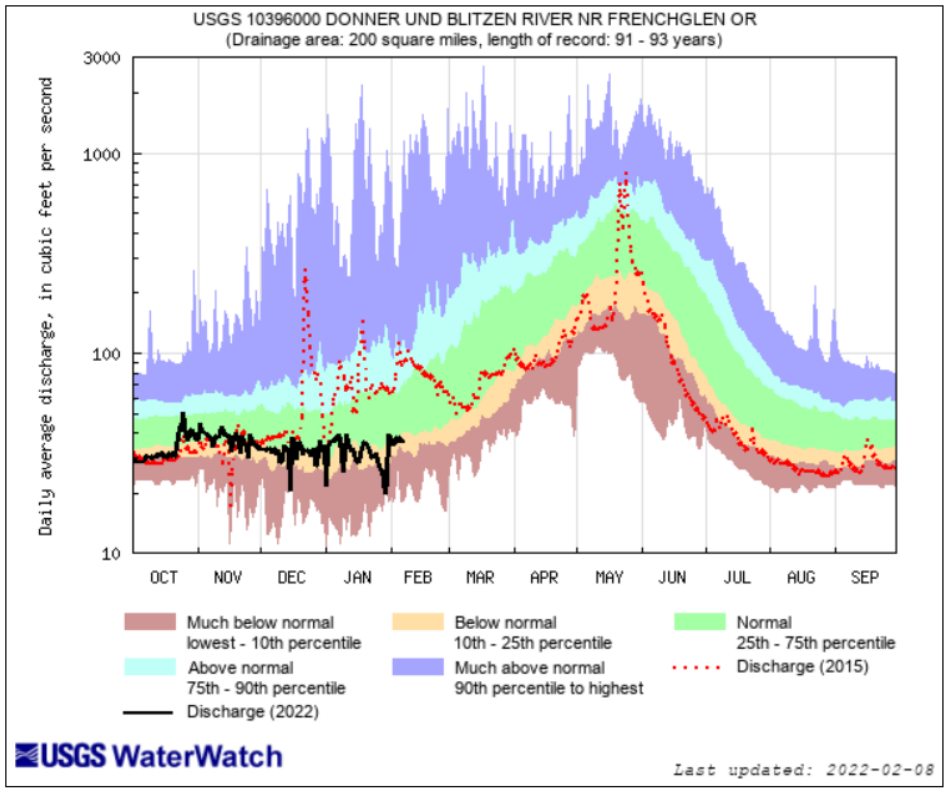


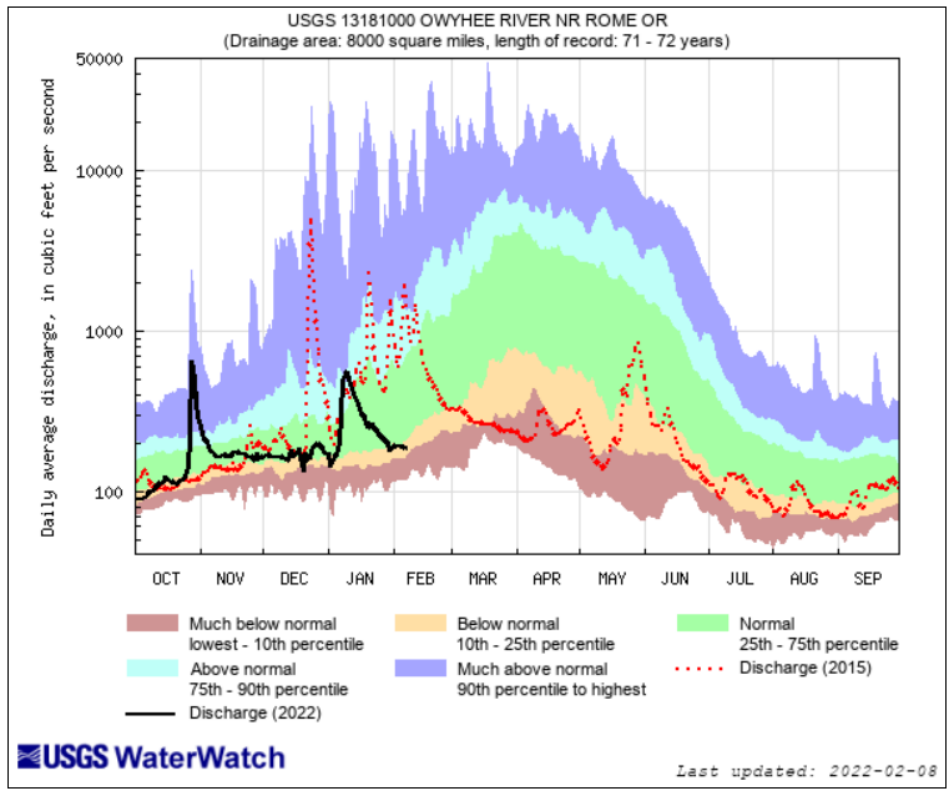


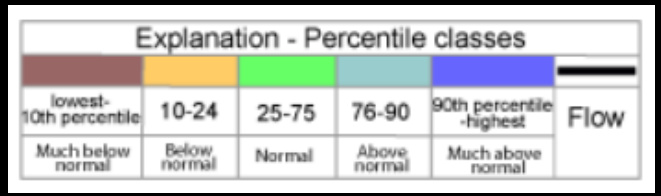


USGS

Southeastern OR

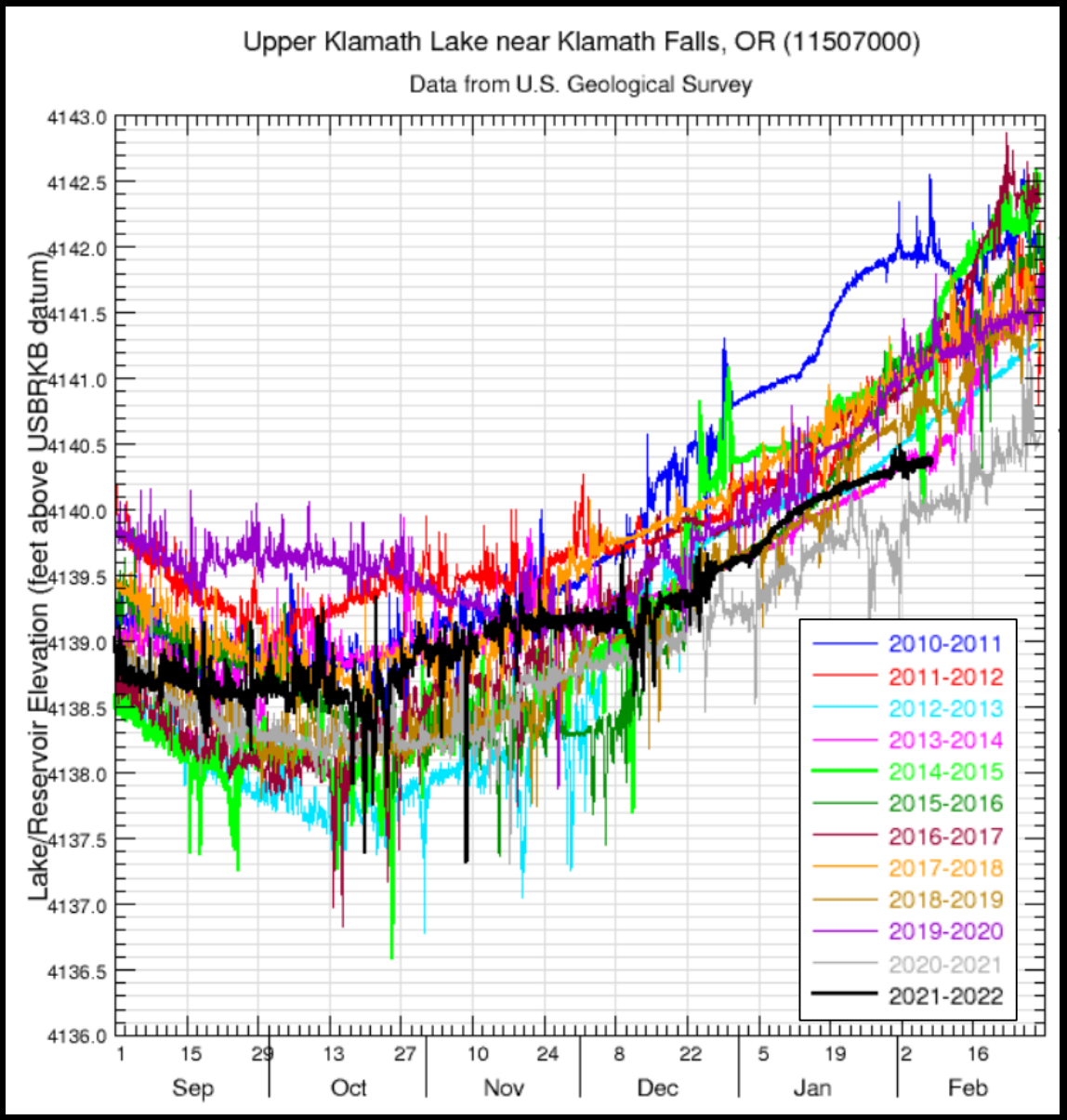


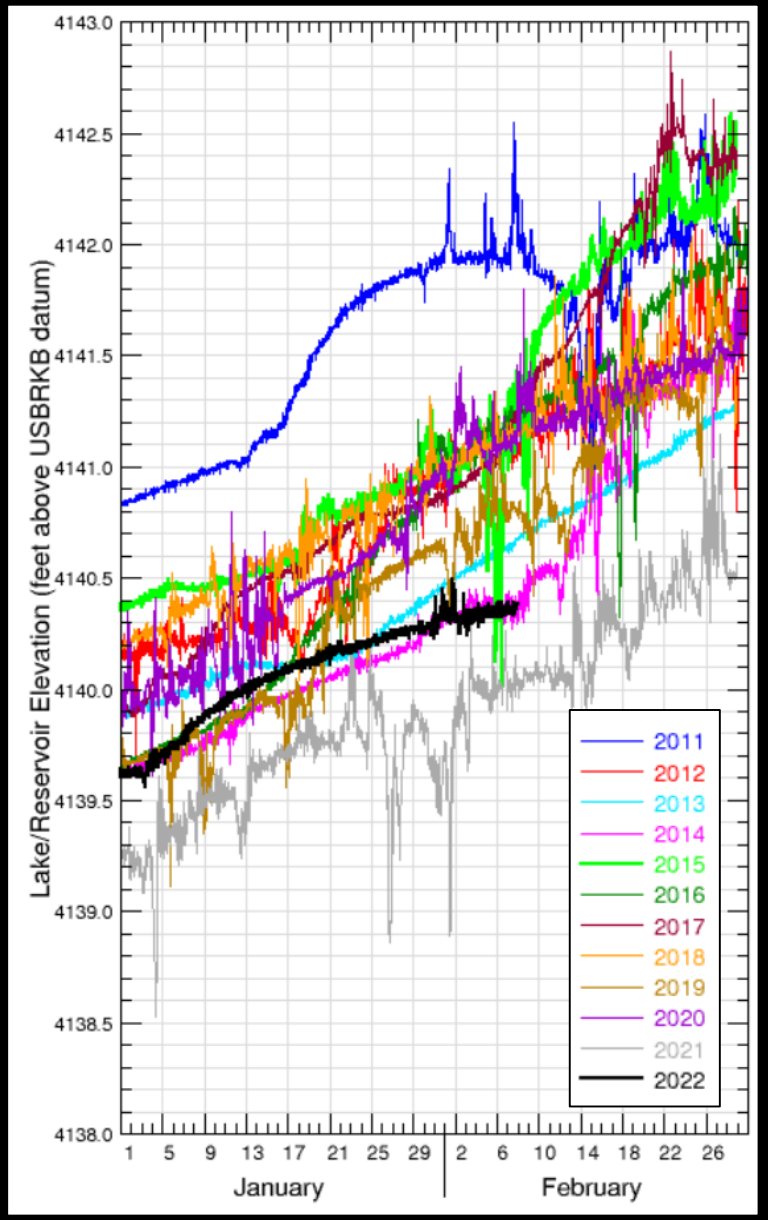




USGS

Klamath Lake





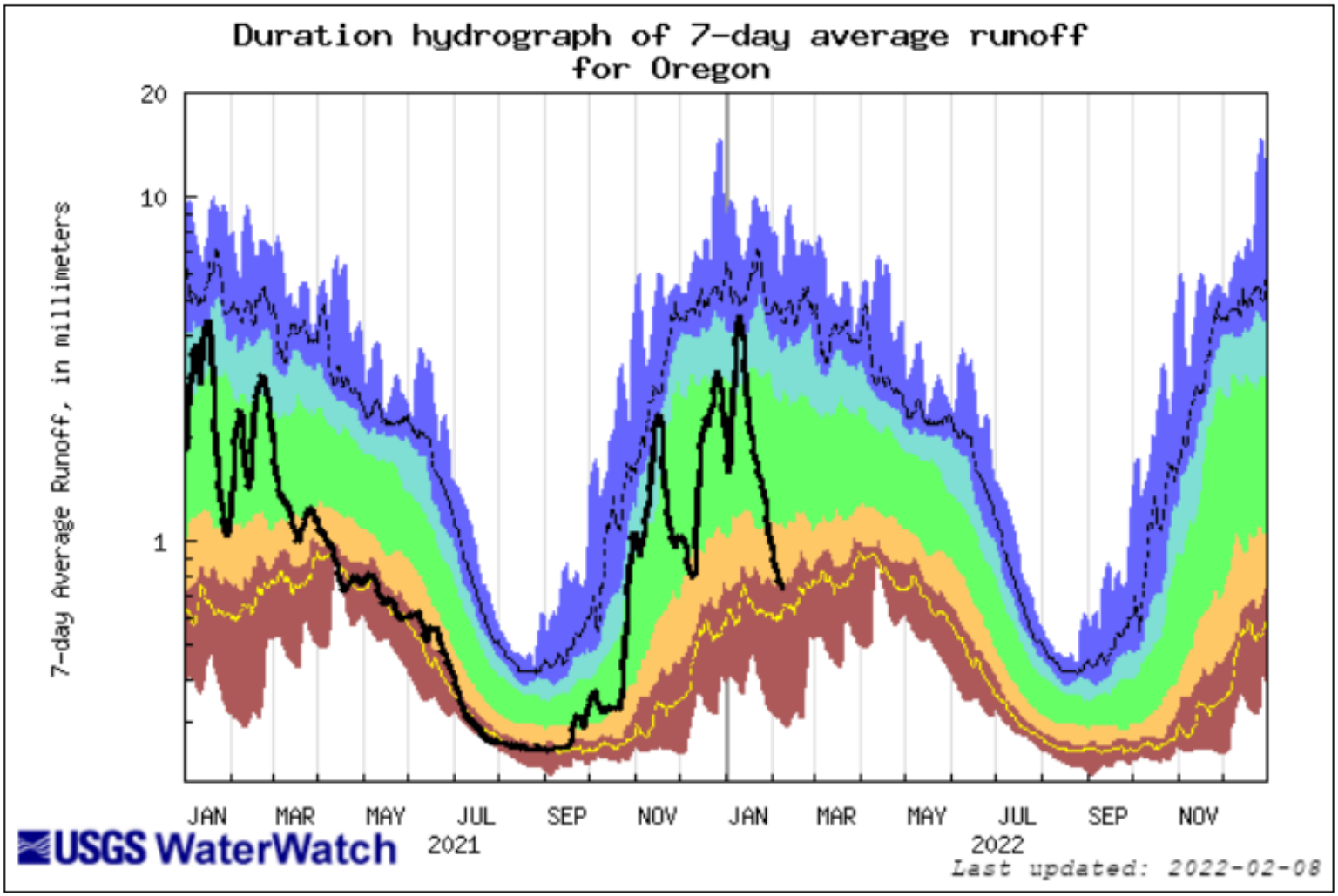
USGS

US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR JANUARY 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 Jan.: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	34	52	6	68
(*)Deep Creek above Adel	Lake County	22	25	144	31
(*)Chewaucan River near Paisley	Lake County	48	48	60	63
Williamson River near Chiloquin	Klamath	612	64	14	77
Owyhee River near Rome	Owyhee	285	54	67	69
(*)NF Malheur River near Beulah	Malheur	37	51	-24	77
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	1,470	70	39	73
Umatilla River nr Gibbon	Umatilla Lower John Day	353	122	108	97
John Day River at Service Crk	Upper John Day	746	47	104	48
(*)Little Deschutes River nr LaPine	Upper Deschutes	30	19	-12	31
Hood River nr Hood River	Lower Deschutes Mt.Hood	1,280	87	30	89
Willamette River at Salem	Willamette	50,800	113	19	102
Wilson River near Tillamook	North Coast	3,130	119	12	130
Umpqua River near Elkton	Rogue/Umpqua	14,300	95	105	75
Rogue River near Agness	Rogue/Umpqua	7,400	68	45	67
SF Coquille River at Powers	South Coast	1,660	94	6	91
Chetco River near Brookings	South Coast	4,330	84	11	99

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

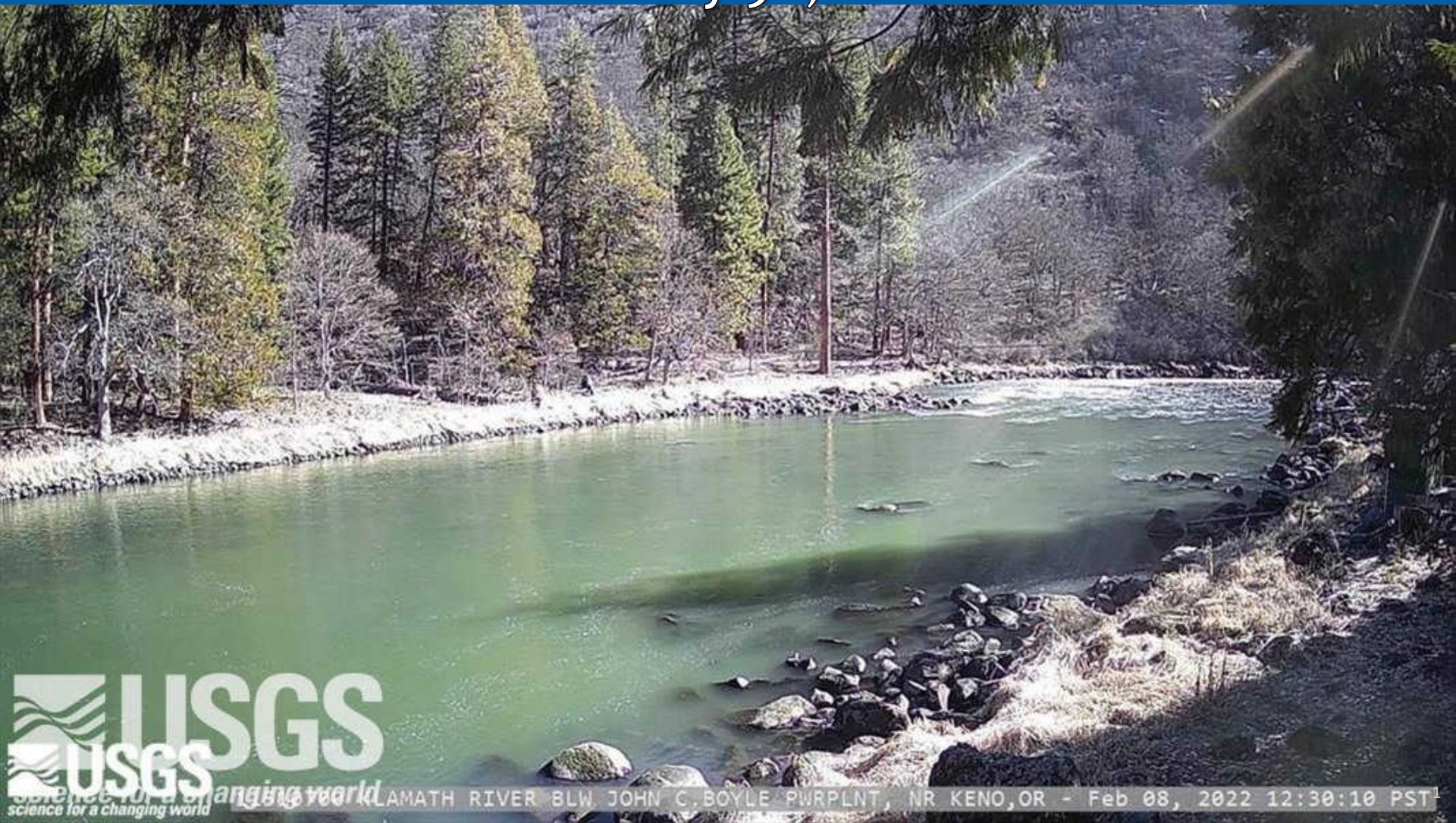
02/01/2022

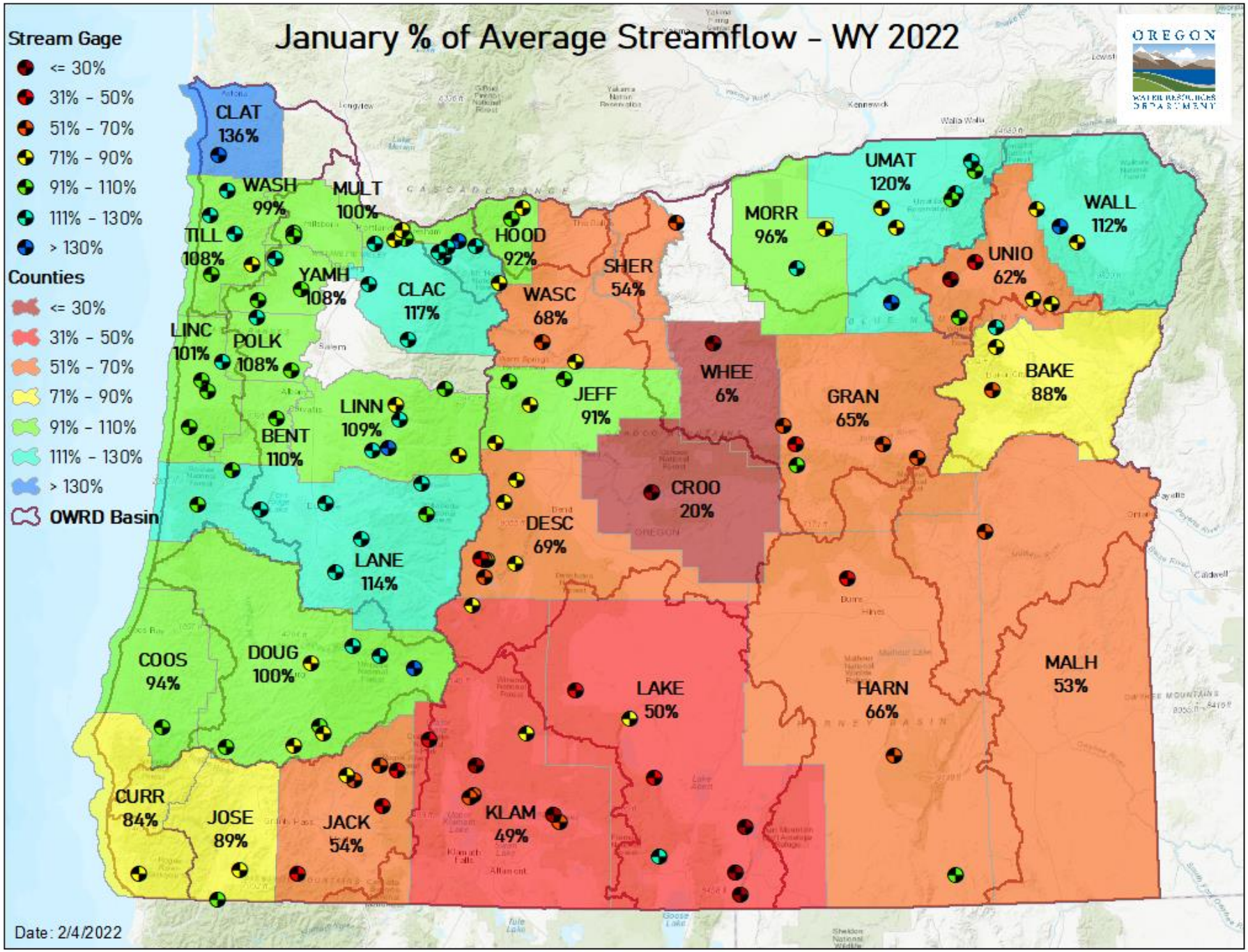


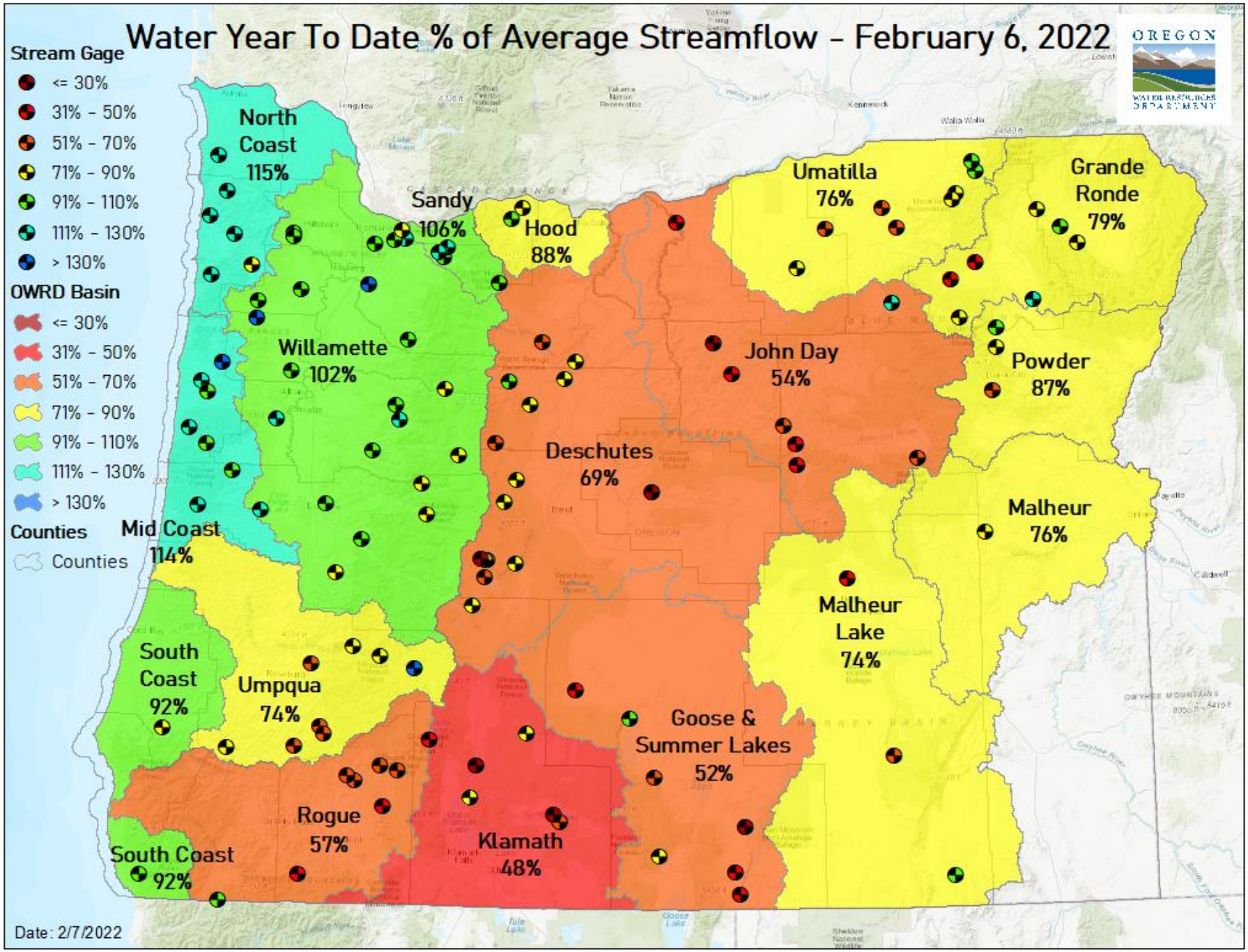
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Runoff
Much below Normal		Below normal	Normal	Above normal	Much above normal		

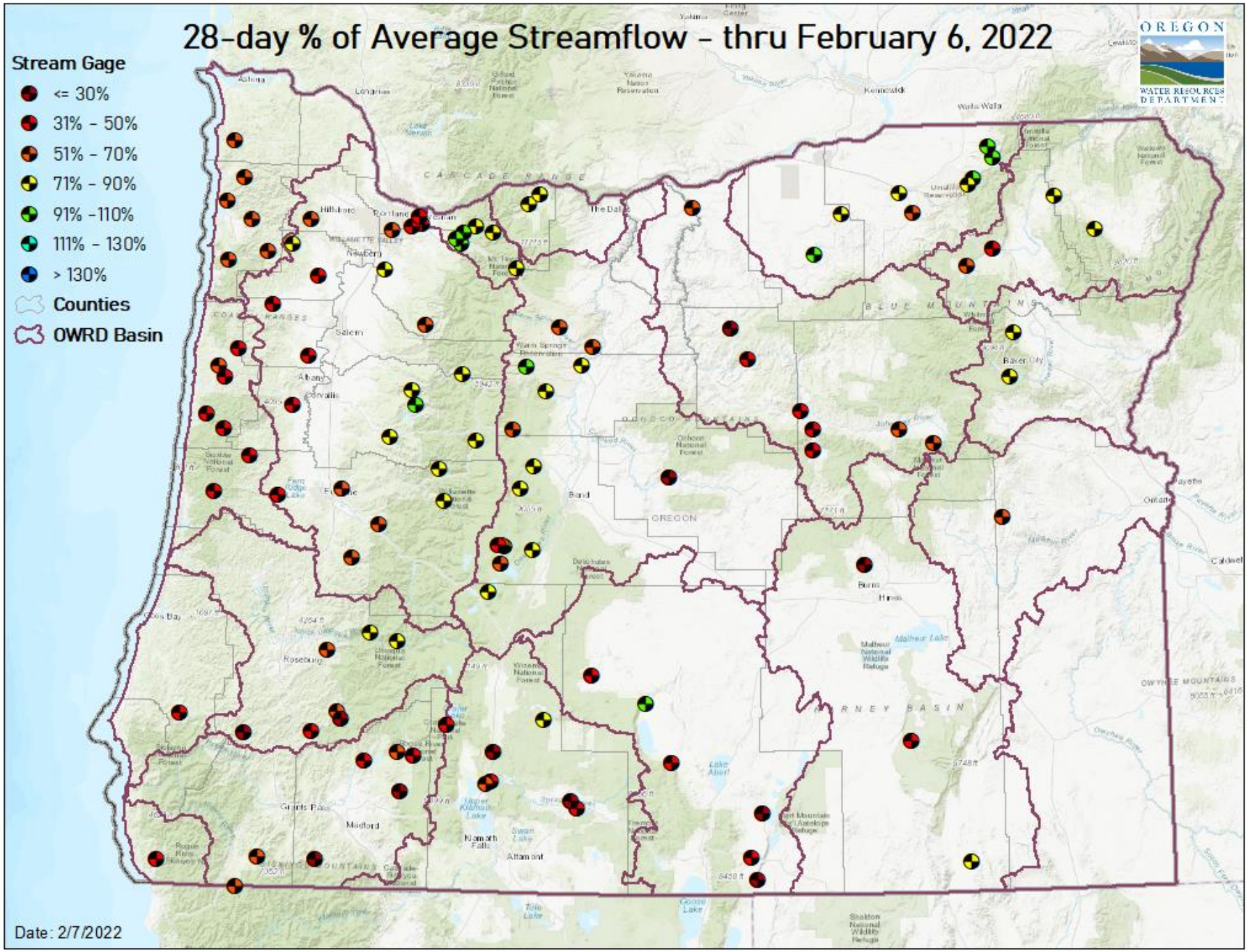
USGS

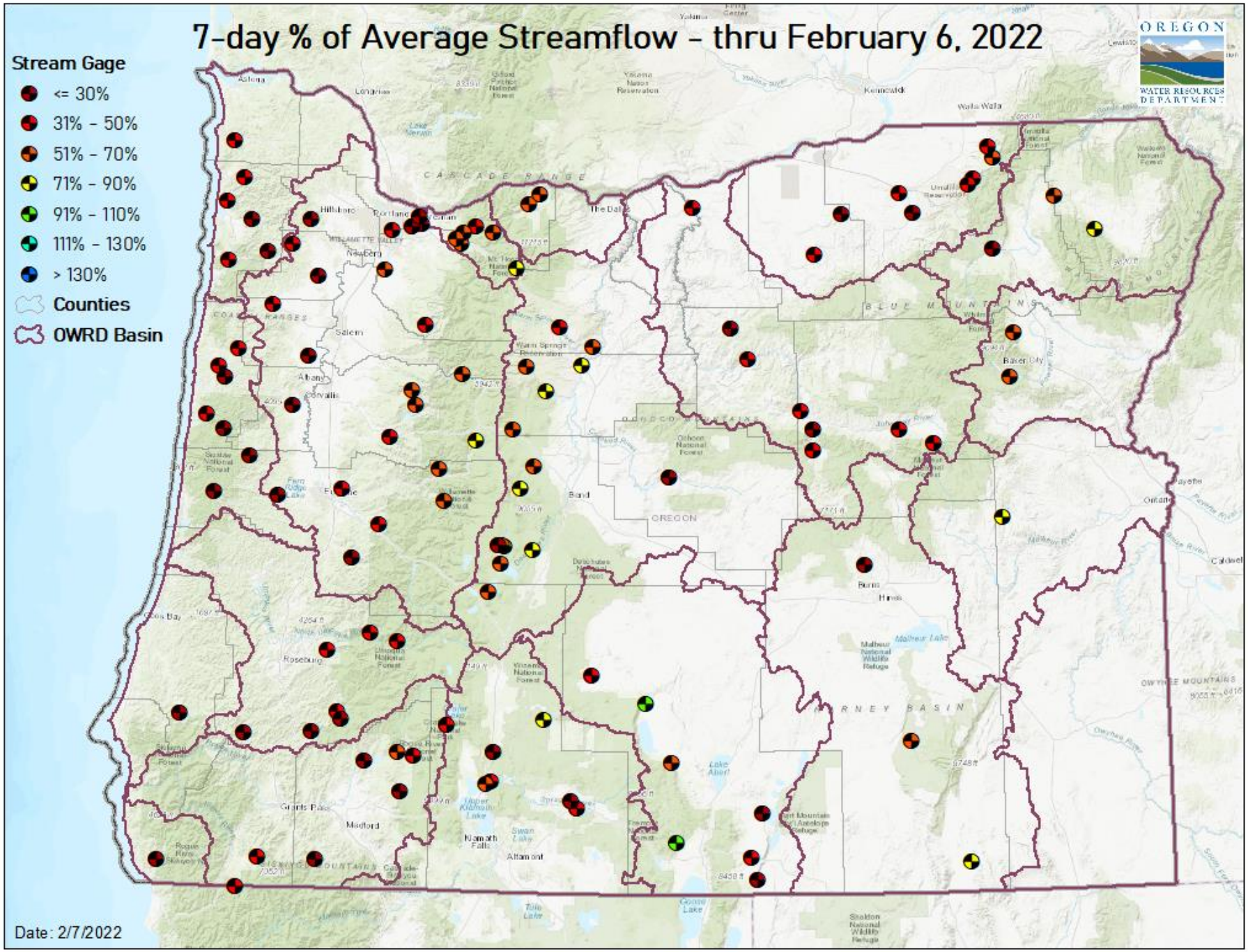
Water Supply Availability Committee
Oregon Water Resources Department
Ryan Andrews
February 9th, 2022

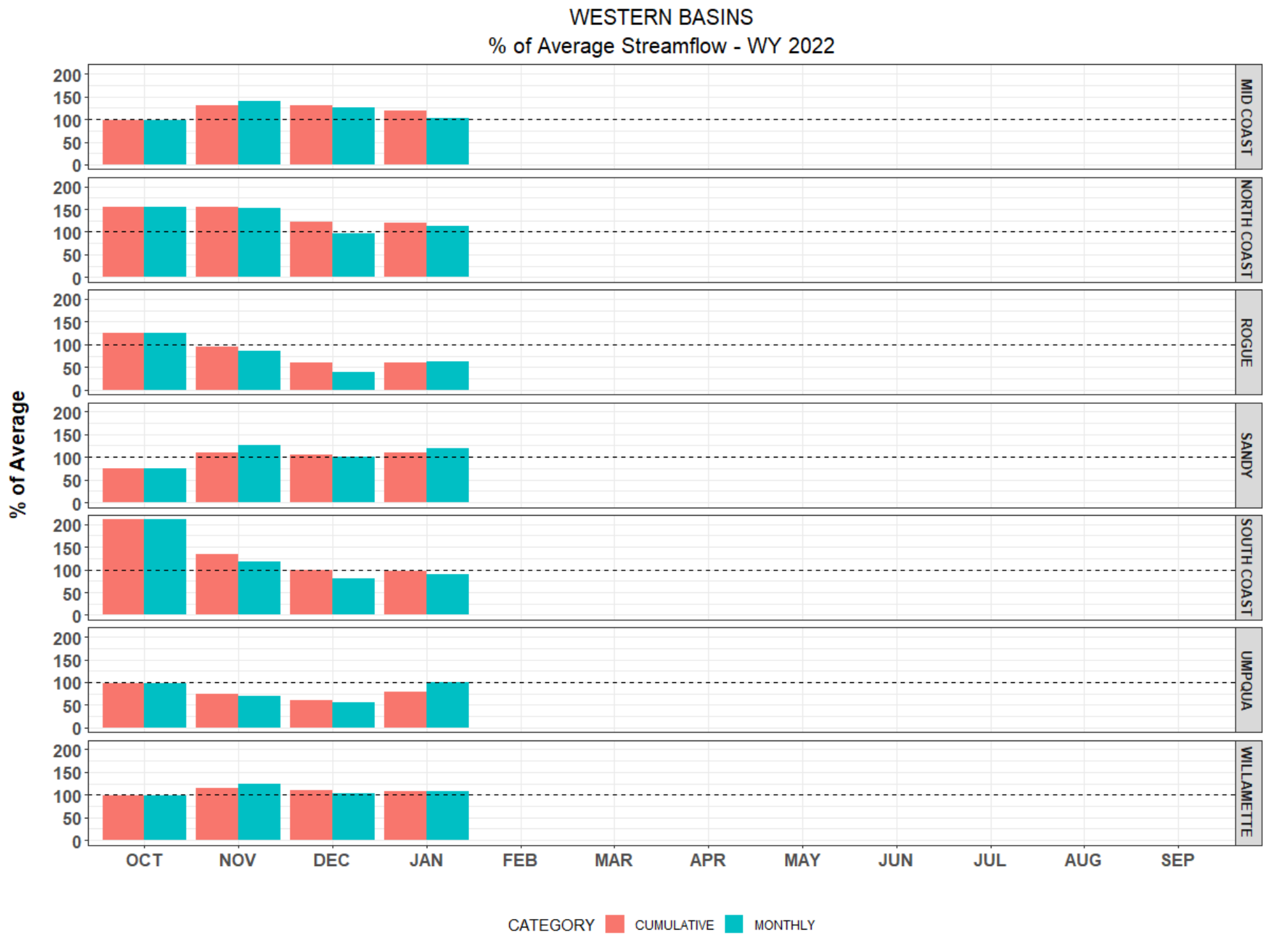


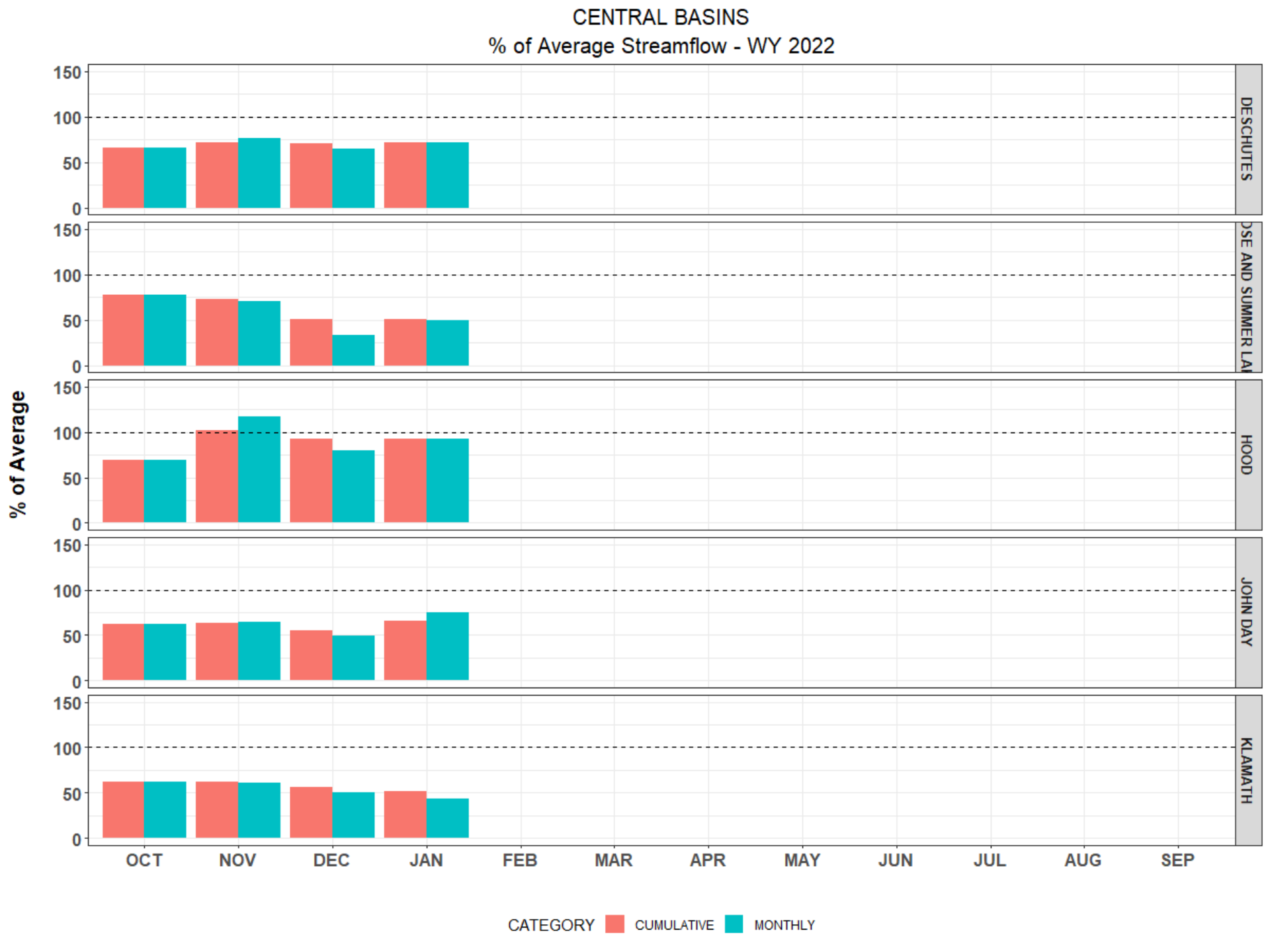

January % of Average Streamflow - WY 2022
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
OREGON
WATER RESOURCES DEPARTMENT
CLAT 136%
WASH 99%
MULT 100%
TILL 108%
YAMH 108%
CLAC 117%
HOOD 92%
WASC 68%
SHER 54%
MORR 96%
UMAT 120%
WALL 112%
UNIO 62%
LINC 101%
POLK 108%
LINN 109%
BENT 110%
JEFF 91%
WHEE 6%
GRAN 65%
BAKE 88%
CROO 20%
DESC 69%
LANE 114%
COOS 94%
DOUG 100%
LAKE 50%
HARN 66%
MALH 53%
CURR 84%
JOSE 89%
JACK 54%
KLAM 49%
Date: 2/4/2022

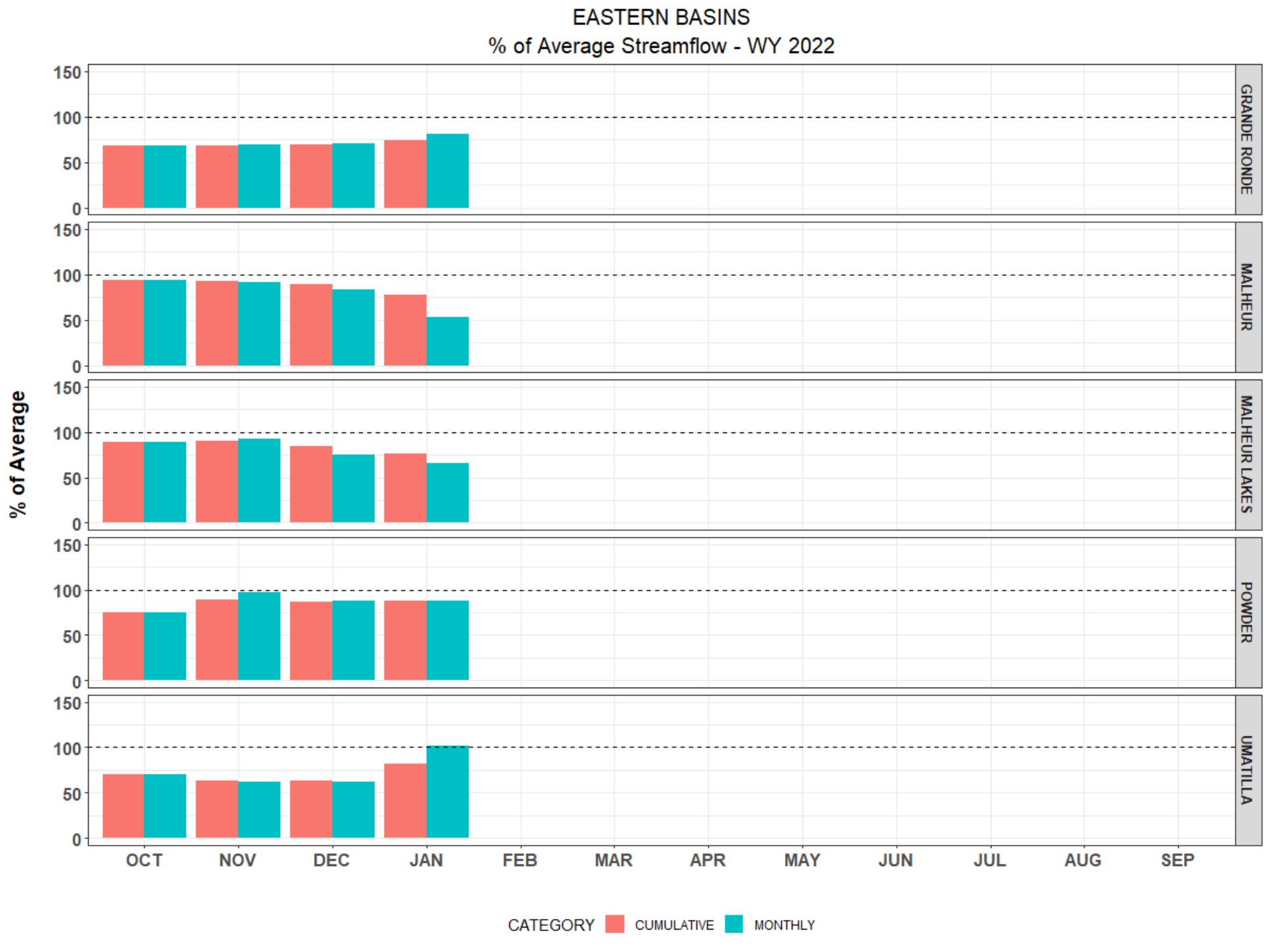

Water Year To Date % of Average Streamflow - February 6, 2022
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
OWRD Basin
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
Counties
OREGON
WATER RESOURCES DEPARTMENT
North Coast 115%
Sandy 106%
Hood 88%
Umatilla 76%
Grande Ronde 79%
Willamette 102%
John Day 54%
Powder 87%
Deschutes 69%
Malheur 76%
Mid Coast 114%
Malheur Lake 74%
South Coast 92%
Umpqua 74%
Goose & Summer Lakes 52%
Rogue 57%
Klamath 48%
South Coast 92%
Date: 2/7/2022

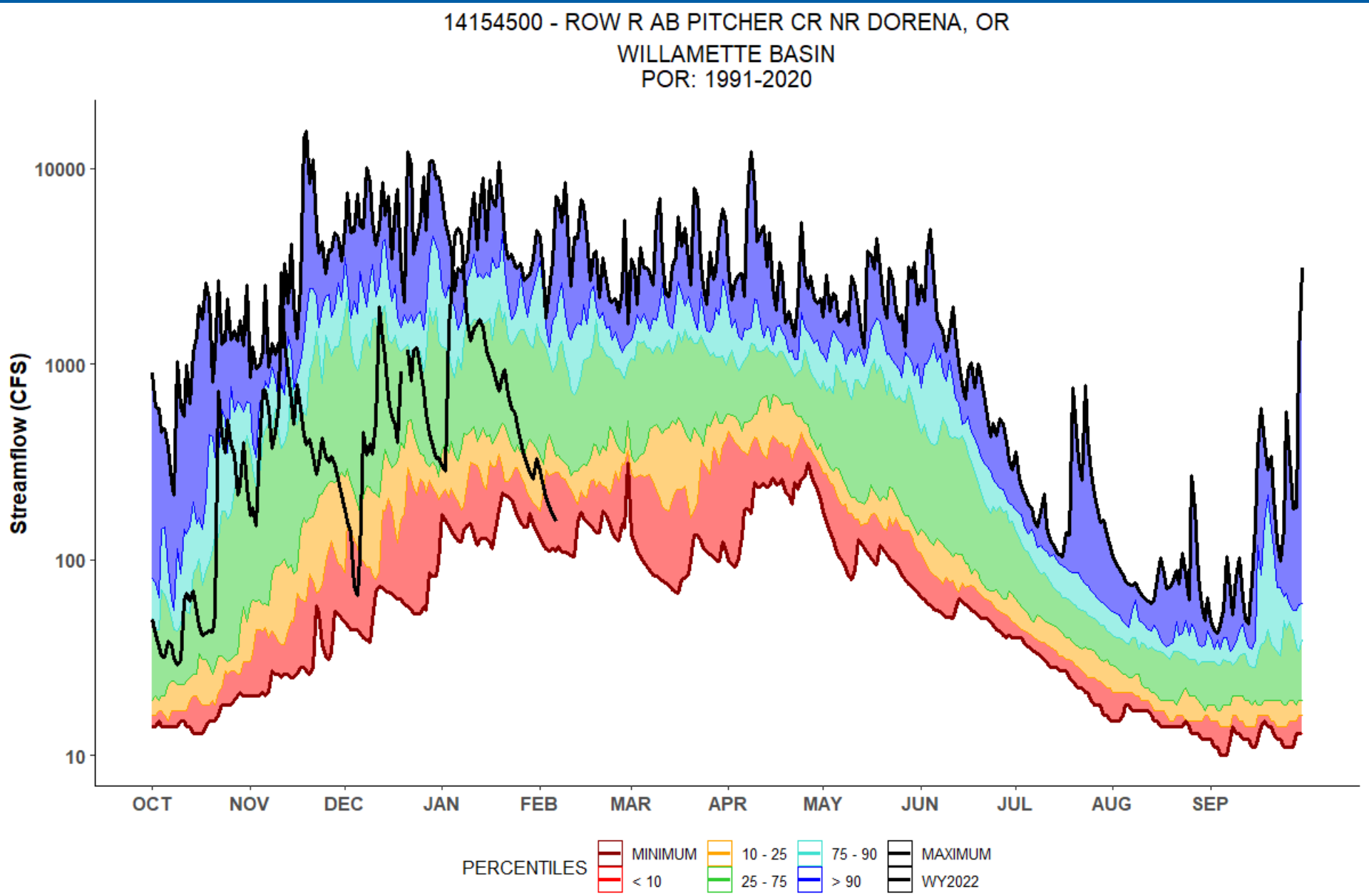

28-day % of Average Streamflow - thru February 6, 2022
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% -110%
111% - 130%
> 130%
Counties
OWRD Basin
Date: 2/7/2022

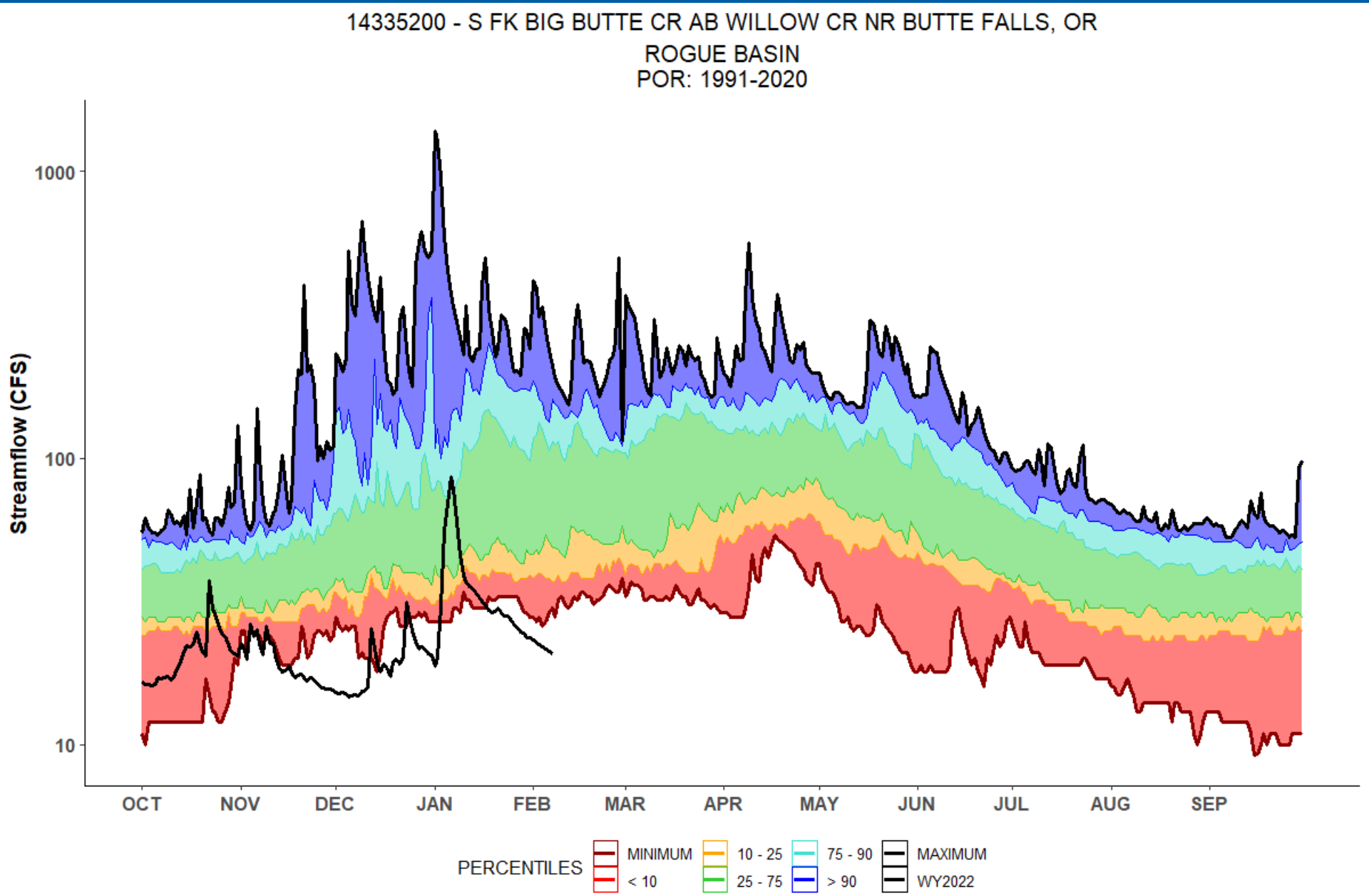

7-day % of Average Streamflow - thru February 6, 2022
Stream Gage
<= 30%
31% - 50%
51% - 70%
71% - 90%
91% - 110%
111% - 130%
> 130%
Counties
OWRD Basin
OREGON
WATER RESOURCES DEPARTMENT
Date: 2/7/2022

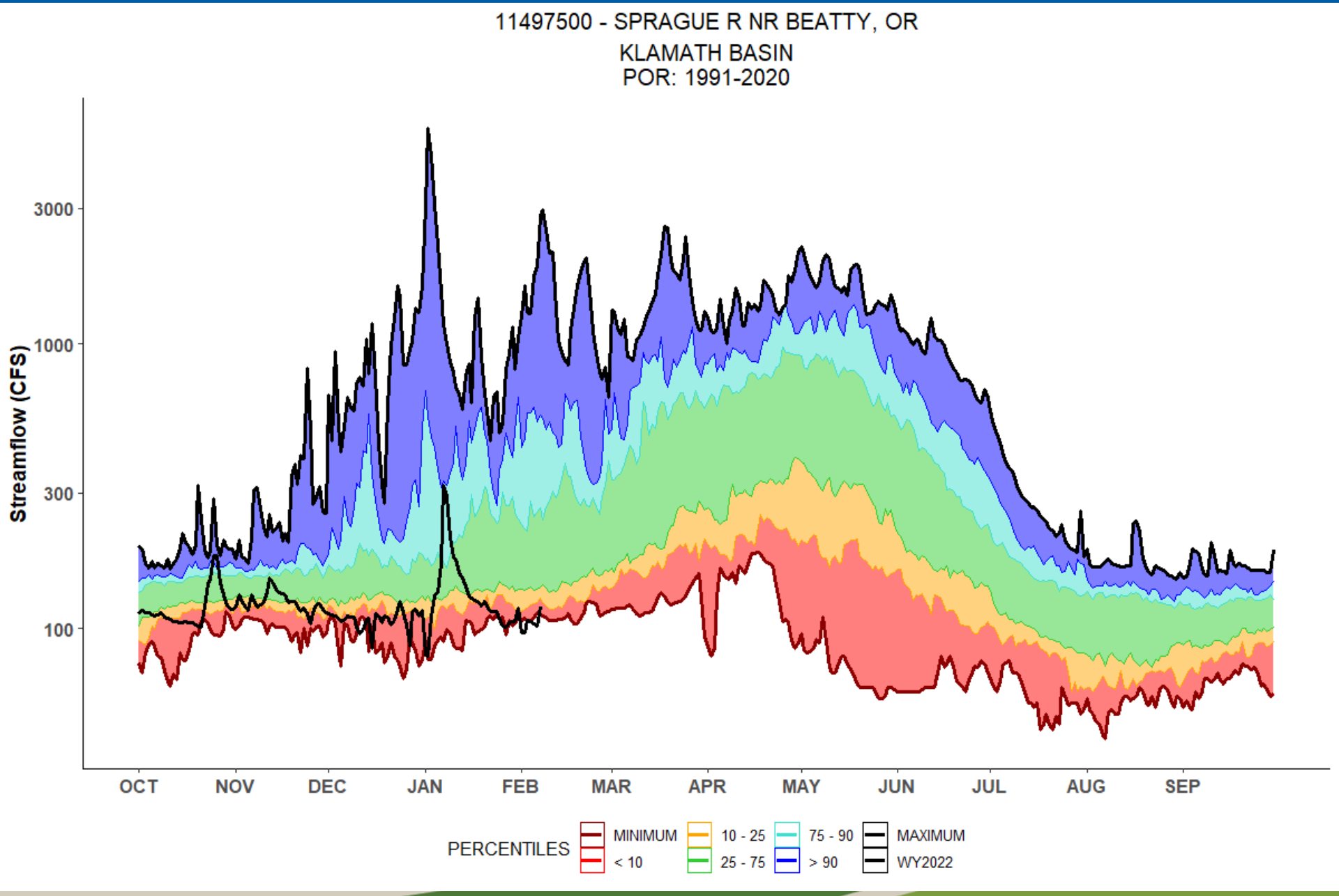

WESTERN BASINS
% of Average Streamflow - WY 2022
% of Average
200
150
100
50
0
MID COAST
NORTH COAST
ROGUE
SANDY
SOUTH COAST
UMPQUA
WILLAMETTE
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
CATEGORY
CUMULATIVE
MONTHLY

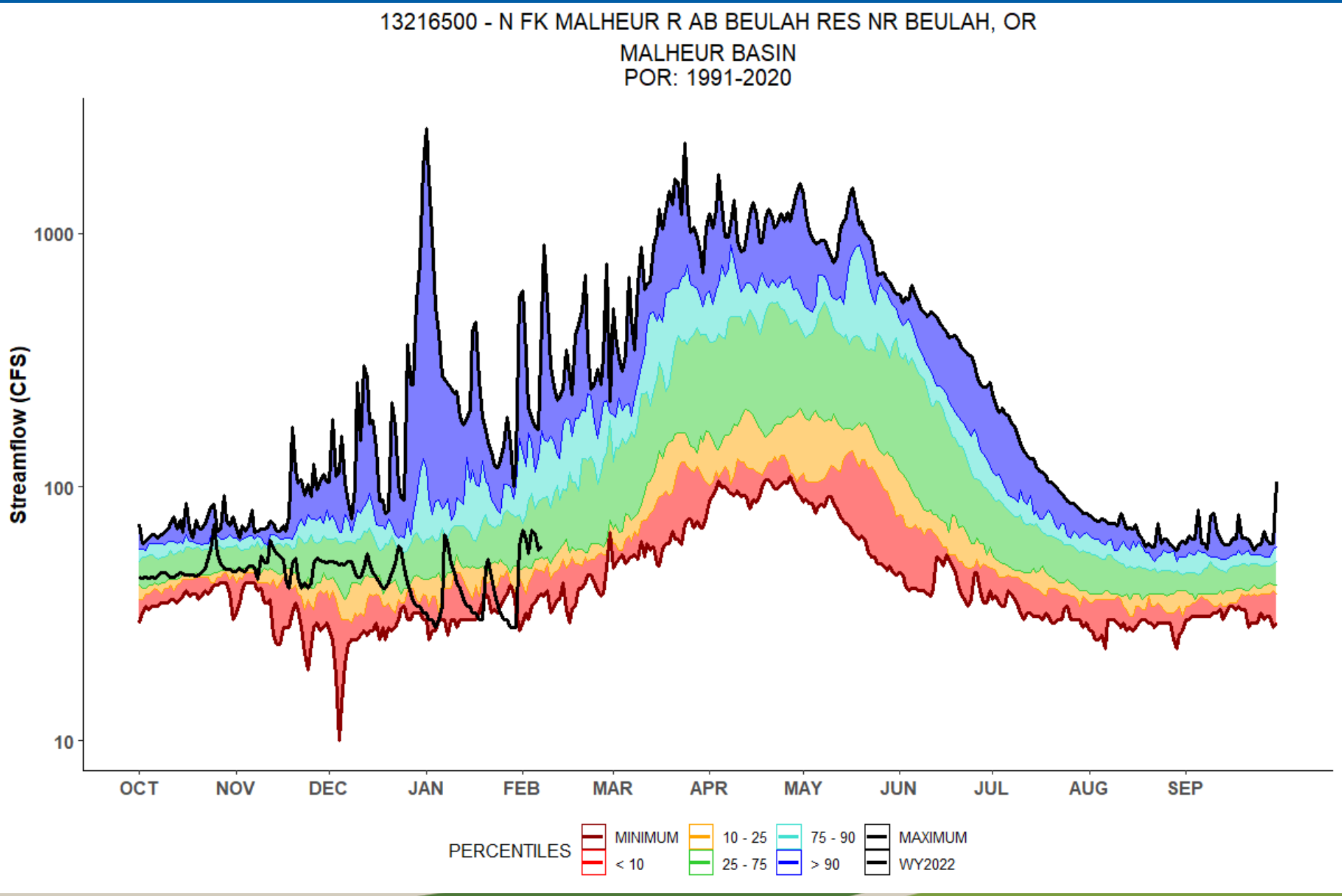

CENTRAL BASINS
% of Average Streamflow - WY 2022
% of Average
150
100
50
0
DESCHUTES
DSE AND SUMMER LA
HOOD
JOHN DAY
KLAMATH
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
CATEGORY
CUMULATIVE
MONTHLY

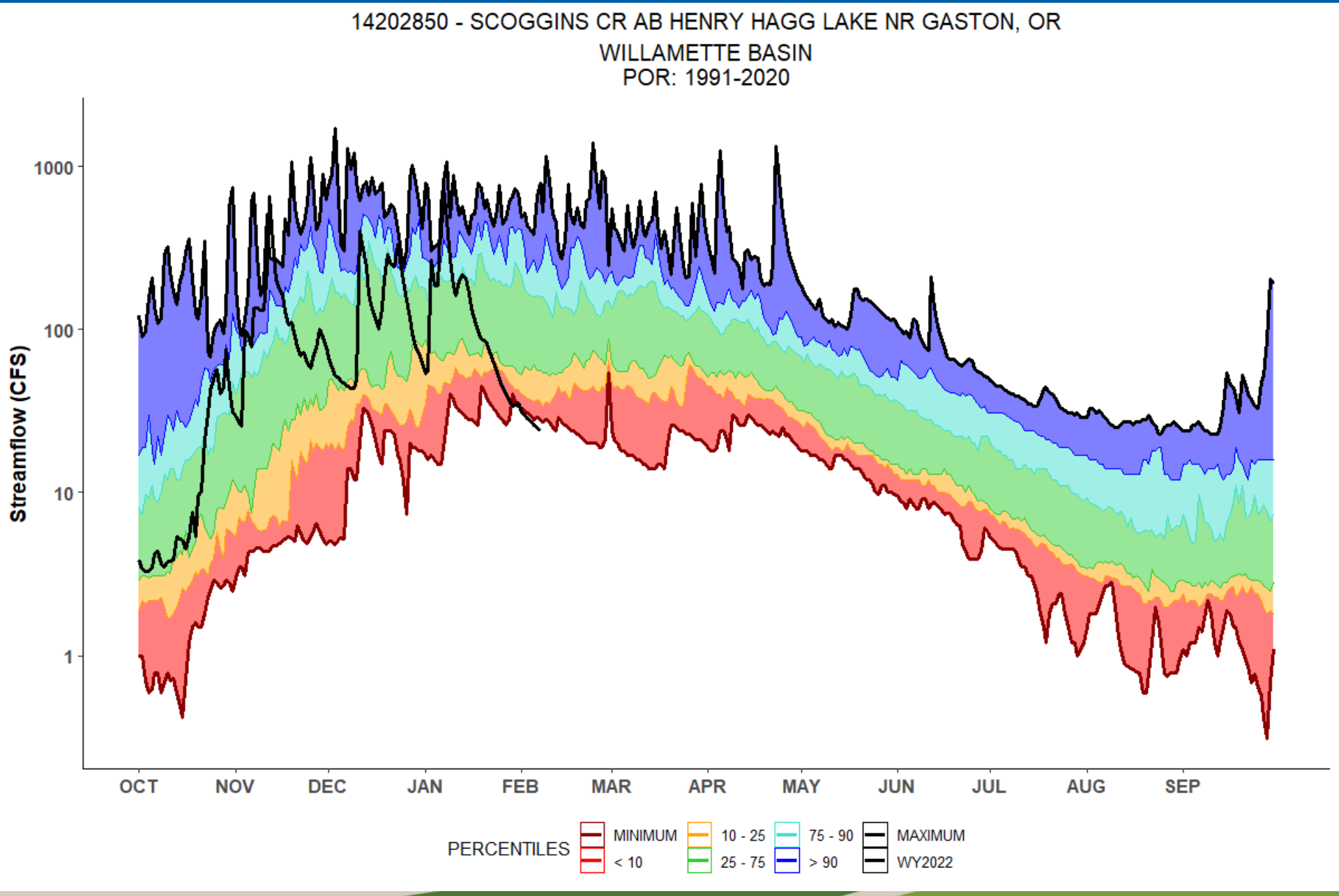

EASTERN BASINS
% of Average Streamflow - WY 2022
% of Average
150
100
50
0
GRANDE RONDE
MALHEUR
MALHEUR LAKES
POWDER
UMATILLA
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
CATEGORY
CUMULATIVE
MONTHLY


14154500 - ROW R AB PITCHER CR NR DORENA, OR
WILLAMETTE BASIN
POR: 1991-2020
Streamflow (CFS)
10000
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
WY2022


14335200 - S FK BIG BUTTE CR AB WILLOW CR NR BUTTE FALLS, OR
ROGUE BASIN
POR: 1991-2020
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
WY2022


11497500 - SPRAGUE R NR BEATTY, OR
KLAMATH BASIN
POR: 1991-2020
Streamflow (CFS)
3000
1000
300
100
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2022


13216500 - N FK MALHEUR R AB BEULAH RES NR BEULAH, OR
MALHEUR BASIN
POR: 1991-2020
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
WY2022


14202850 - SCOGGINS CR AB HENRY HAGG LAKE NR GASTON, OR
WILLAMETTE BASIN
POR: 1991-2020
Streamflow (CFS)
1000
100
10
1
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
PERCENTILES
MINIMUM
< 10
10 - 25
25 - 75
75 - 90
> 90
MAXIMUM
WY2022

OREGON
WATER RESOURCES DEPARTMENT

QUESTIONS?

BUREAU OF RECLAMATION

Reclamation Storage Update

Oregon Water Supply Availability Committee Meeting

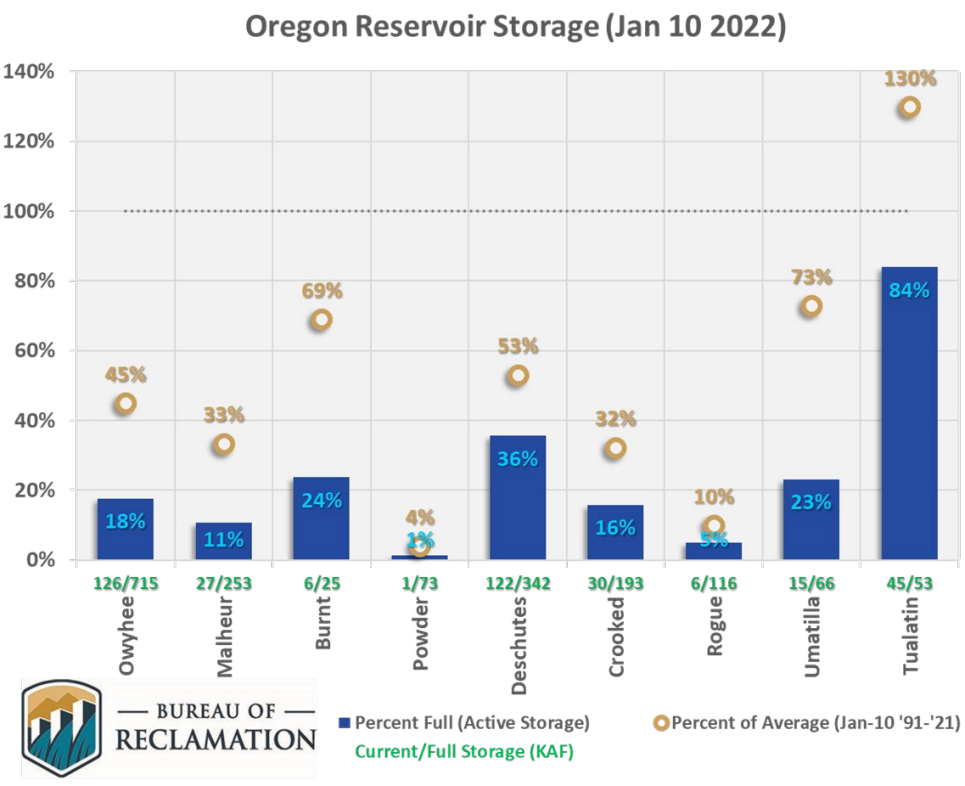
February 9, 2022

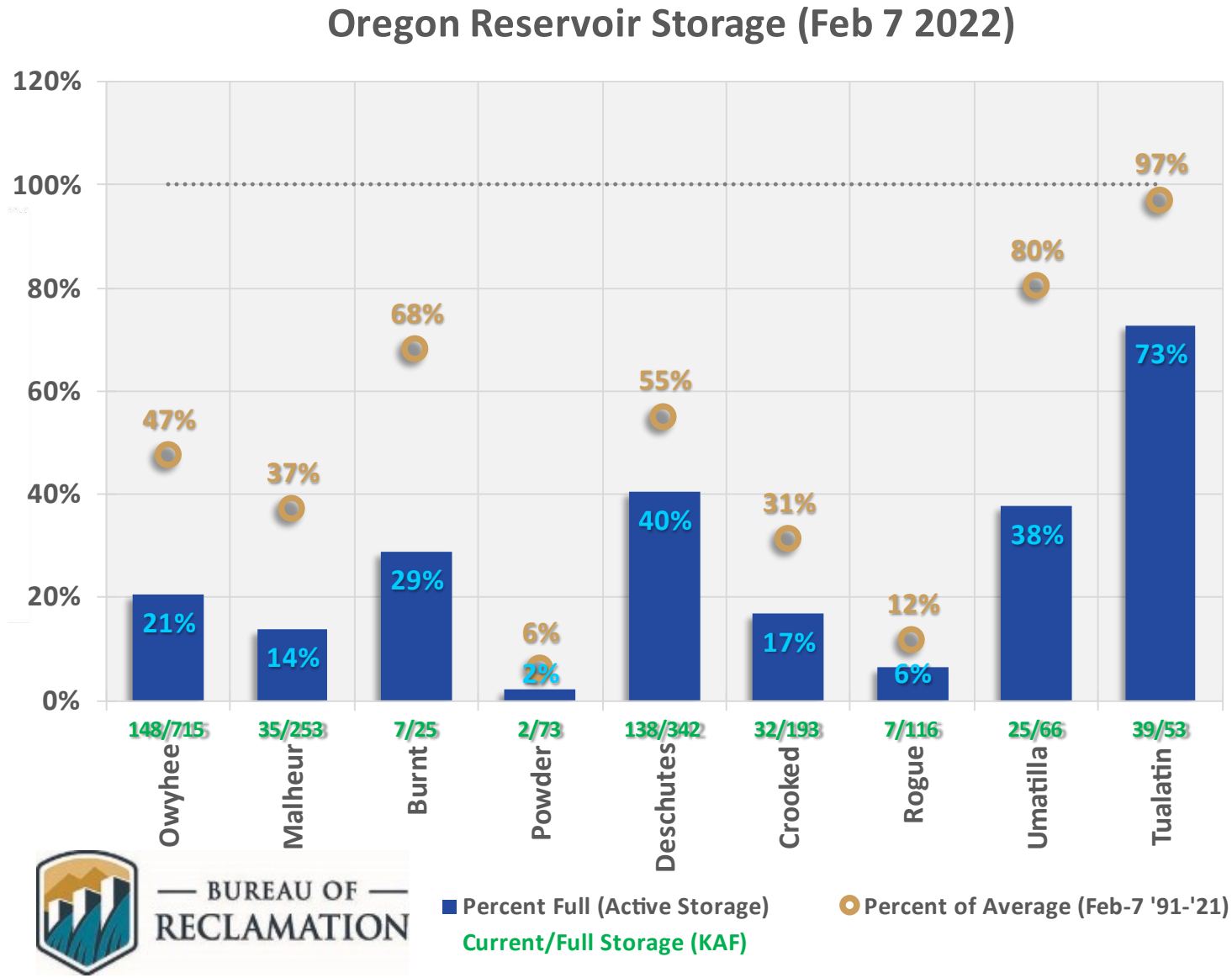
Basin Operations Summary

- Operations Activities:
  - Reclamation storage reservoirs in Oregon continue with typical winter fill operations
  - No Flood Risk Management operations occurring

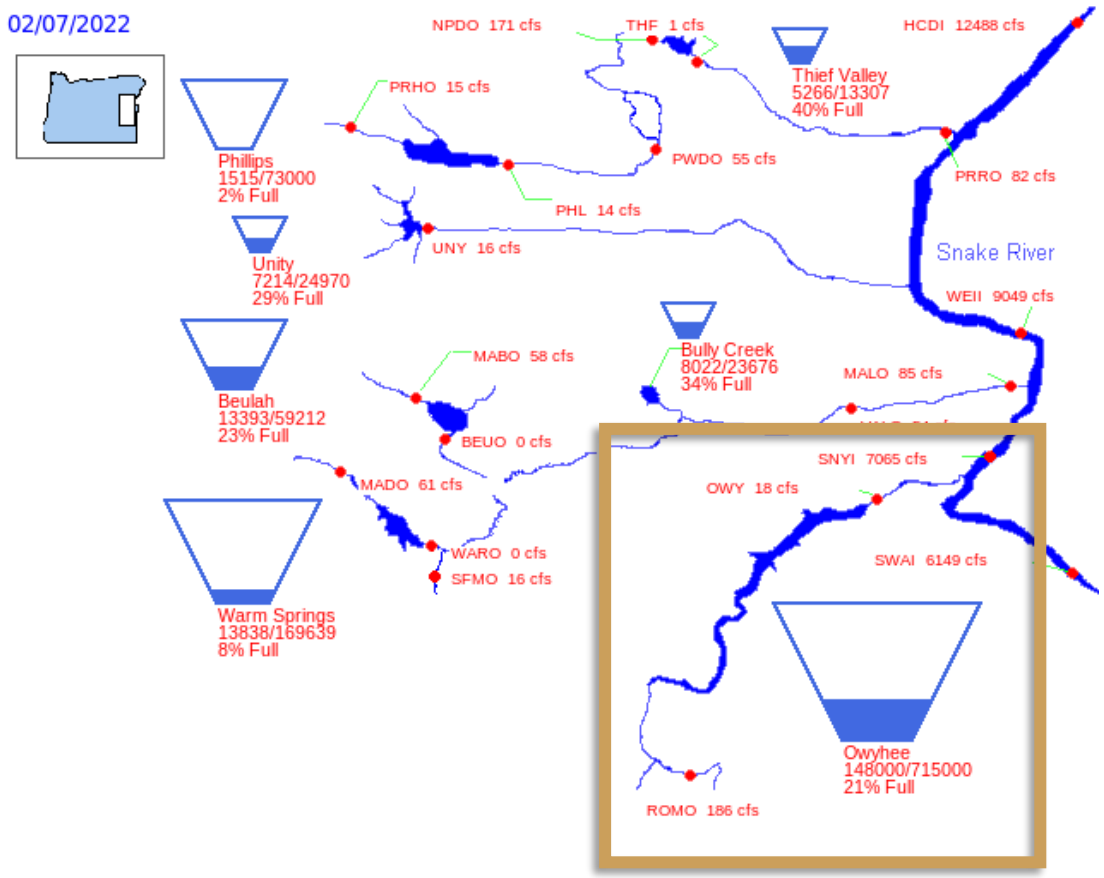
- Water Supply Notes
  - Below Average reservoir content continues at Reclamation Oregon reservoirs (except Scoggins)
  - Need wet conditions to materialize, particularly in the central/eastern/southern Oregon basins
  - Most river basins will need above to much above normal runoff this WY to refill
  - Reclamation's runoff forecasts decreased by around 10-30% due to dry conditions in January
  - Most locations now have well below normal runoff forecasts for the spring runoff

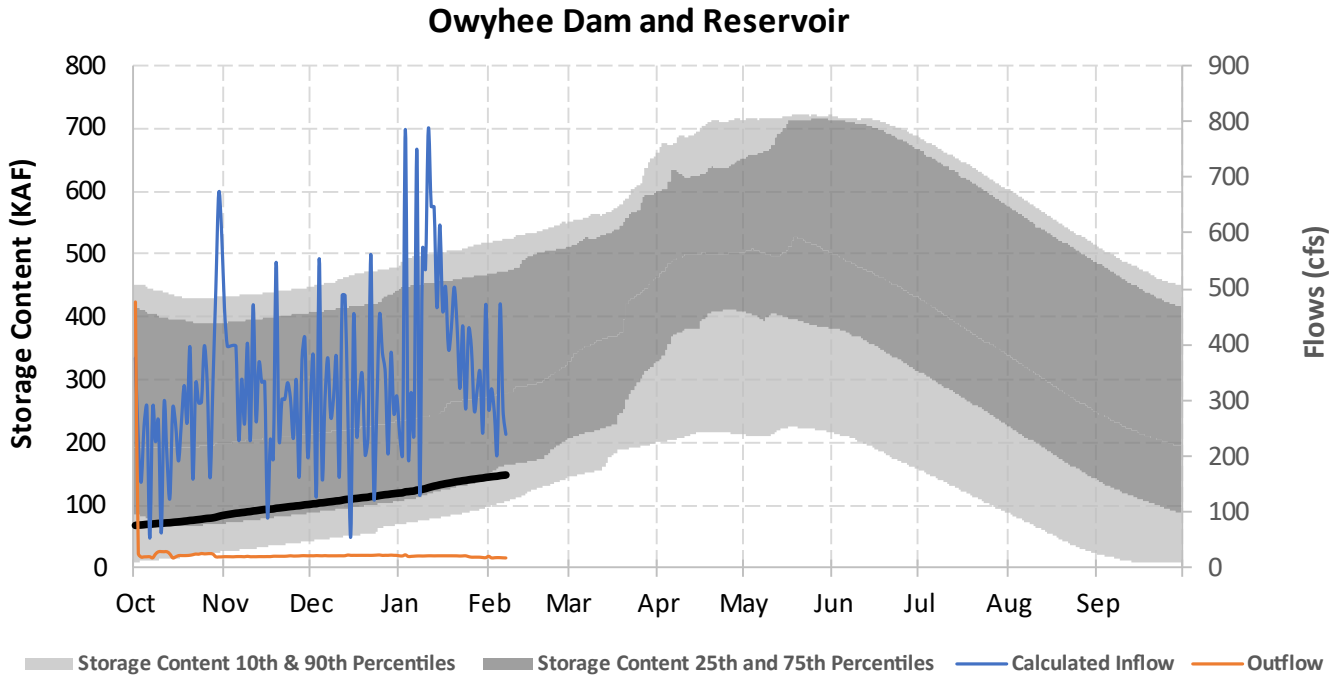
Storage Conditions





Owyhee River Basin



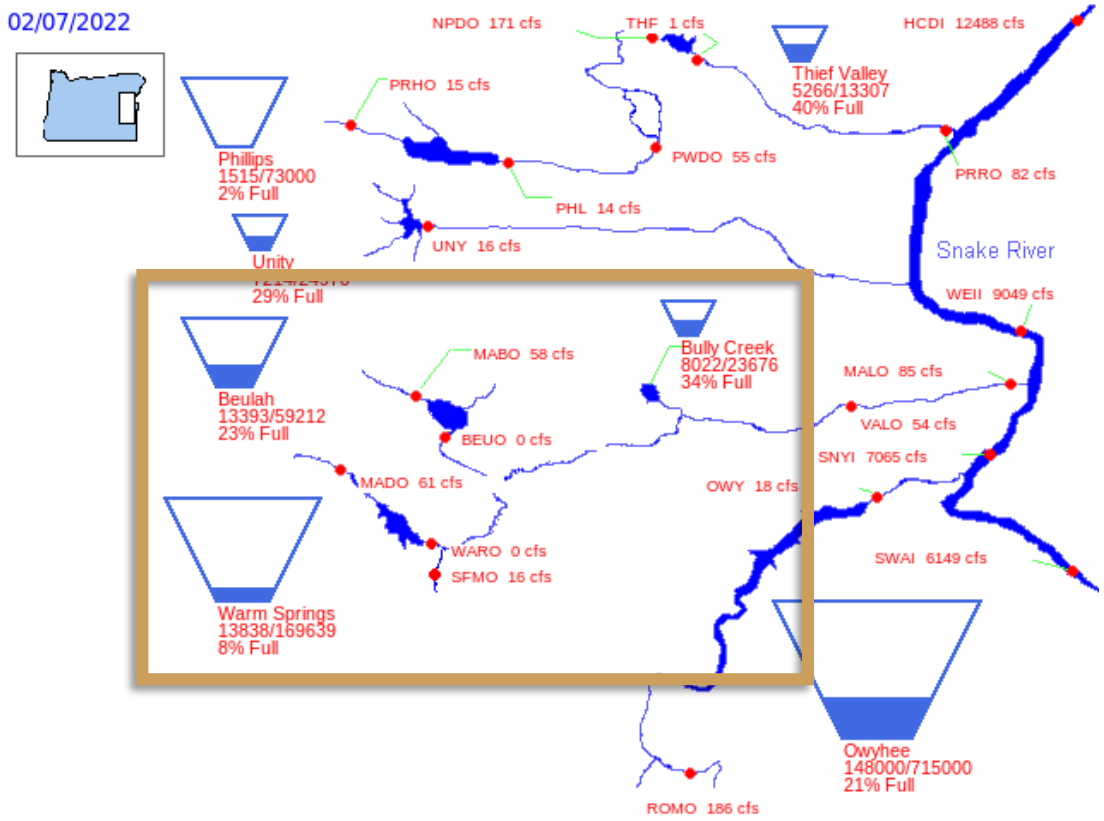


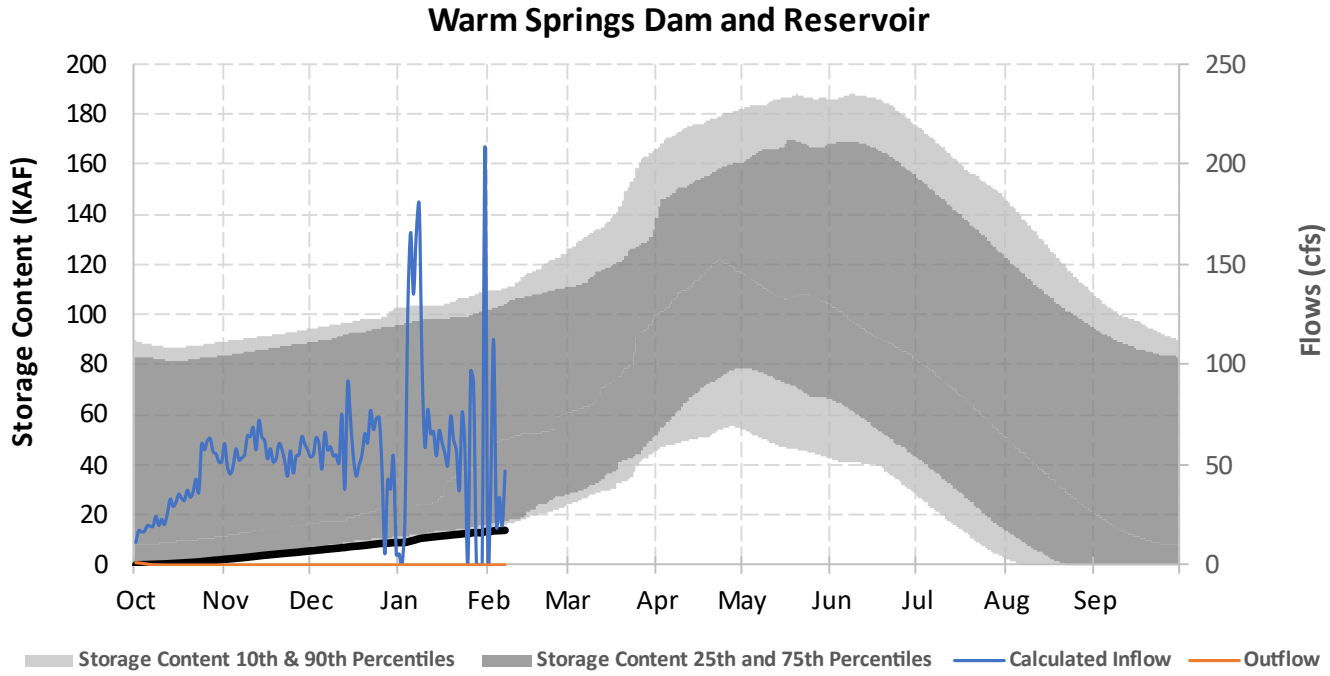
Reclamation January 1 Runoff Forecast
Jan-Jun: 610 kaf (115% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 458 kaf (94% 91-20 Ave)

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

Malheur River Basin



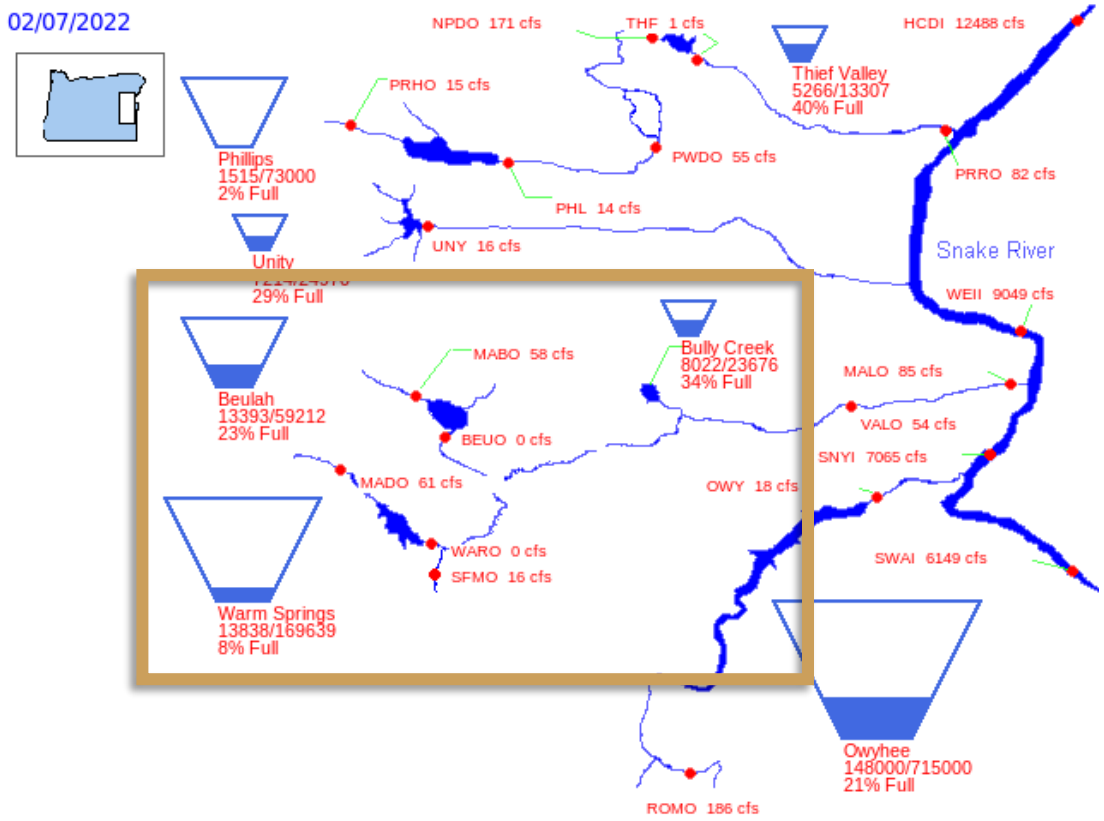


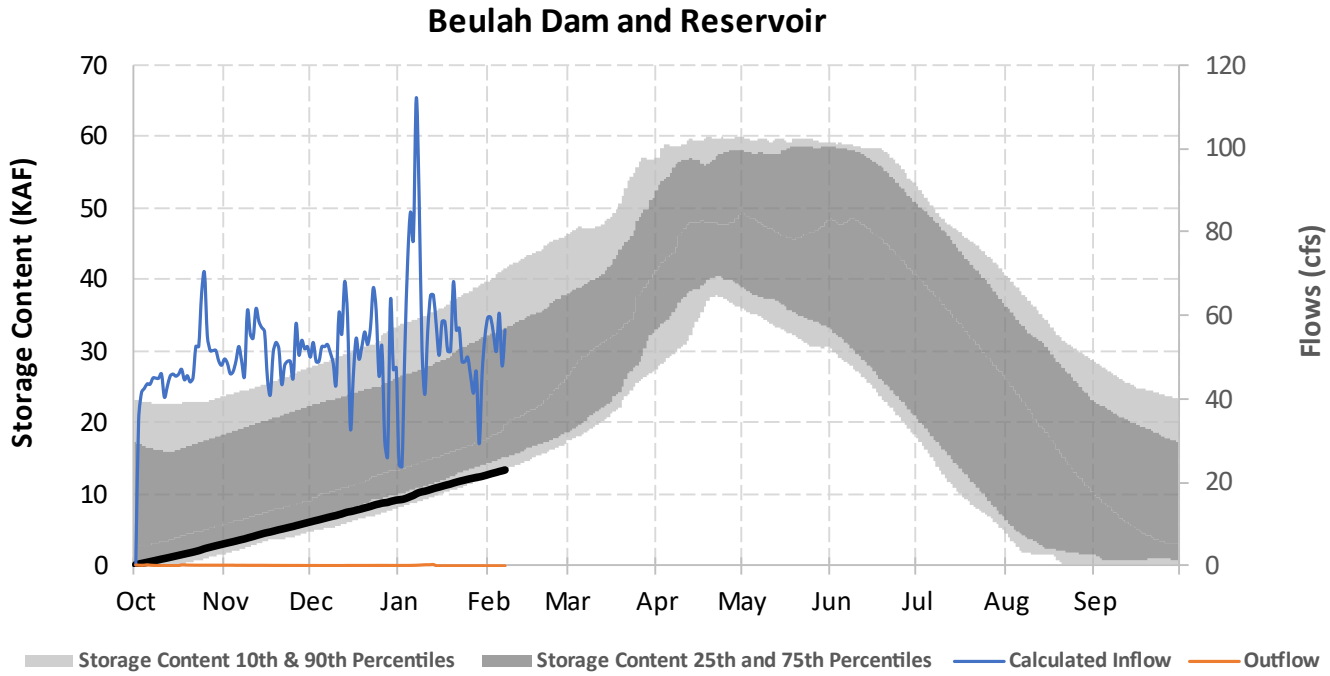
Reclamation January 1 Runoff Forecast
Jan-Jun: 100 kaf (86% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 79 kaf (74% 91-20 Ave)

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

Malheur River Basin



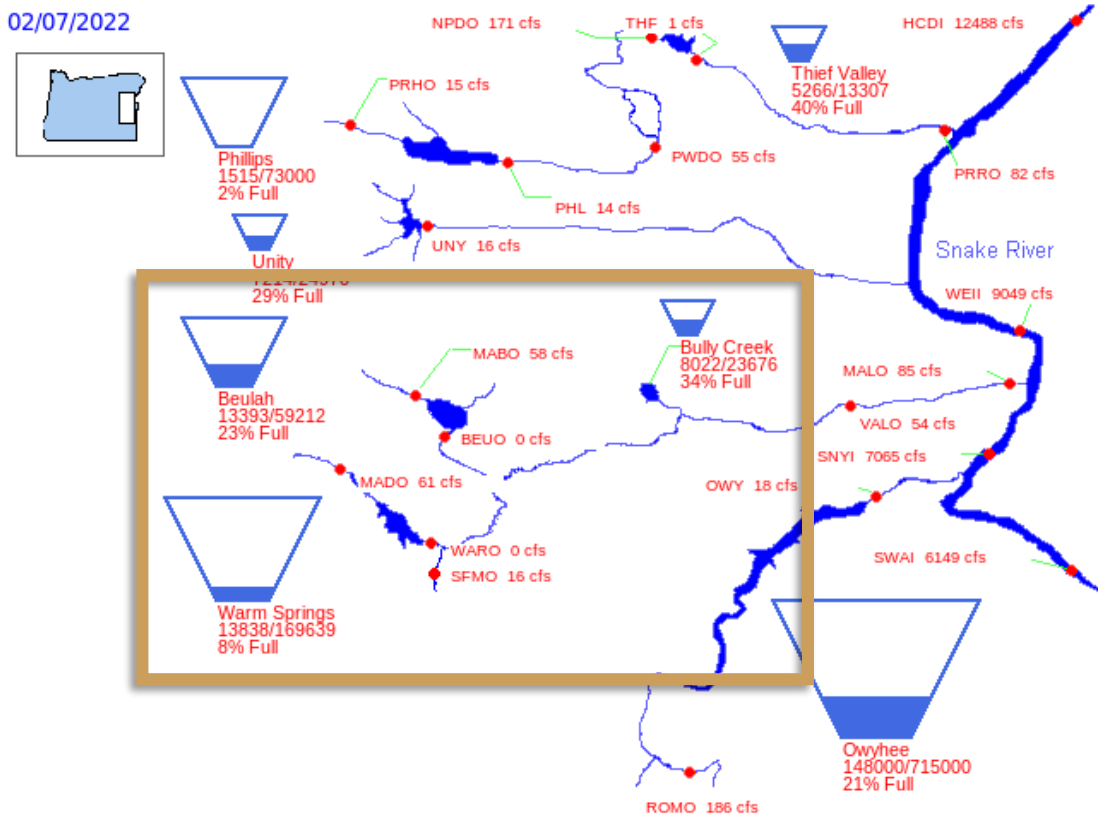


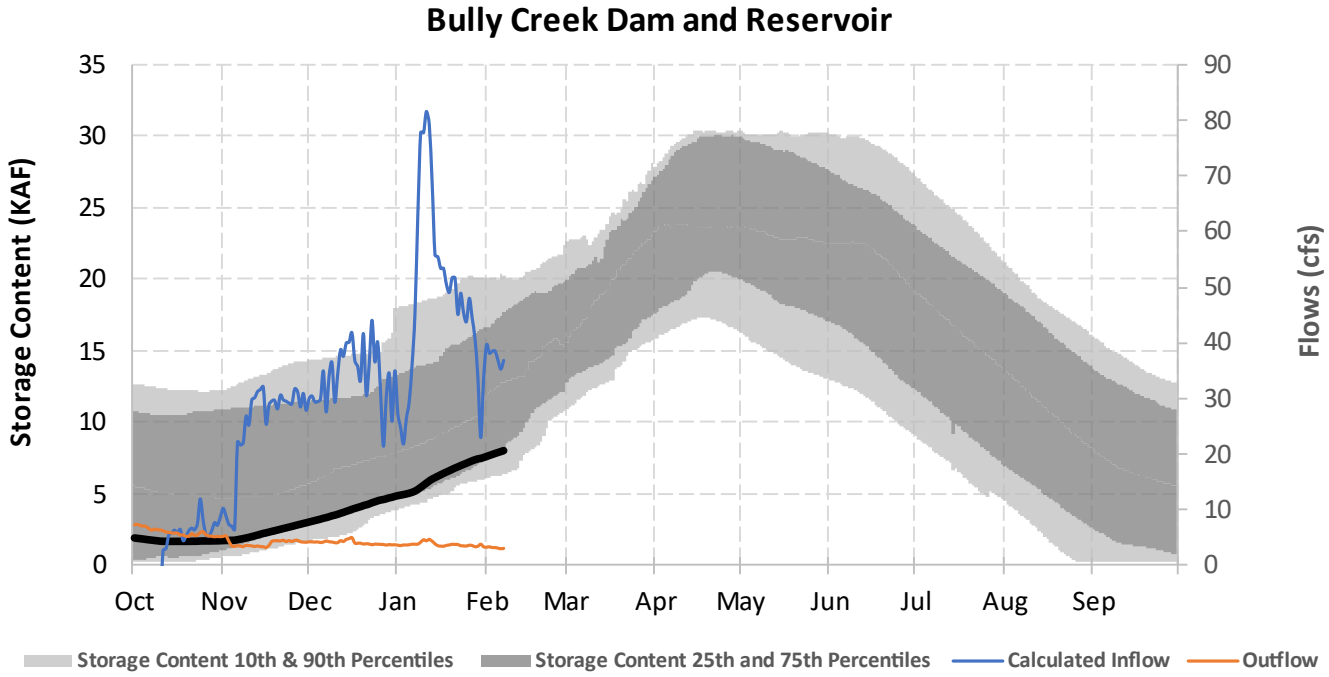
Reclamation January 1 Runoff Forecast
Jan-Jun: 70 kaf (88% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 53 kaf (71% 91-20 Ave)

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

Malheur River Basin



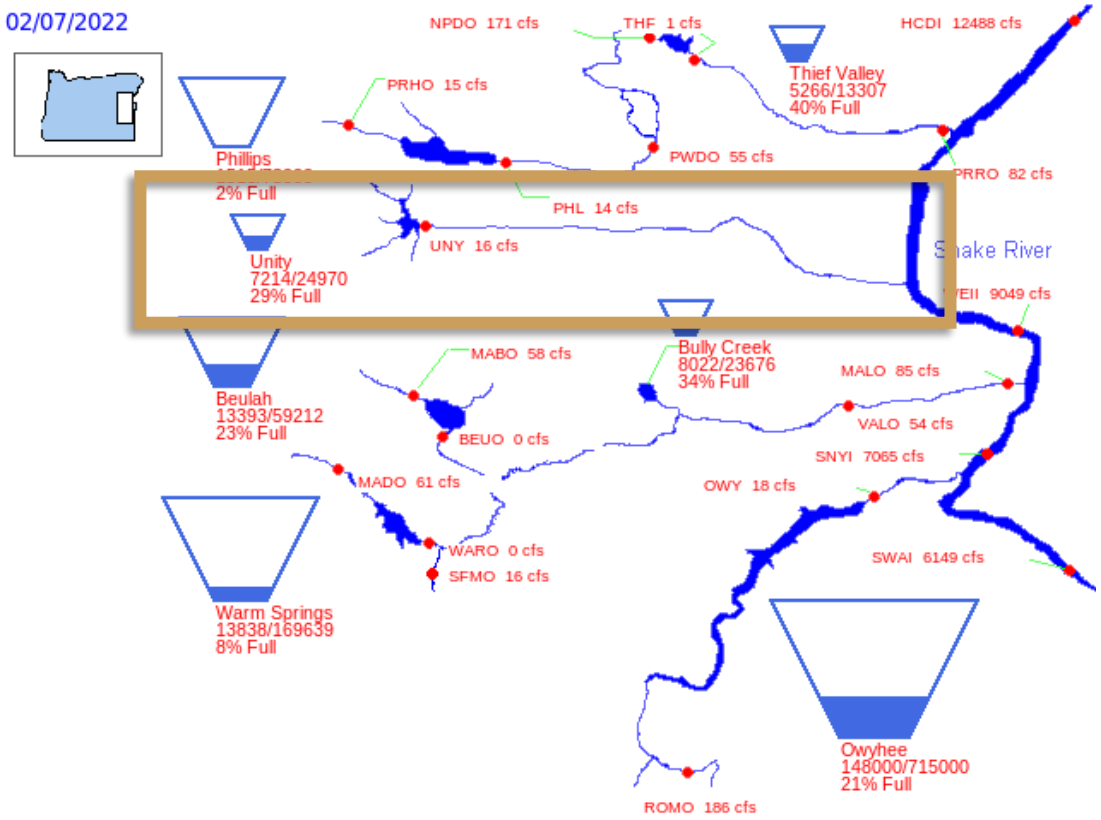


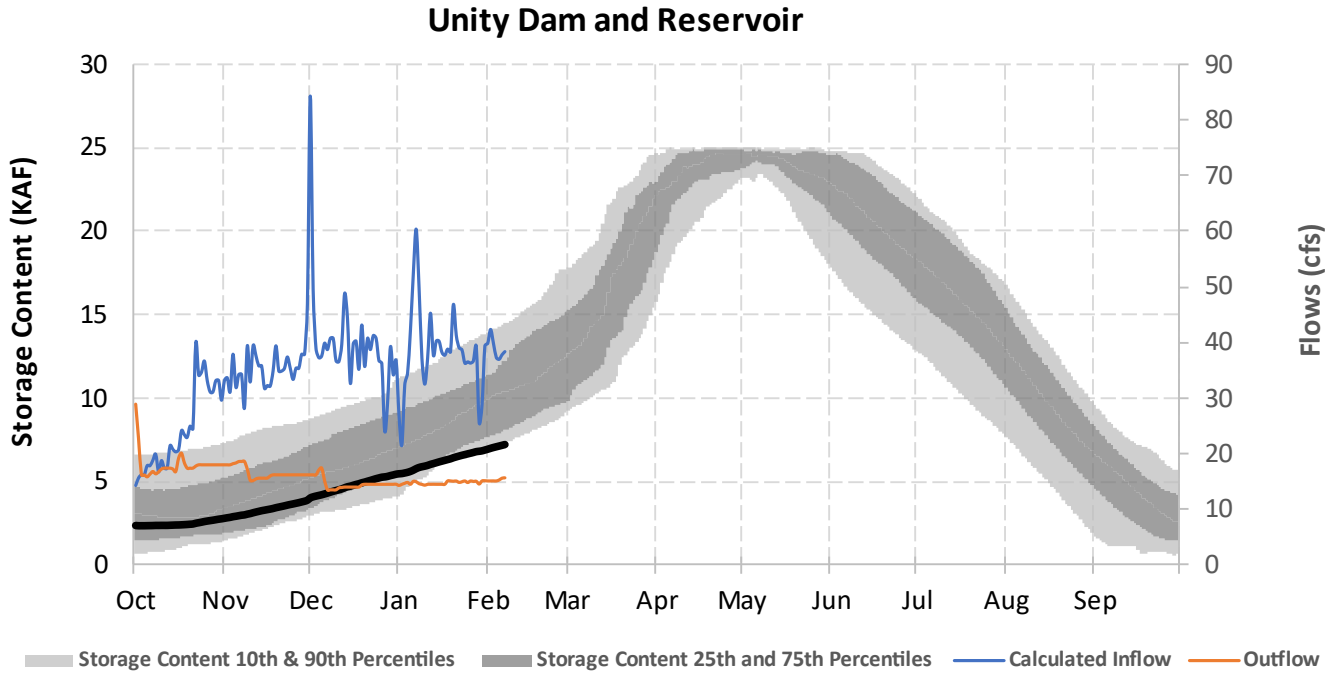
Reclamation January 1 Runoff Forecast
Jan-Jun: 24 kaf (81% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 19 kaf (73% 91-20 Ave)

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

Burnt River Basin



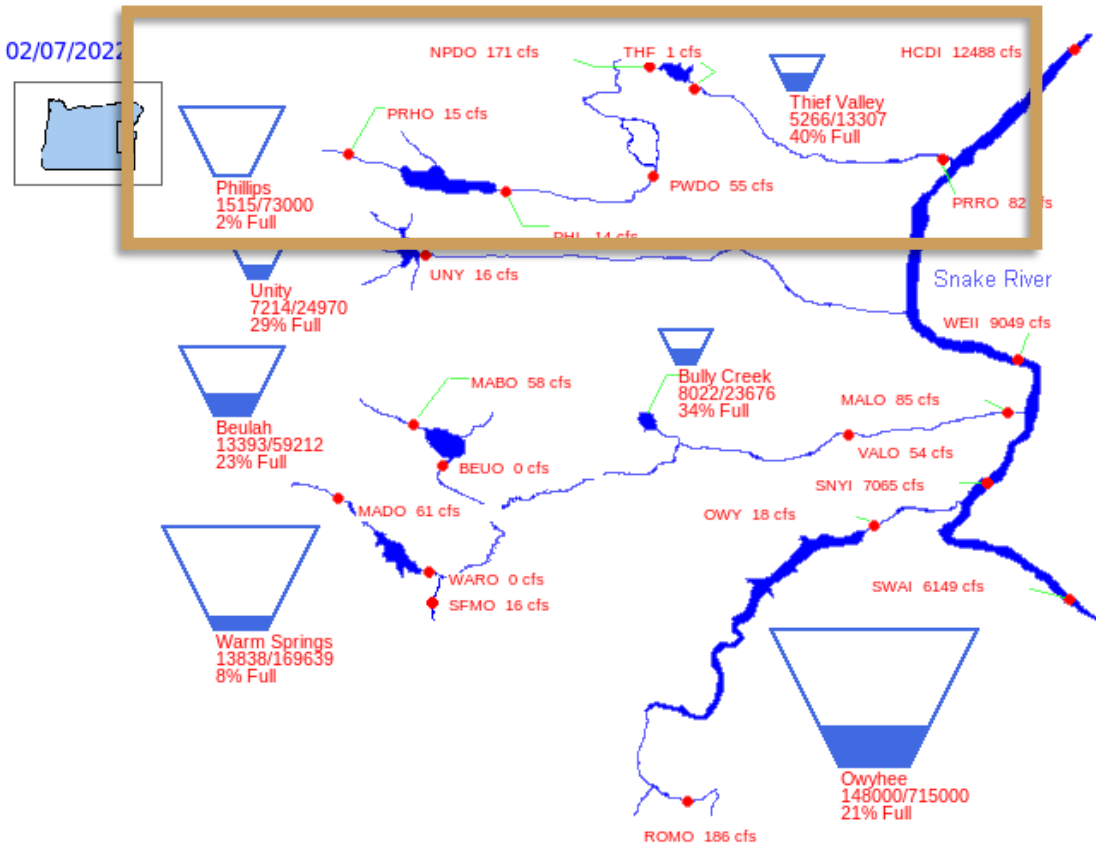


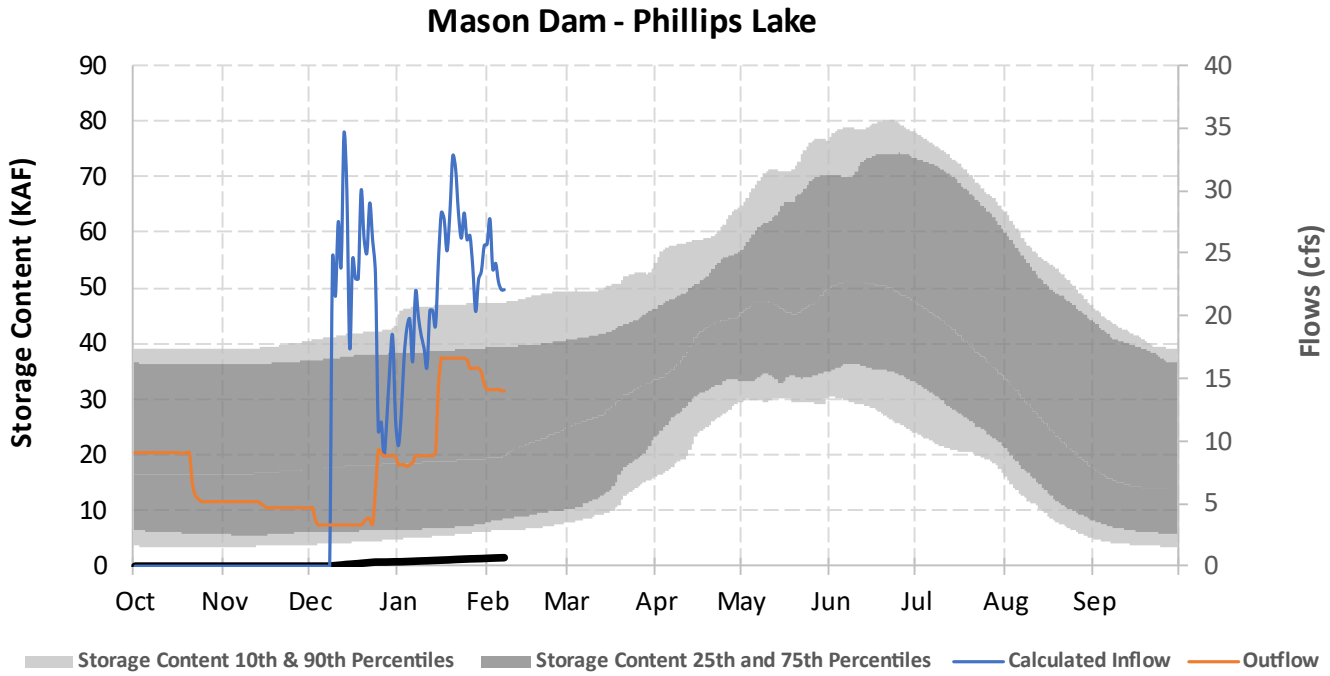
Reclamation January 1 Runoff Forecast
Jan-Jun: 45 kaf (89% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 41 kaf (87% 91-20 Ave)

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

Powder River Basin



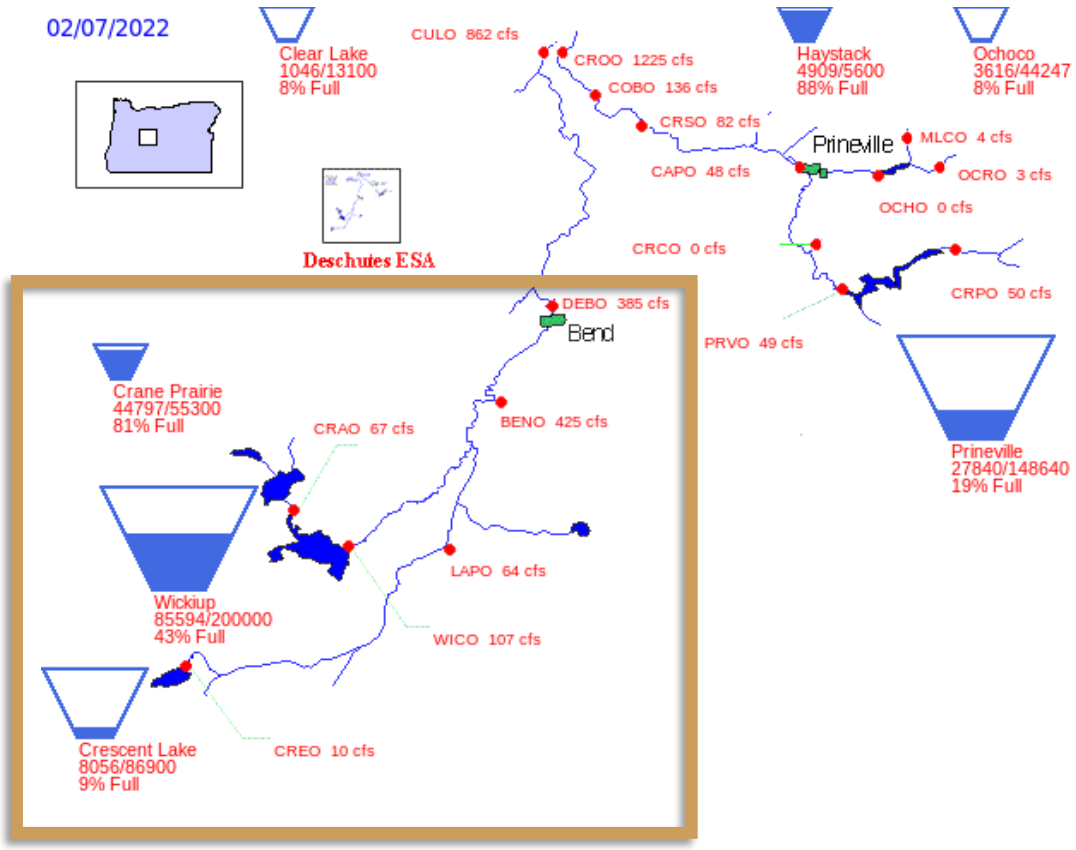


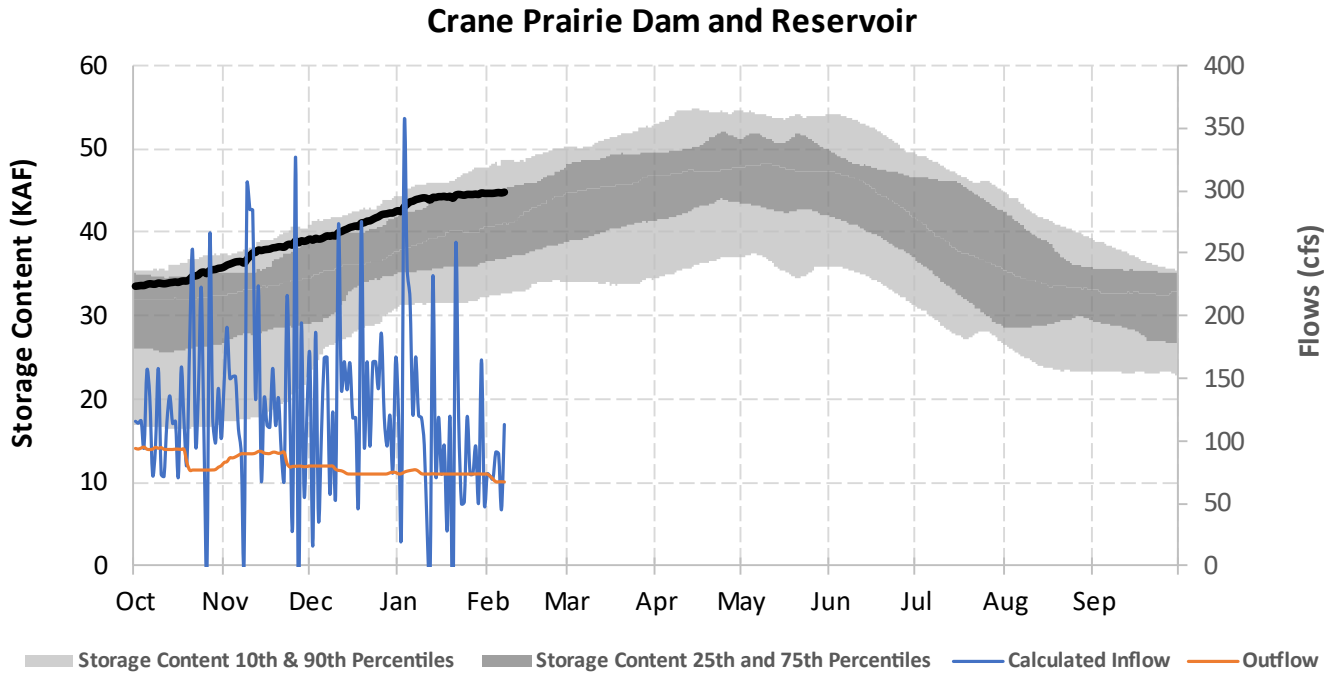
Reclamation January 1 Runoff Forecast
Jan-Jul: 69 kaf (97% 91-20 Ave)

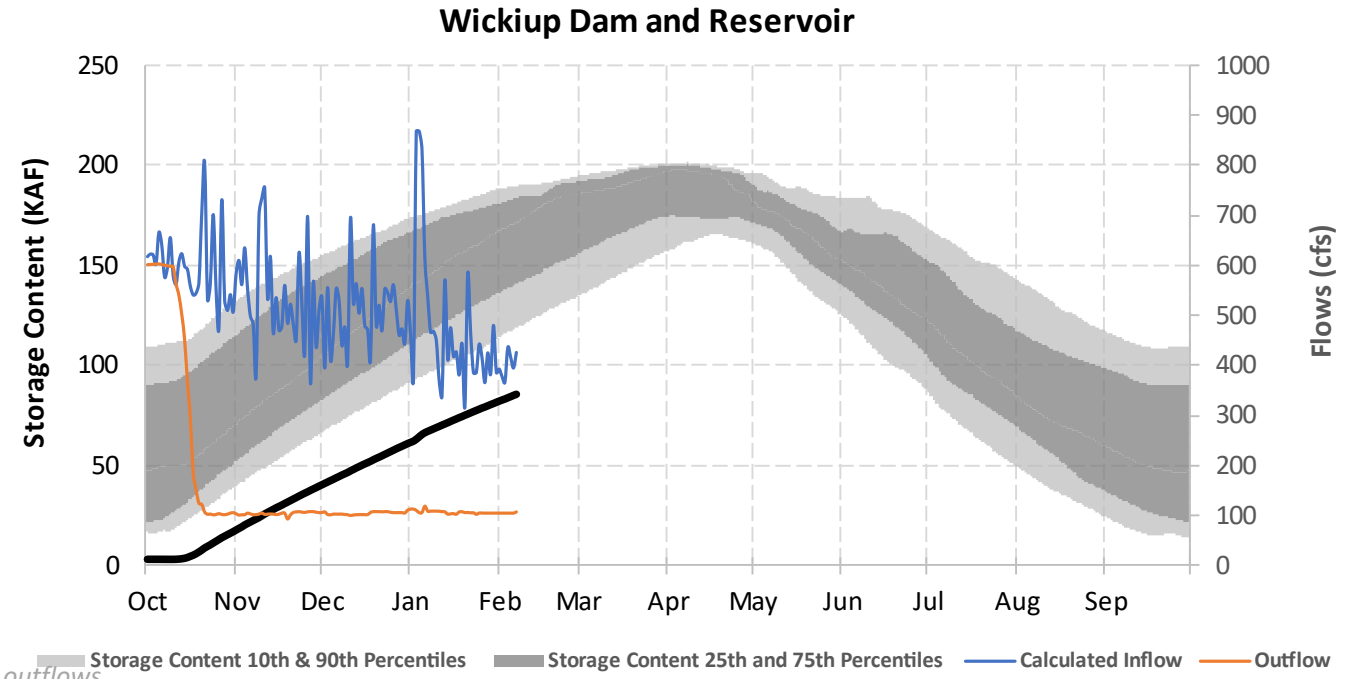
Reclamation February 1 Runoff Forecast
Feb-Jul: 55 kaf (80% 91-20 Ave)

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

Deschutes River Basin

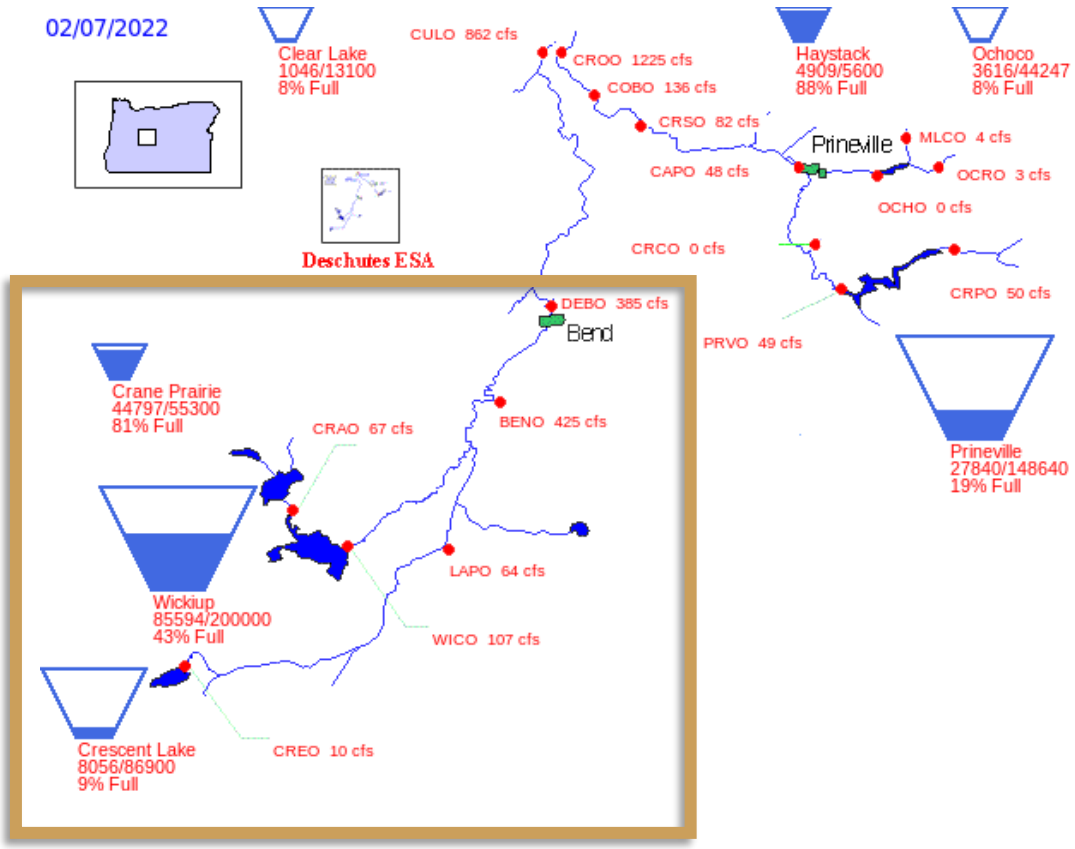


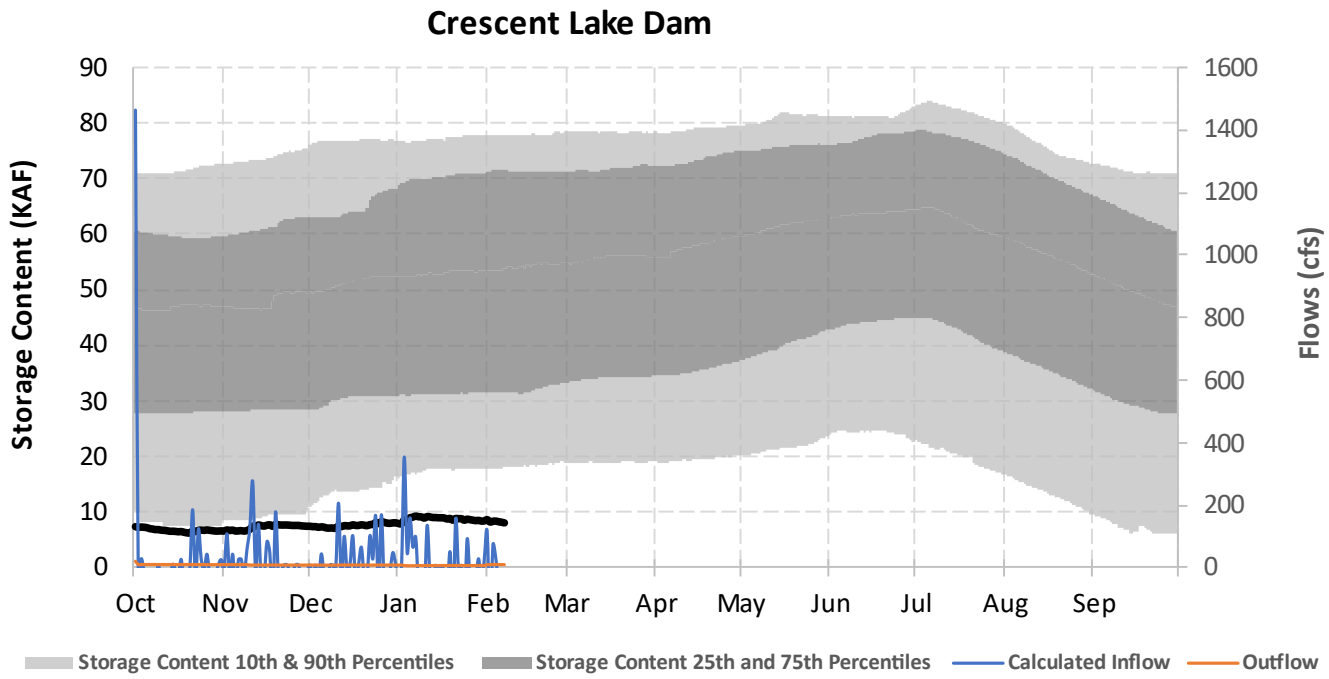




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

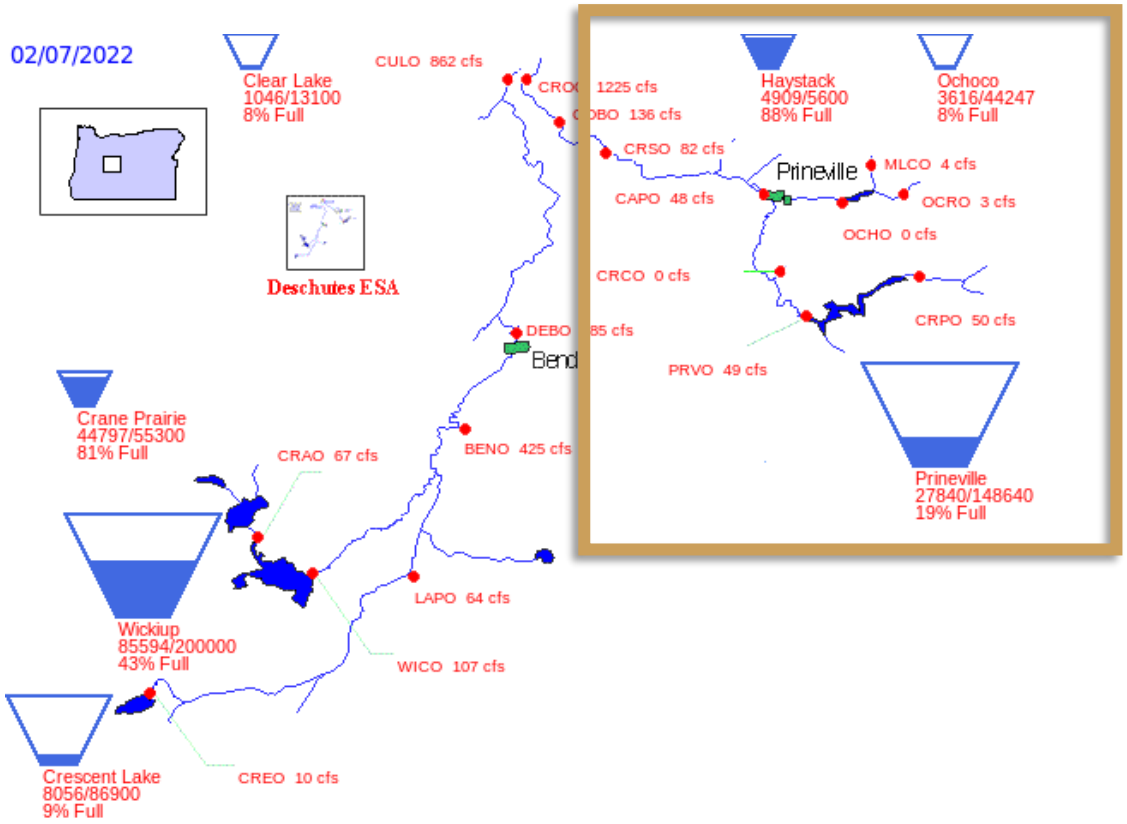
Deschutes River Basin

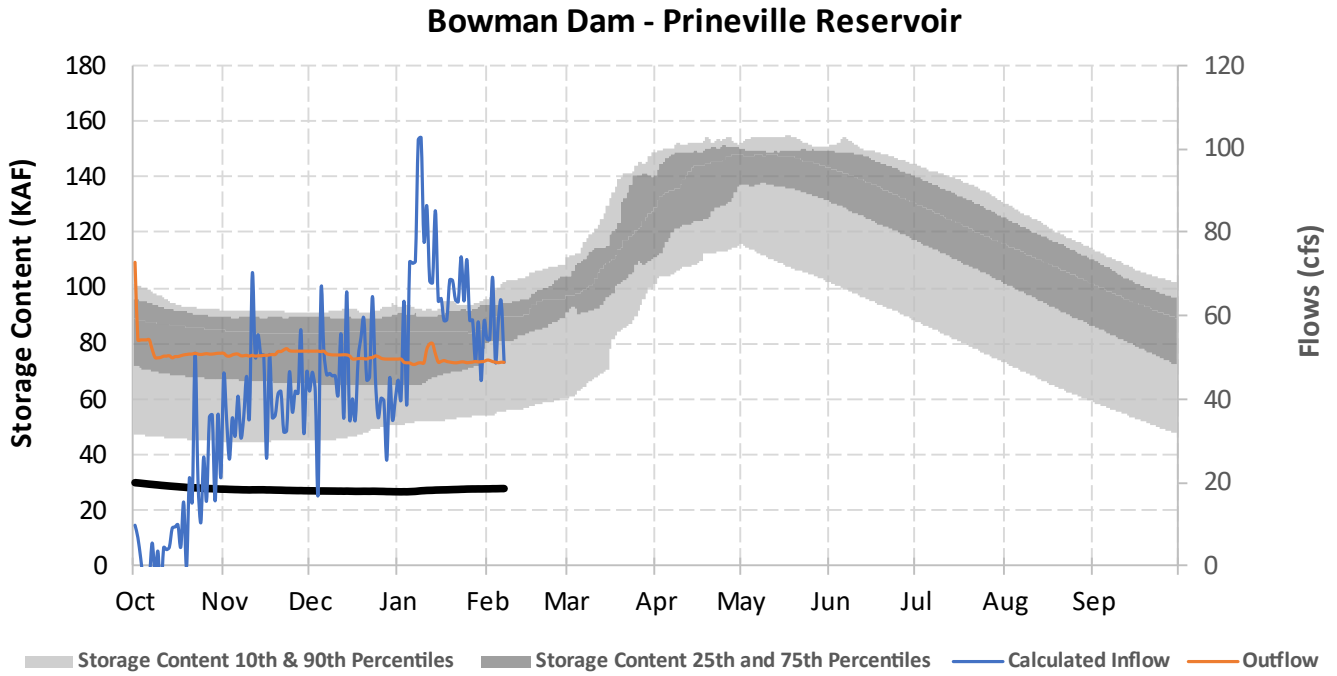




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Crooked River Basin



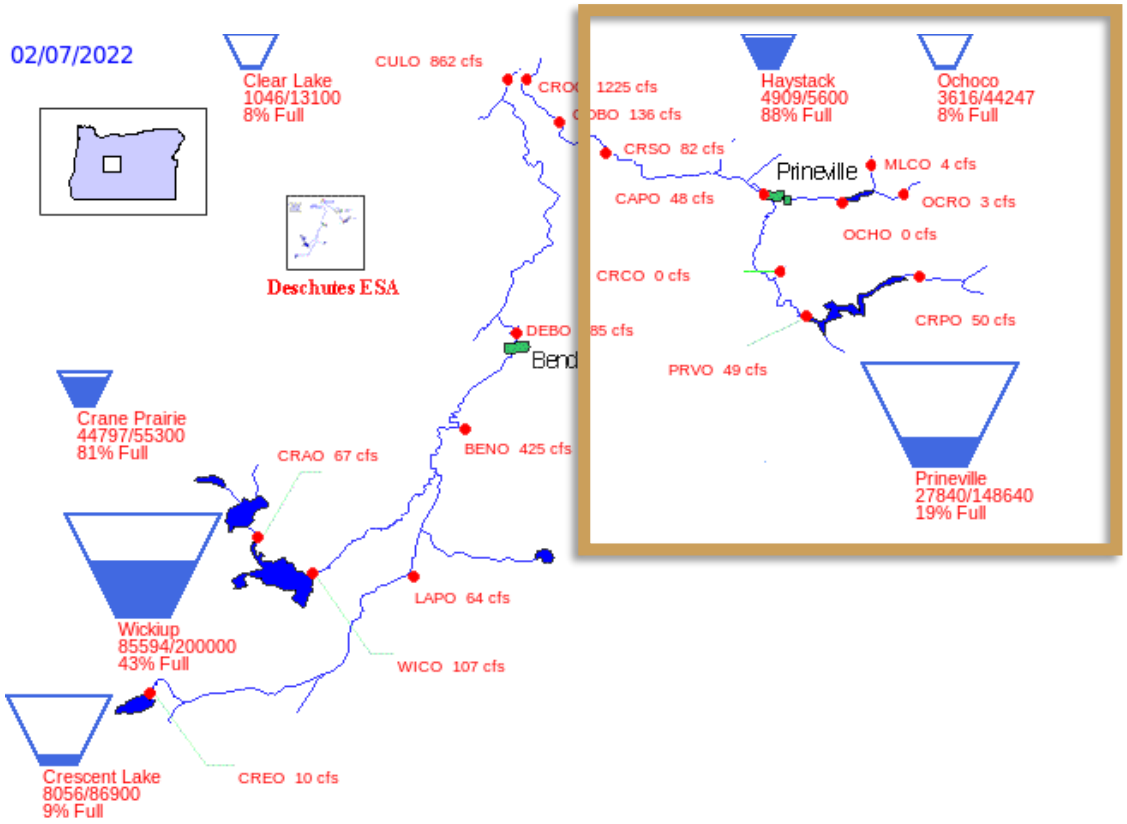


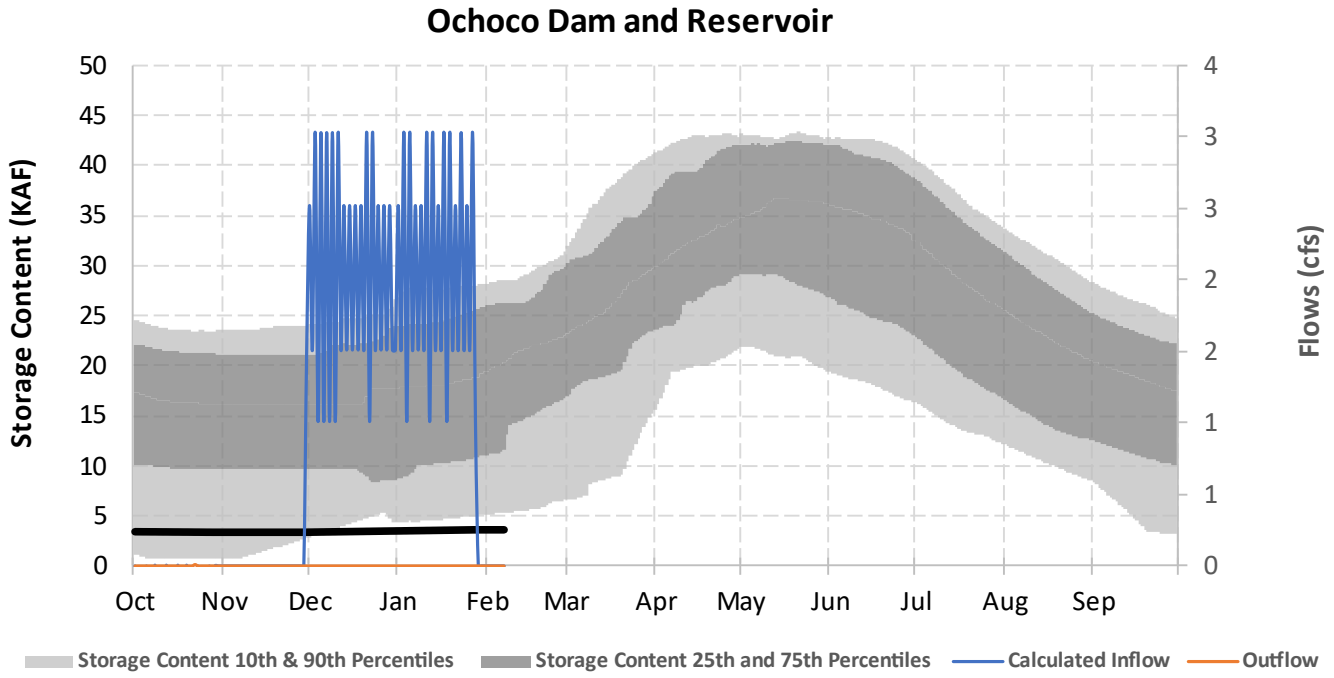
Reclamation January 1 Runoff Forecast
Jan-Aug: 166 kaf (91% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Aug: 99 kaf (60% 91-20 Ave)

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

Crooked River Basin



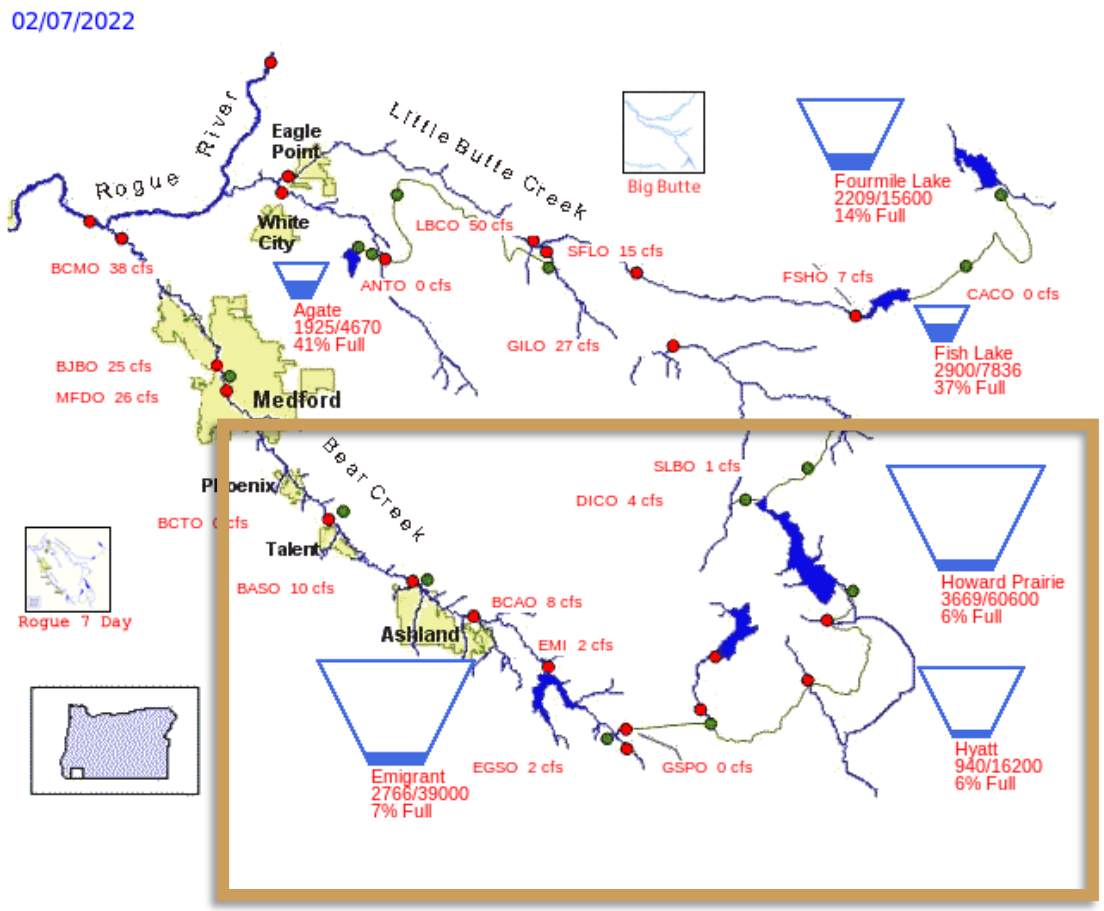


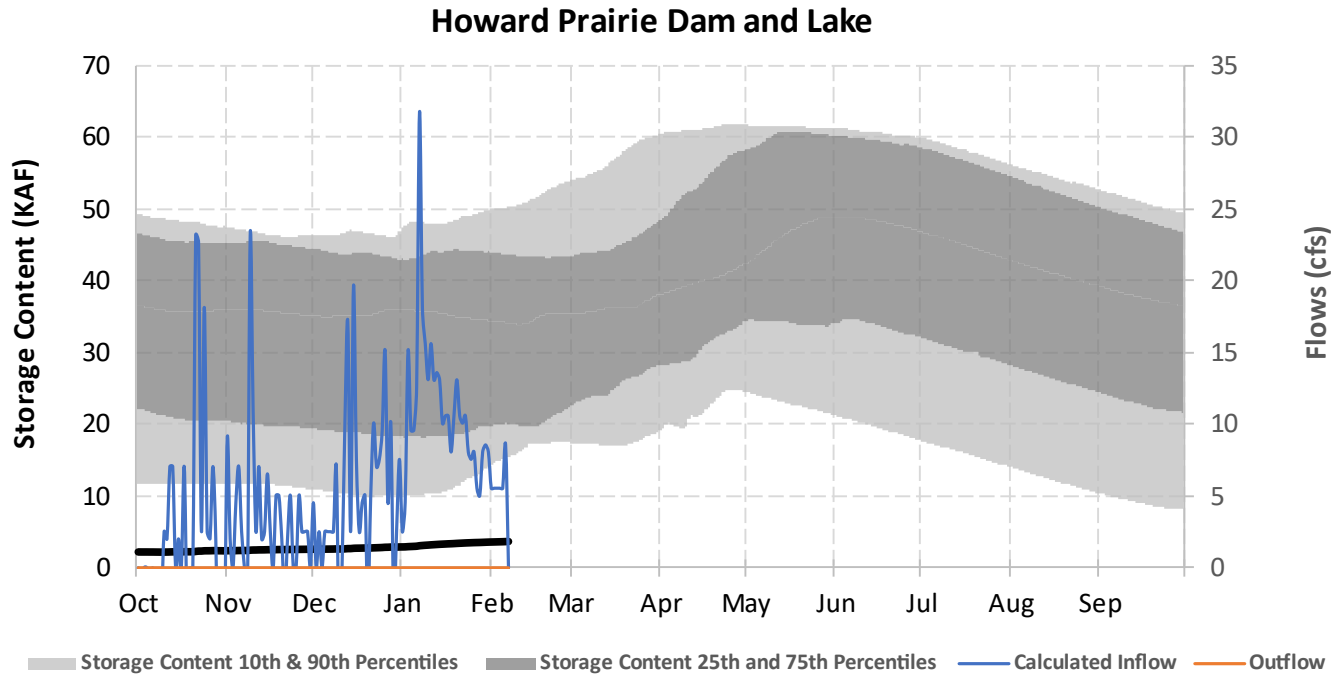
Reclamation January 1 Runoff Forecast
Jan-Jun: 35 kaf (88% 91-20 Ave)

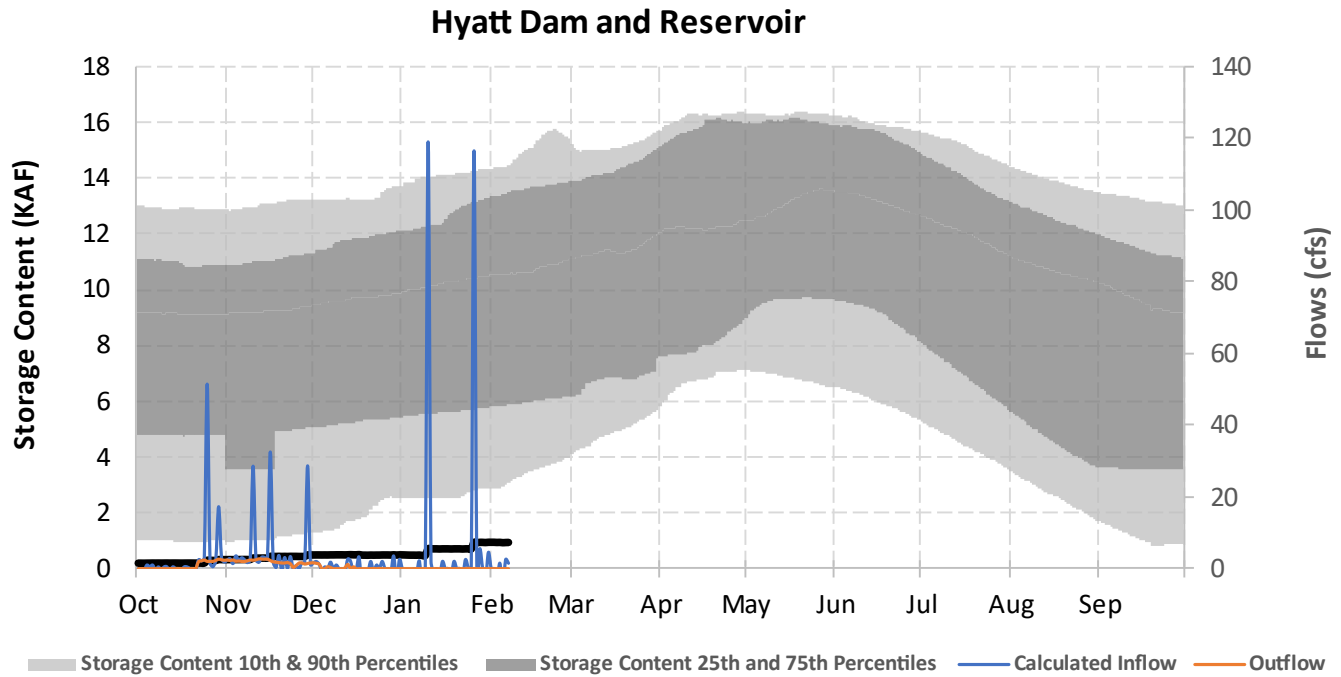
Reclamation February 1 Runoff Forecast
Feb-Jun: 20 kaf (57% 91-20 Ave)

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

Rogue River Basin



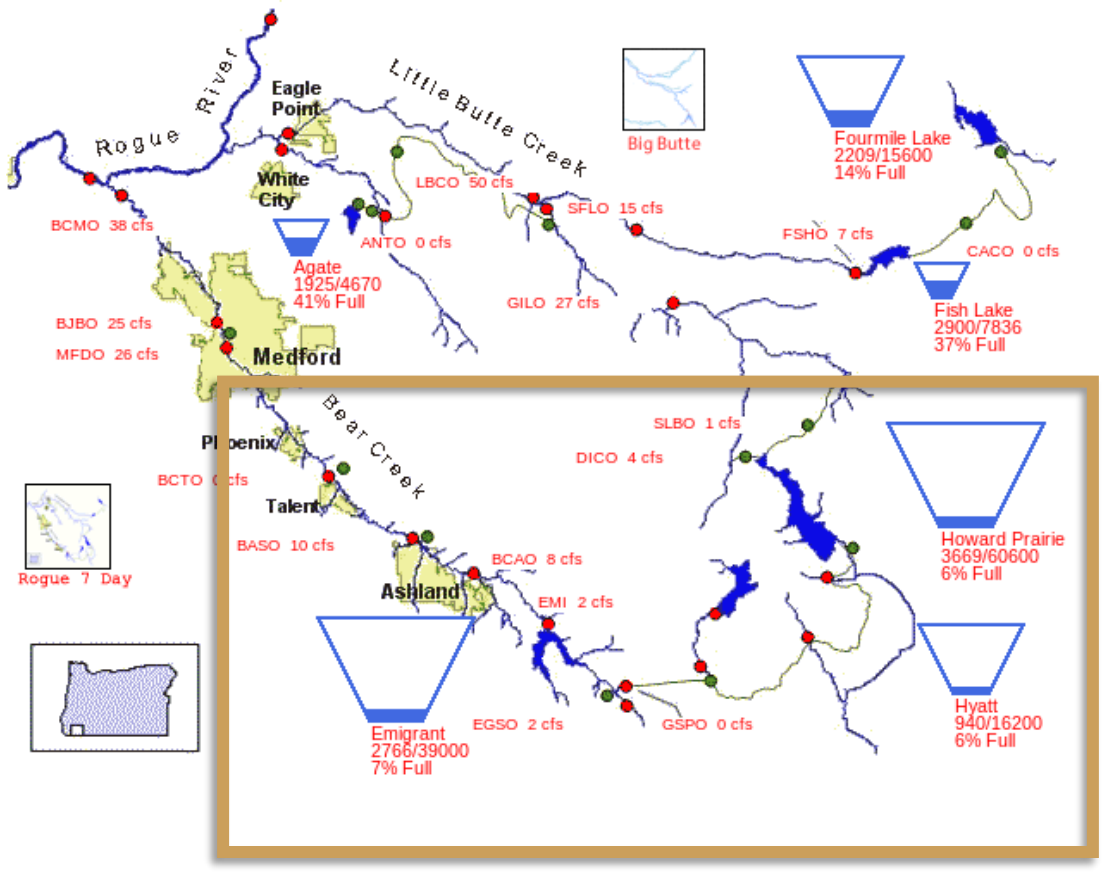


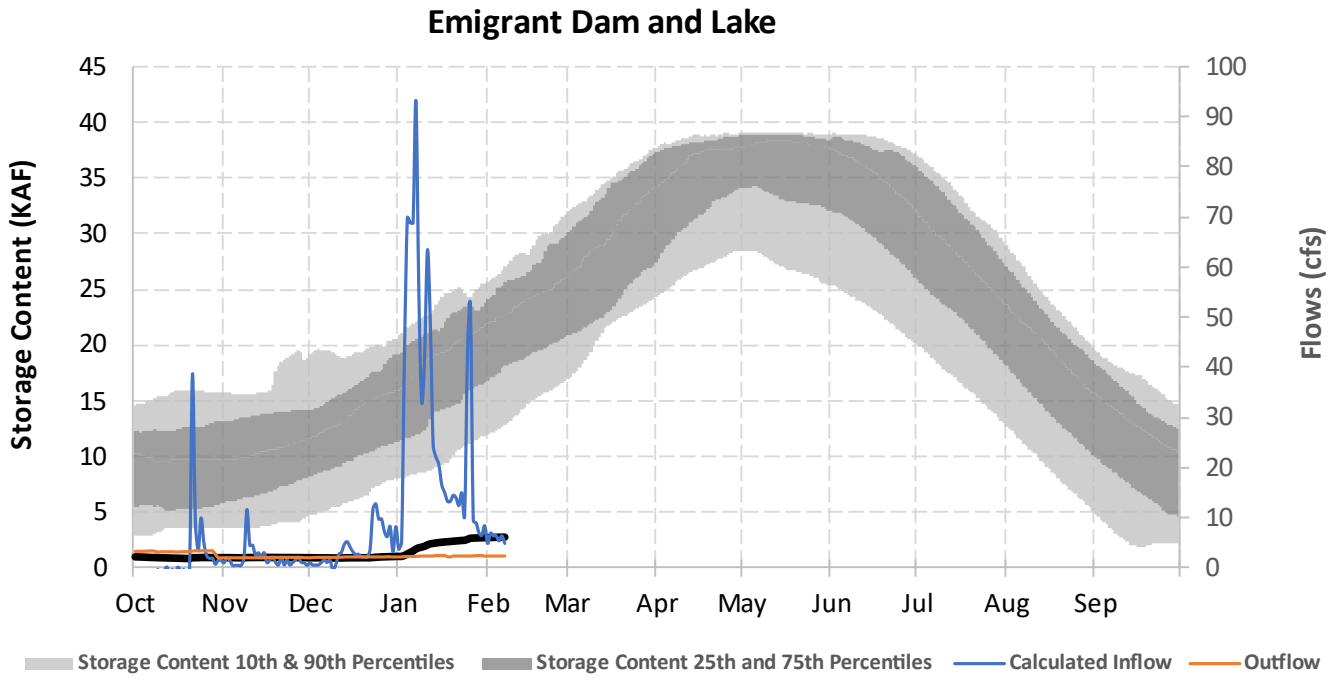


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin

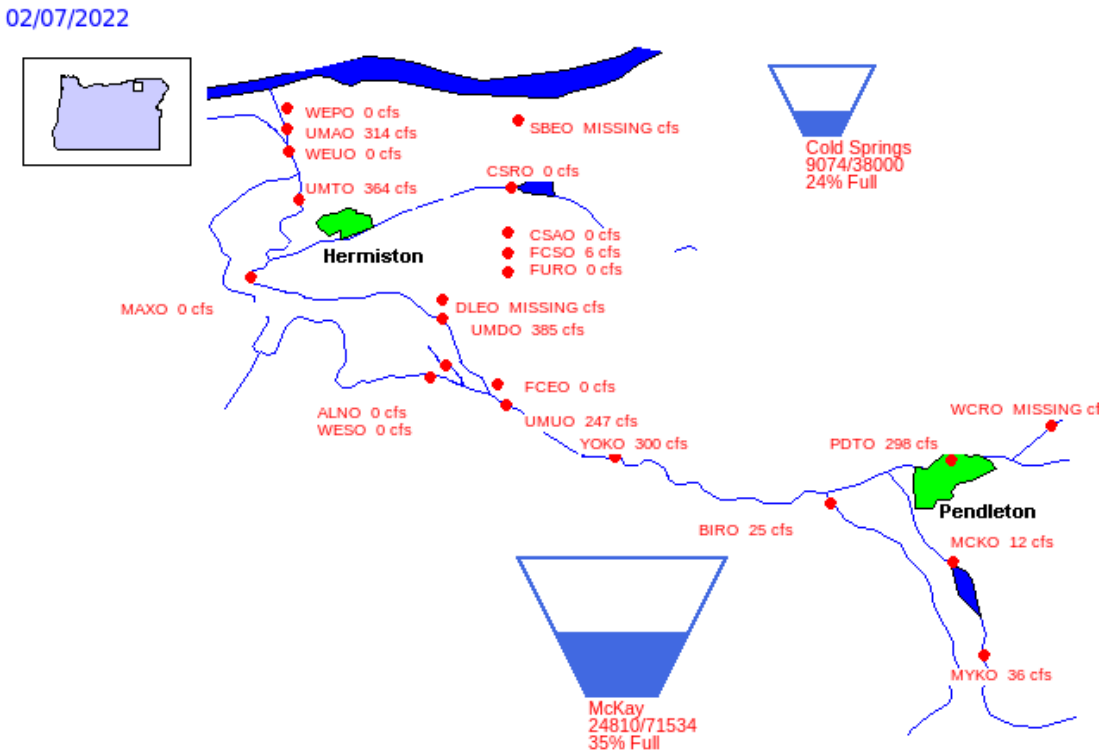
02/07/2022

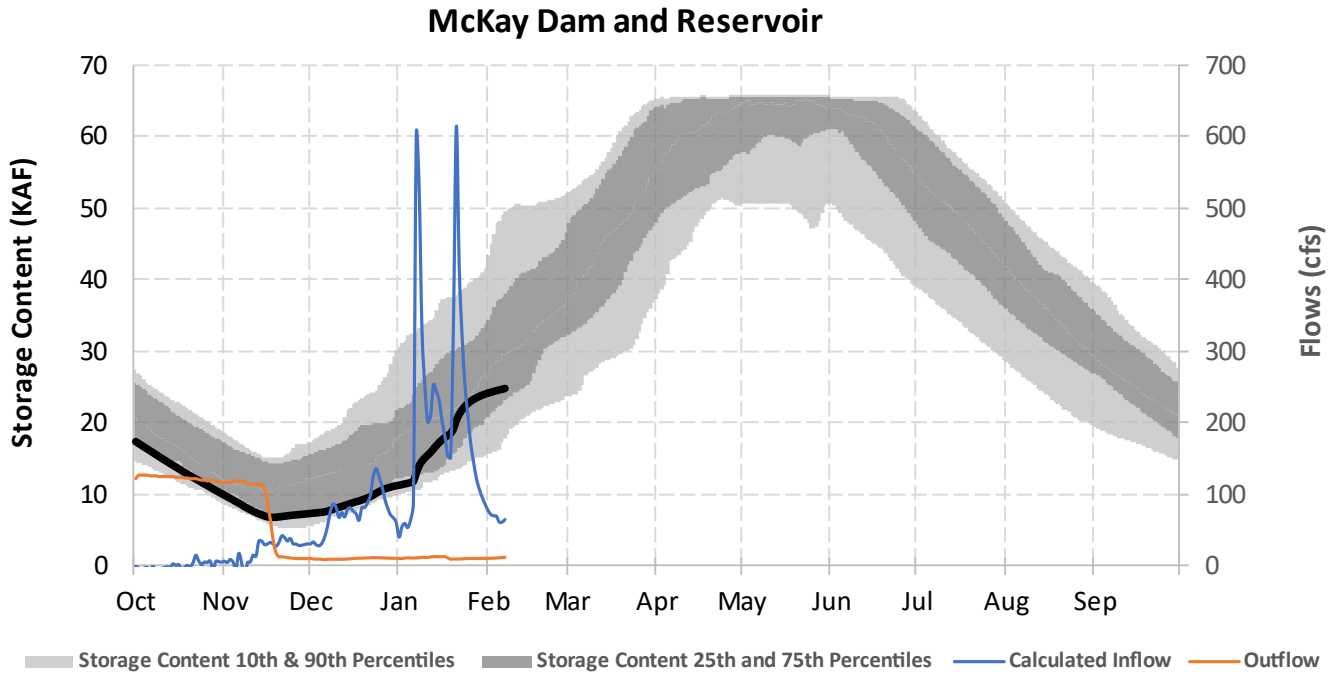




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Umatilla River Basin



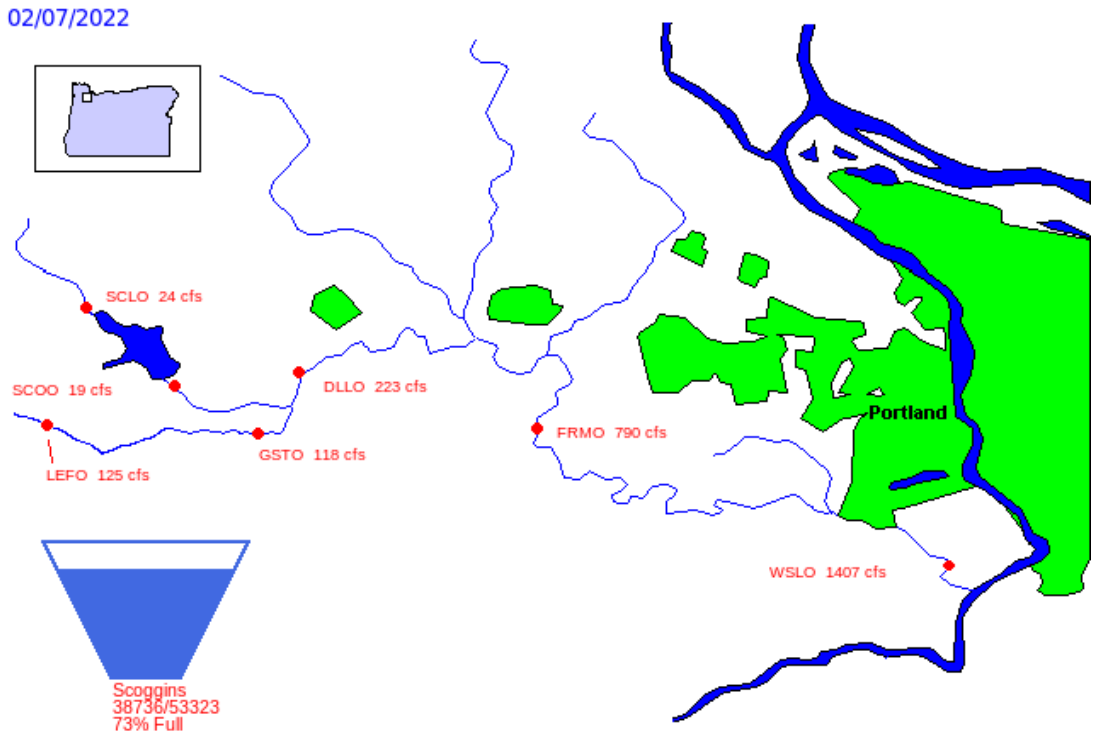


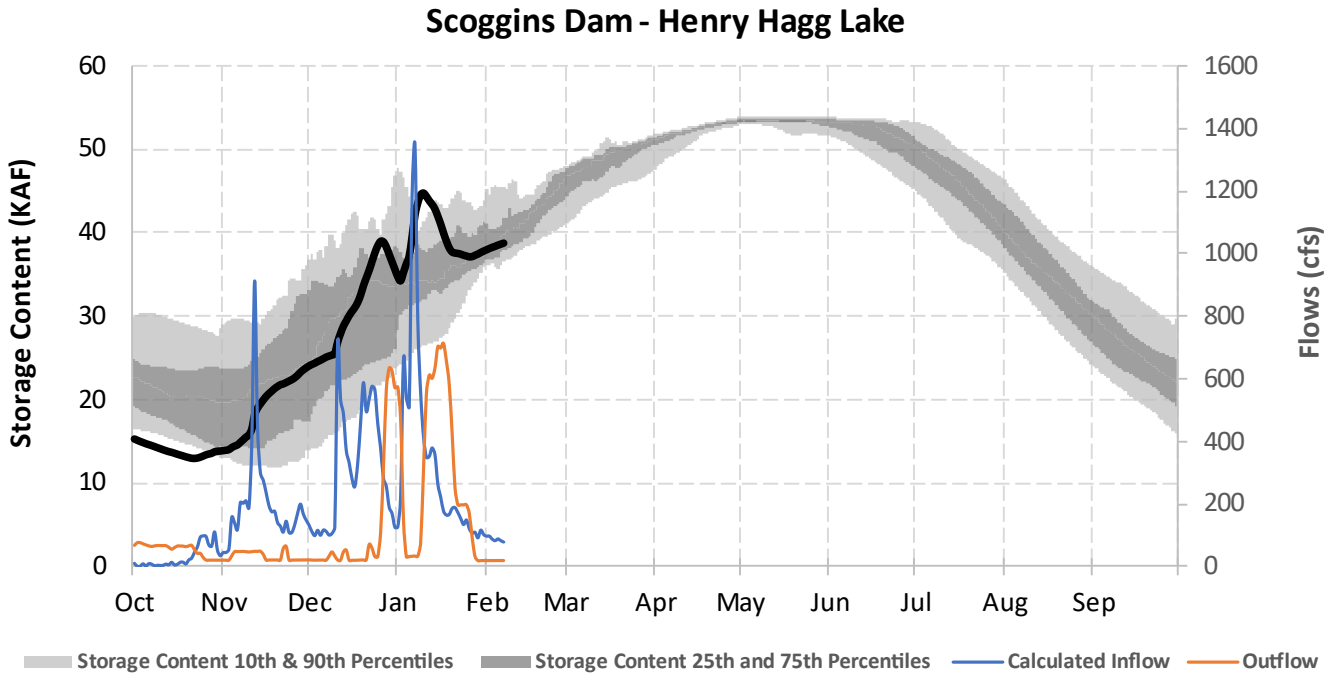
Reclamation January 1 Runoff Forecast
Jan-Jun: 75 kaf (107% 91-20 Ave)

Reclamation February 1 Runoff Forecast
Feb-Jun: 61 kaf (103% 91-20 Ave)

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

Tualatin River Basin





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

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BUREAU OF RECLAMATION