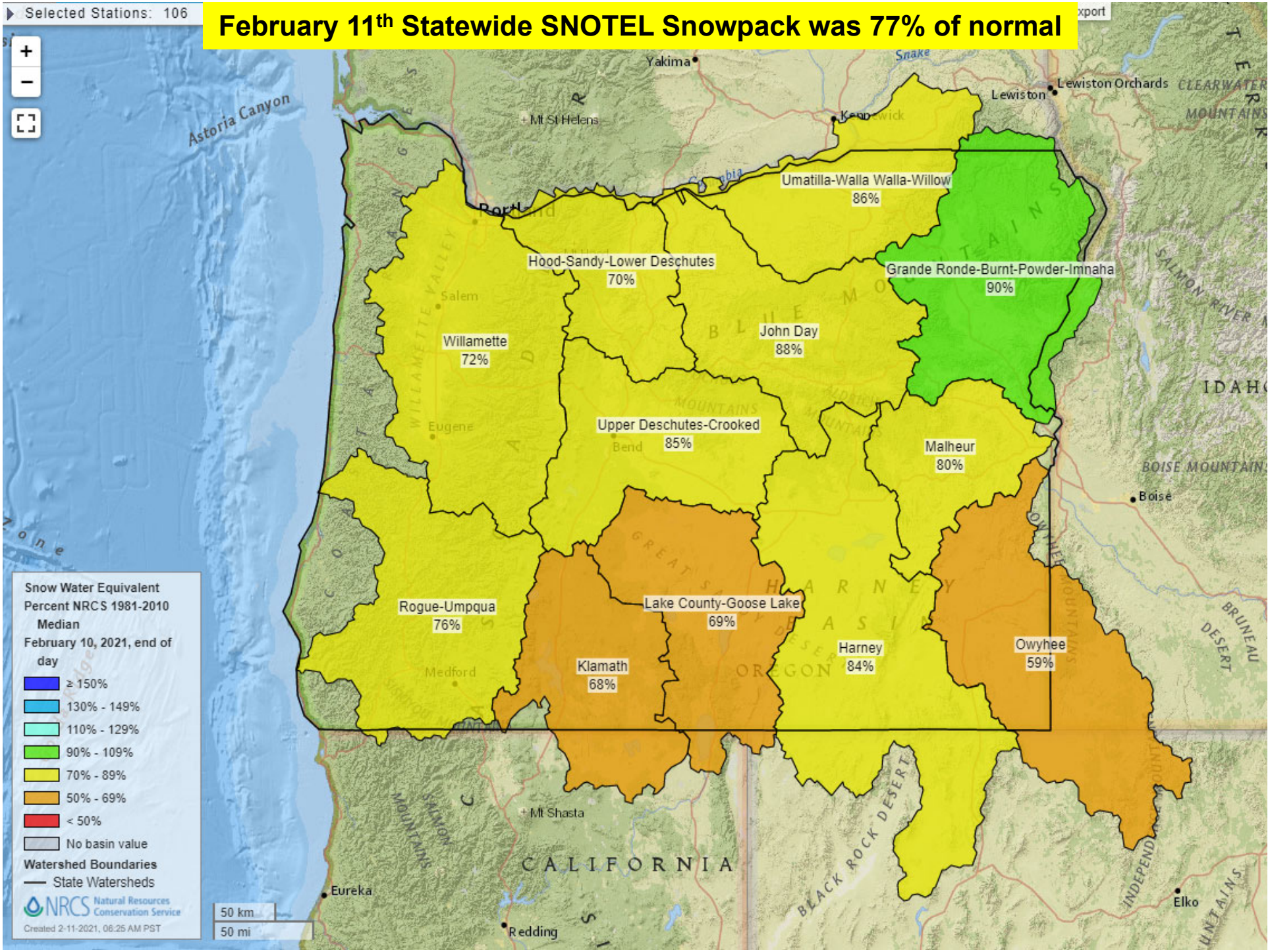
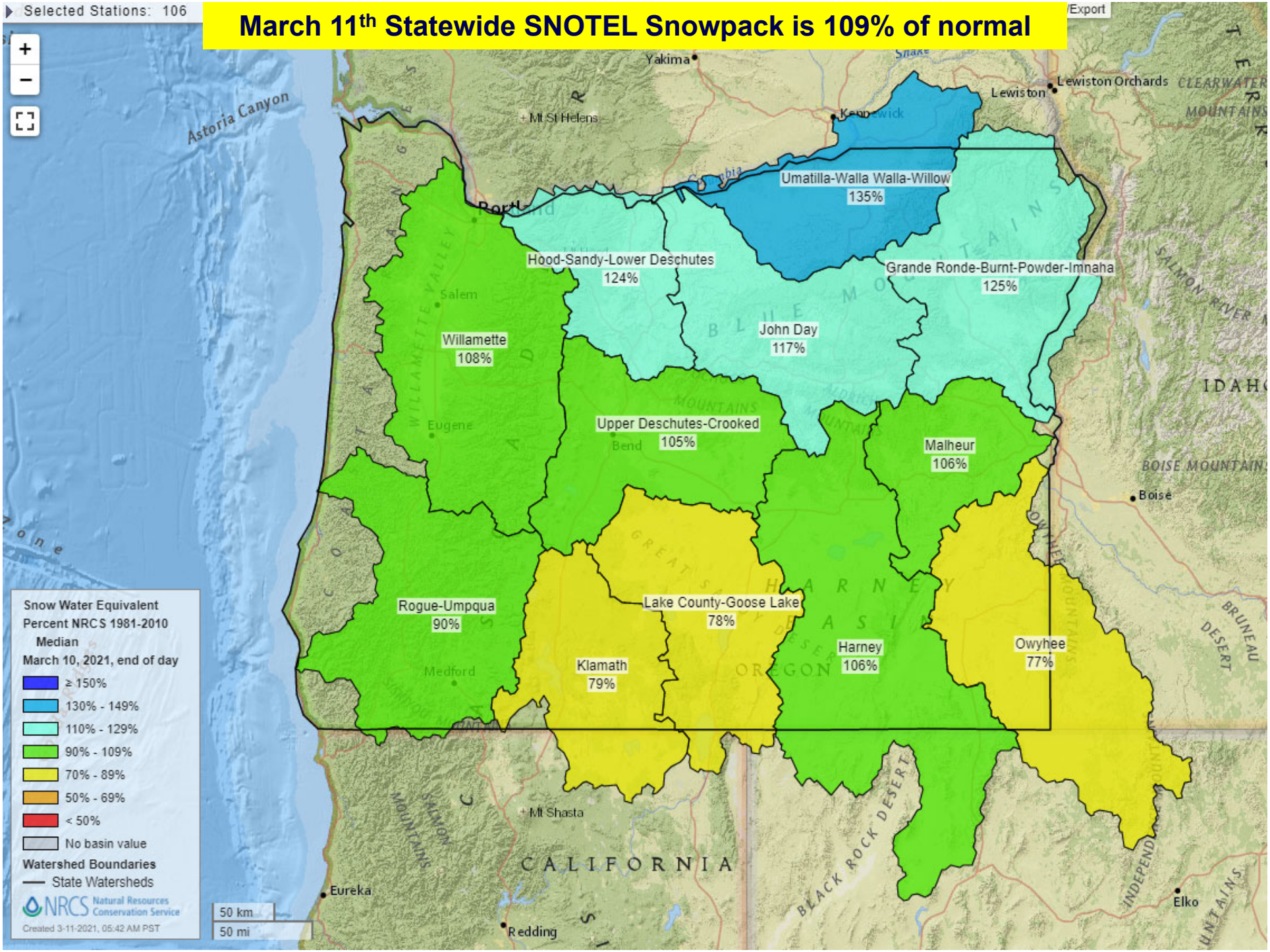
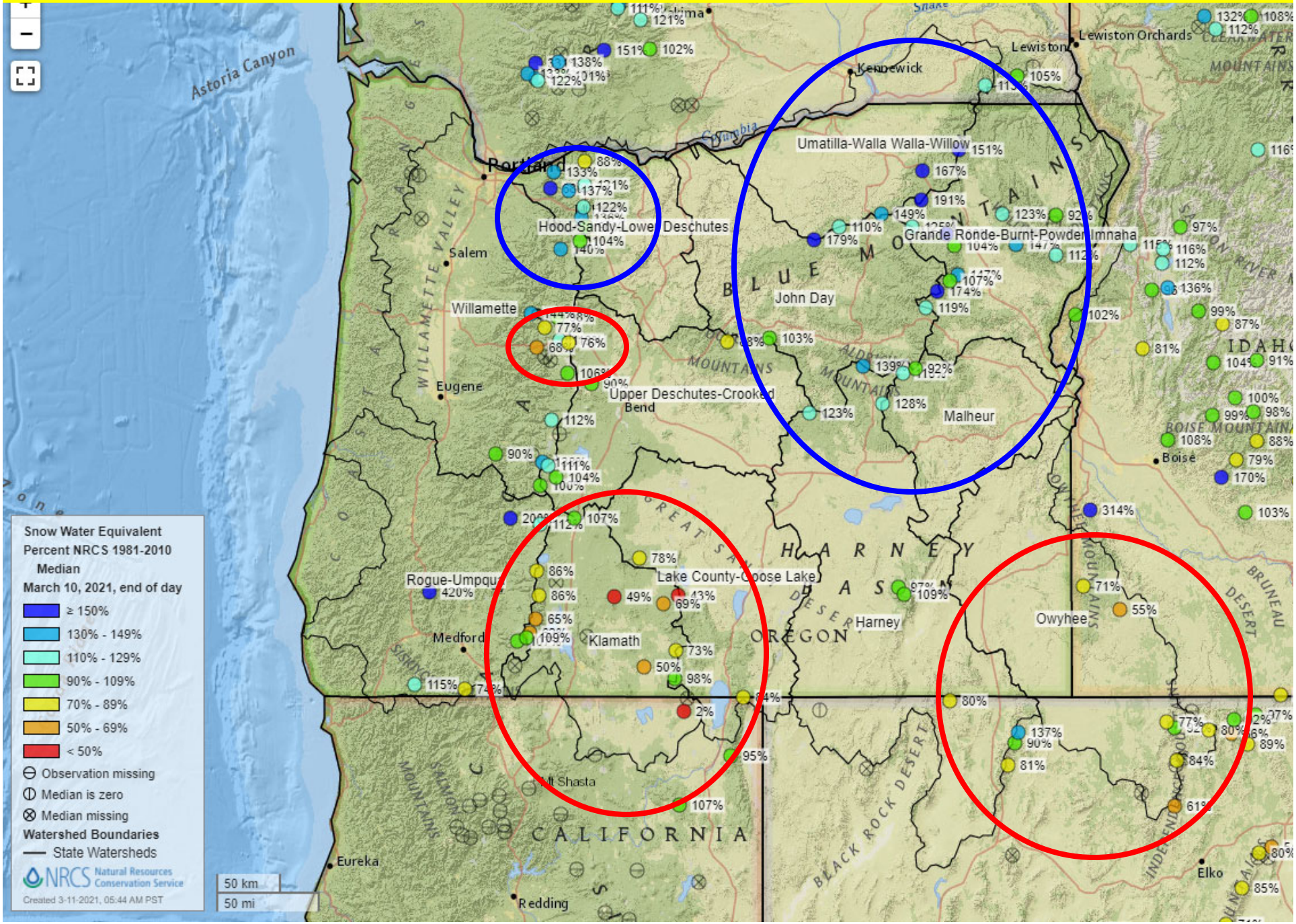
Oregon Water Supply Availability Committee - March 11, 2021

H. Scott Oviatt
USDA – Natural Resources Conservation Service
scott.oviatt@usda.gov
503-414-3271

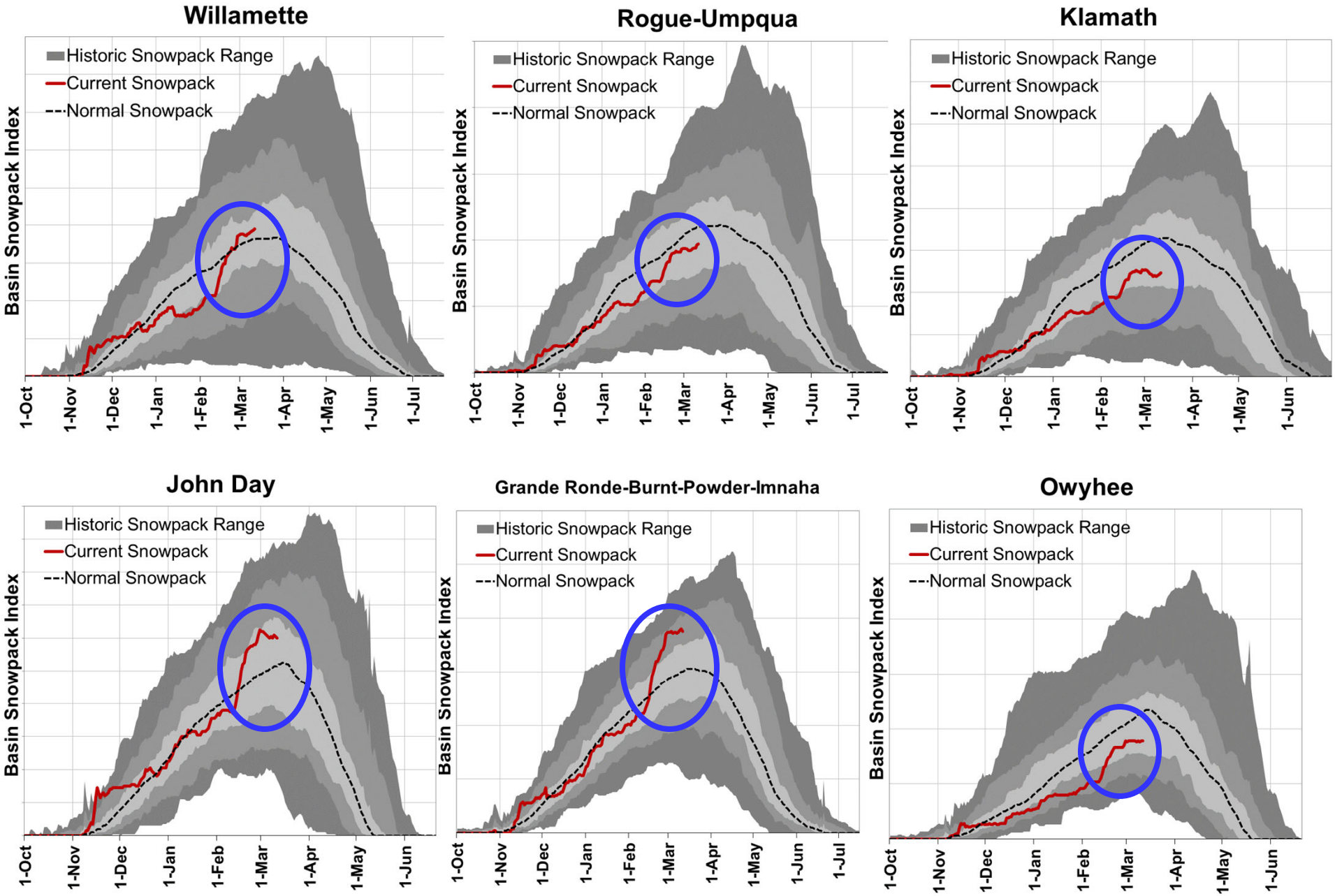

Selected Stations: 106
February 11th Statewide SNOTEL Snowpack was 77% of normal
Umatilla-Walla Walla-Willow
86%
Grande Ronde-Burnt-Powder-Imnaha
90%
Hood-Sandy-Lower Deschutes
70%
John Day
88%
Willamette
72%
Upper Deschutes-Crooked
85%
Malheur
80%
Rogue-Umpqua
76%
Lake County-Goose Lake
69%
Harney
84%
Klamath
68%
Owyhee
59%
Snow Water Equivalent
Percent NRCS 1981-2010
Median
February 10, 2021, end of day
≥ 150%
130% - 149%
110% - 129%
90% - 109%
70% - 89%
50% - 69%
< 50%
No basin value
Watershed Boundaries
State Watersheds
NRCS Natural Resources Conservation Service
Created 2-11-2021, 06:25 AM PST
50 km
50 mi
Yakima
Lewiston
Lewiston Orchards
Mt St Helens
Portland
Salem
Eugene
Bend
Medford
Boise
Mt Shasta
Eureka
Redding
Elko
CALIFORNIA
OREGON
IDAHO
Astoria Canyon


Selected Stations: 106
March 11th Statewide SNOTEL Snowpack is 109% of normal
Export
Yakima
Lewiston Orchards
Lewiston
Mt St Helens
Umatilla-Walla Walla-Willow
135%
Hood-Sandy-Lower Deschutes
124%
Grande Ronde-Burnt-Powder-Imnaha
125%
Willamette
108%
John Day
117%
Upper Deschutes-Crooked
105%
Malheur
106%
Boise
Rogue-Umpqua
90%
Lake County-Goose Lake
78%
Harney
106%
Owyhee
77%
Klamath
79%
Mt Shasta
CALIFORNIA
Eureka
Redding
Elko
Astoria Canyon
Snow Water Equivalent
Percent NRCS 1981-2010
Median
March 10, 2021, end of day
≥ 150%
130% - 149%
110% - 129%
90% - 109%
70% - 89%
50% - 69%
< 50%
No basin value
Watershed Boundaries
State Watersheds
NRCS Natural Resources Conservation Service
Created 3-11-2021, 05:42 AM PST
50 km
50 mi

March 11th Oregon SNOTEL % of median by station

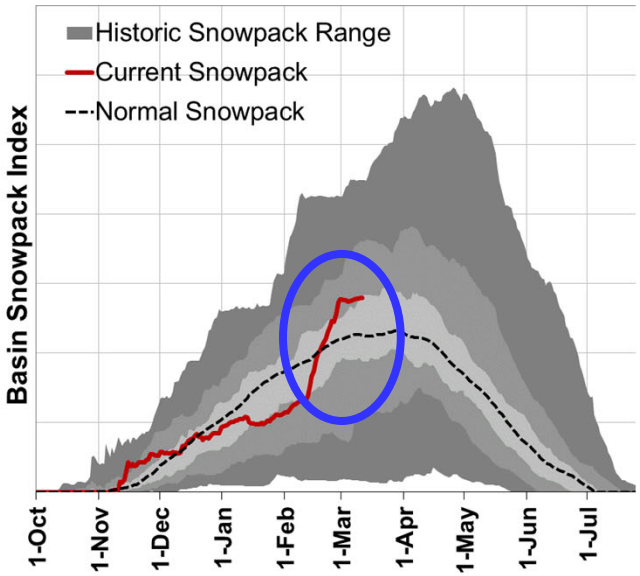


OREGON SNOWPACK GRAPHS – March 11, 2021

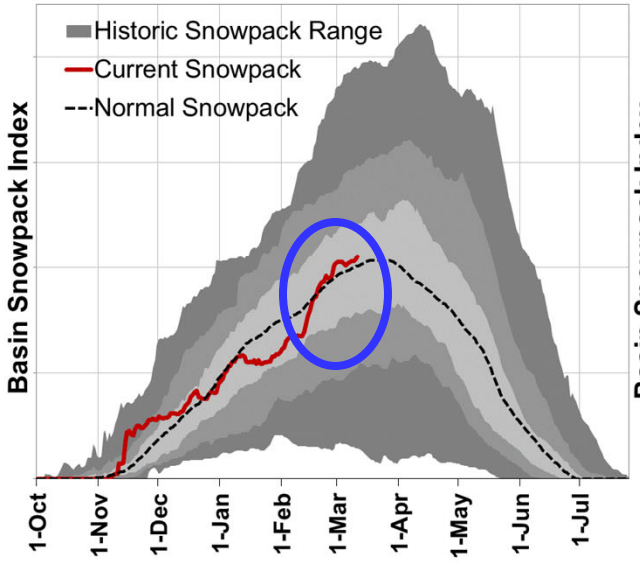


OREGON SNOWPACK GRAPHS – March 11, 2021

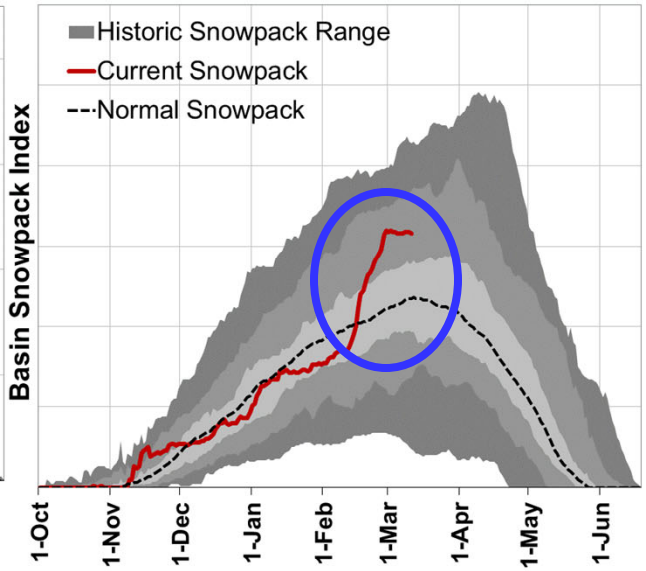
Hood-Sandy-Lower Deschutes



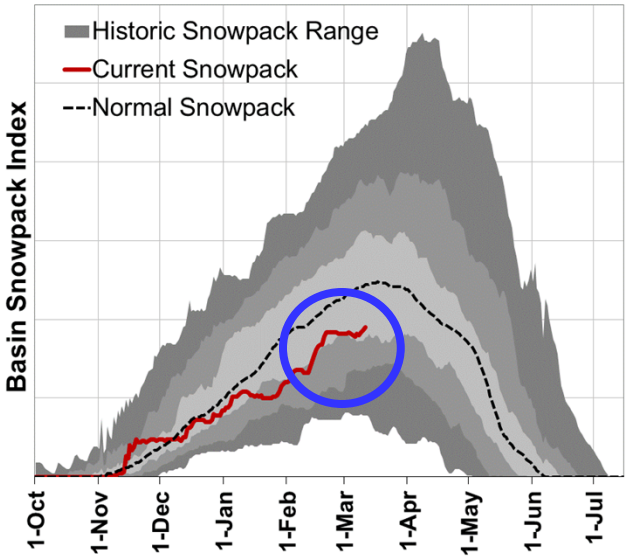
Upper Deschutes-Crooked



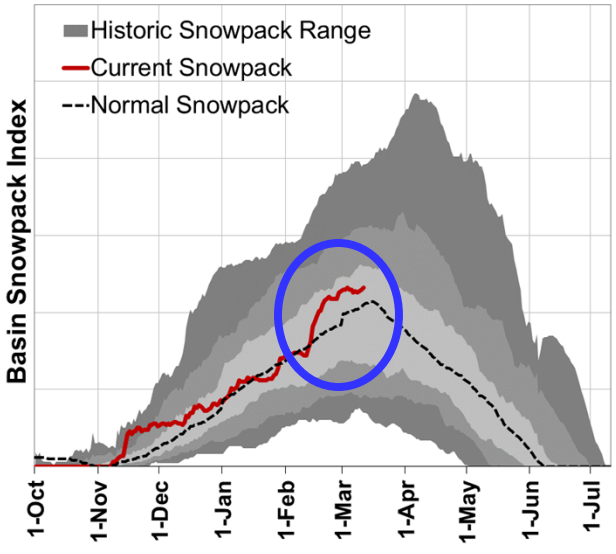
Umatilla-Walla Walla-Willow



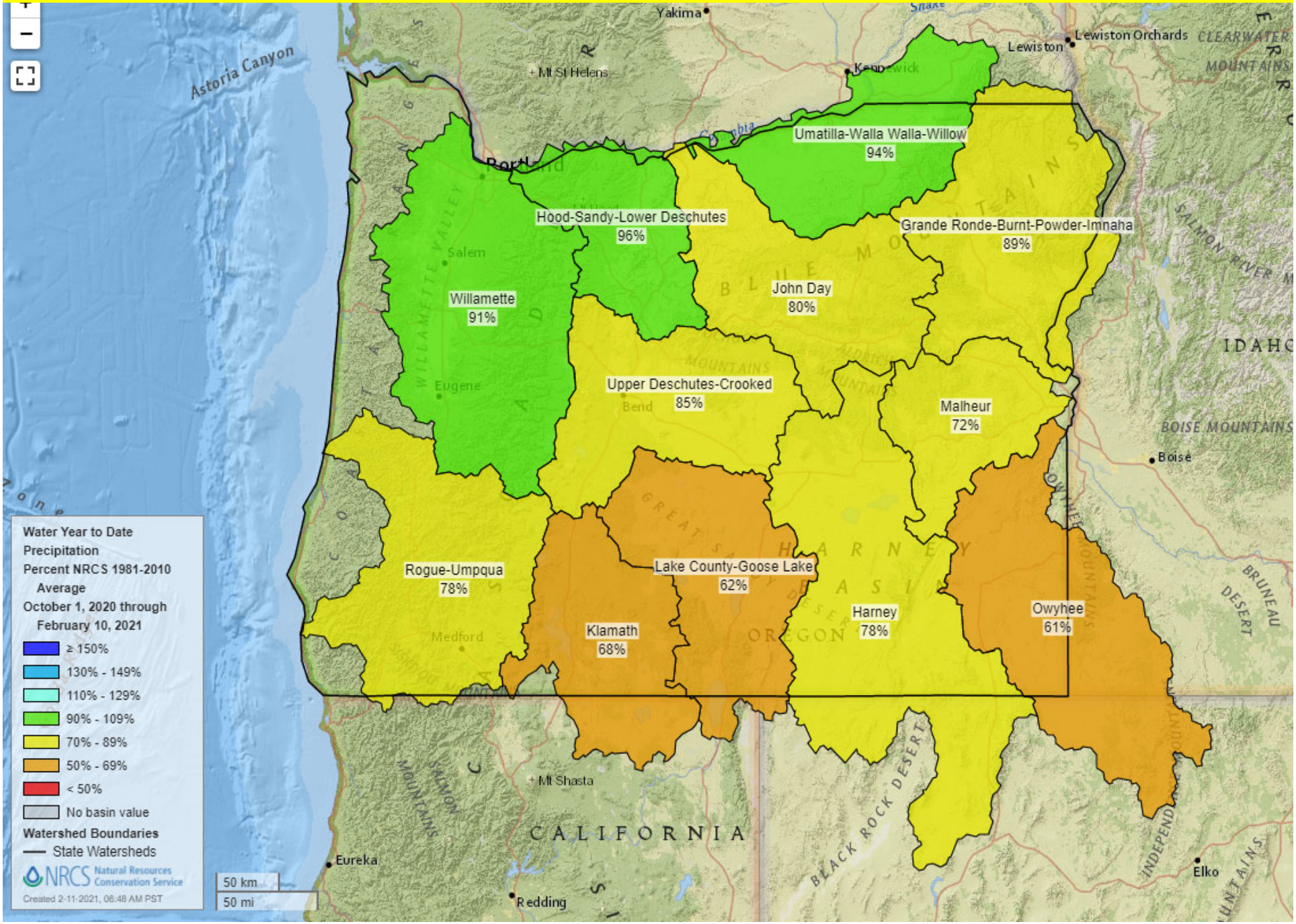
Lake County-Goose Lake



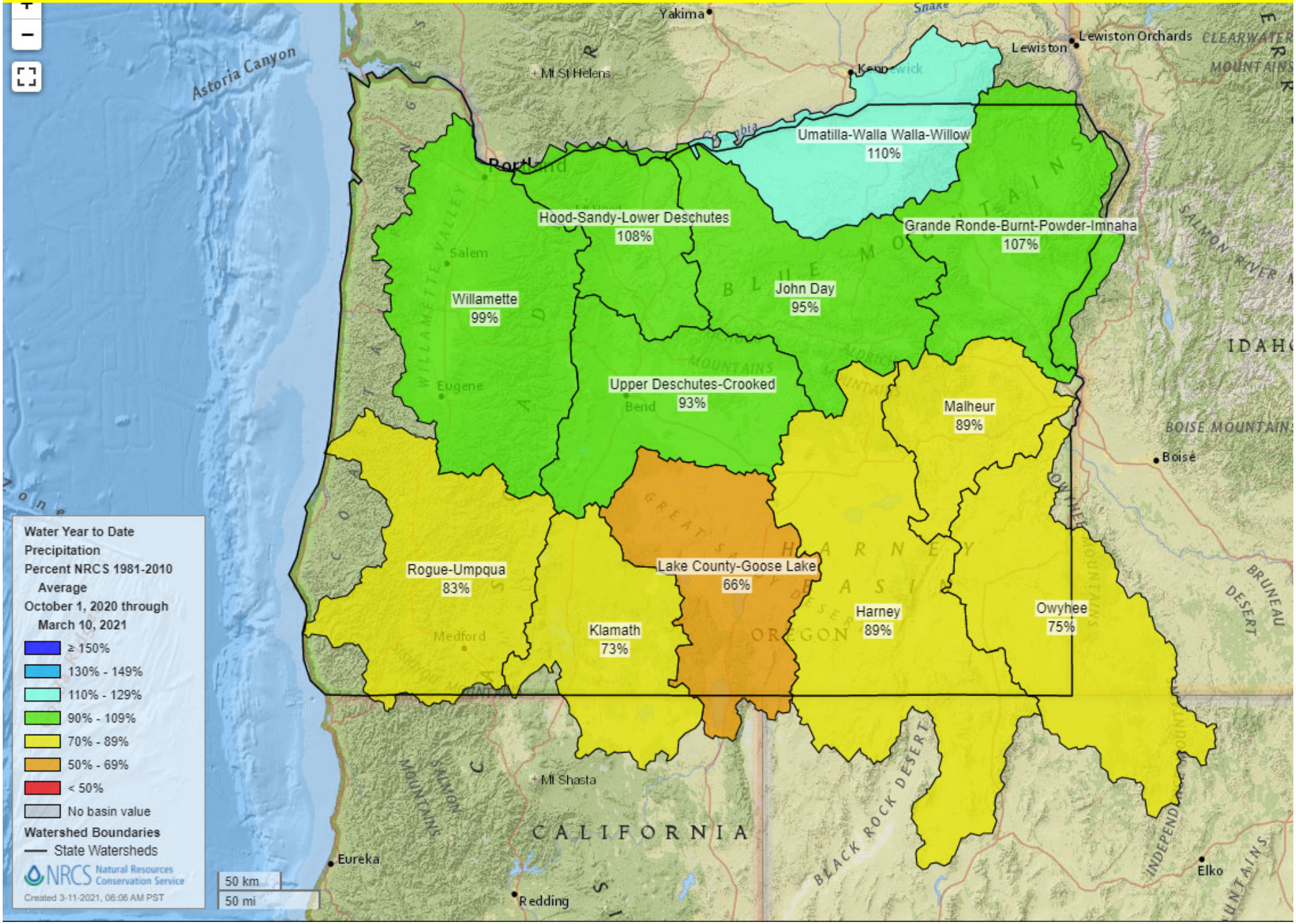
Harney

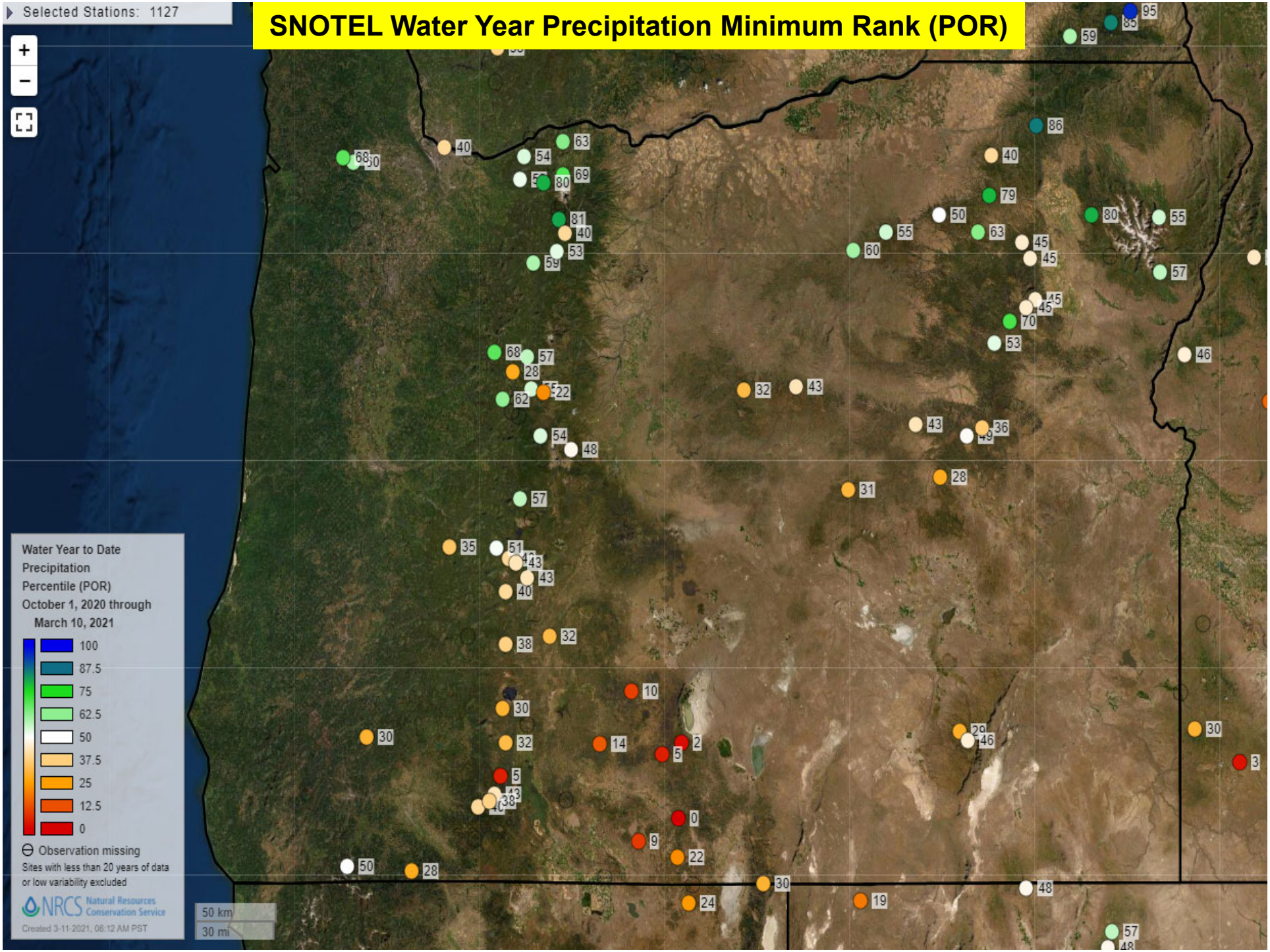


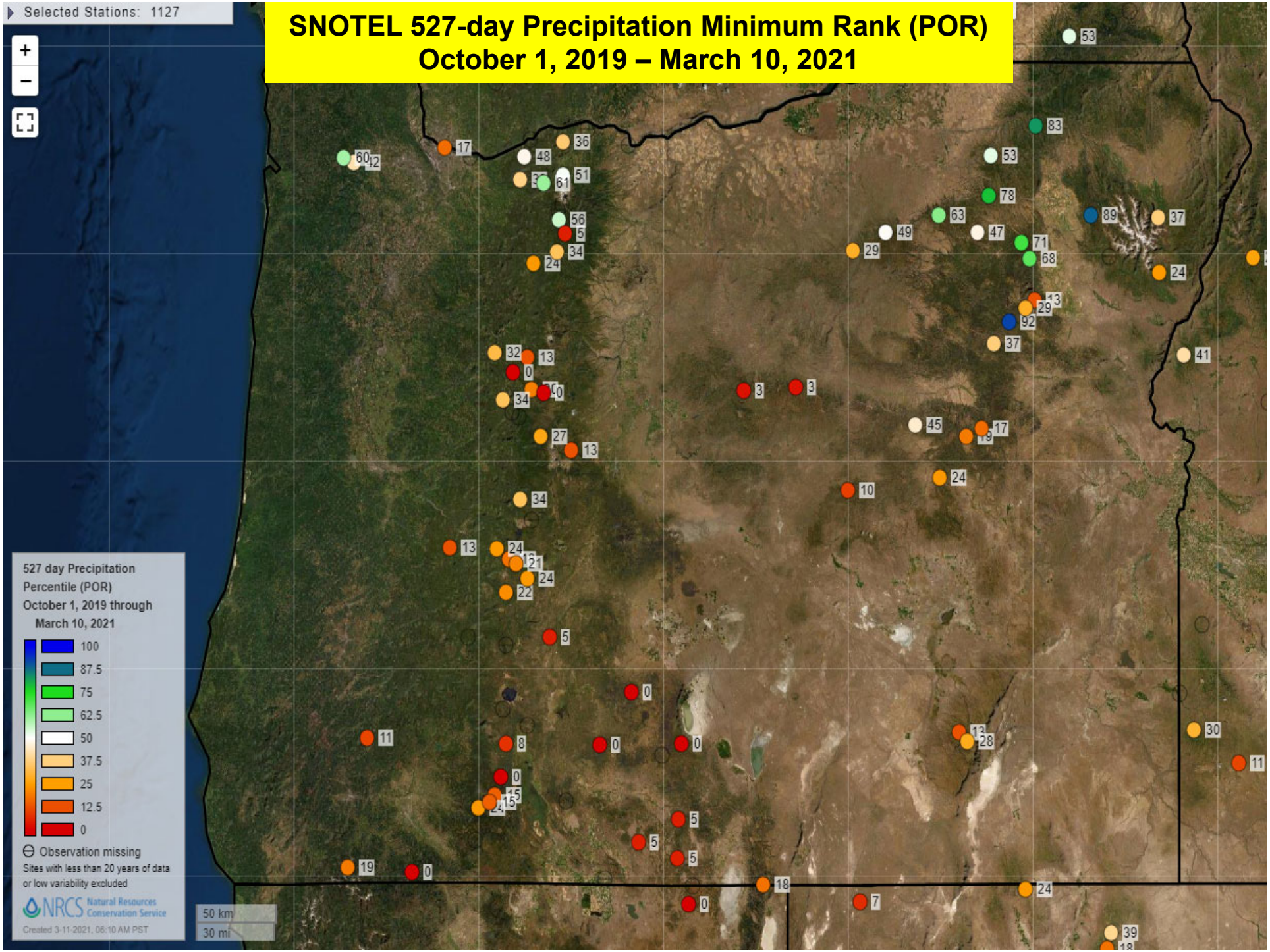
February 10th Statewide SNOTEL Water Year Precipitation was 87% of average

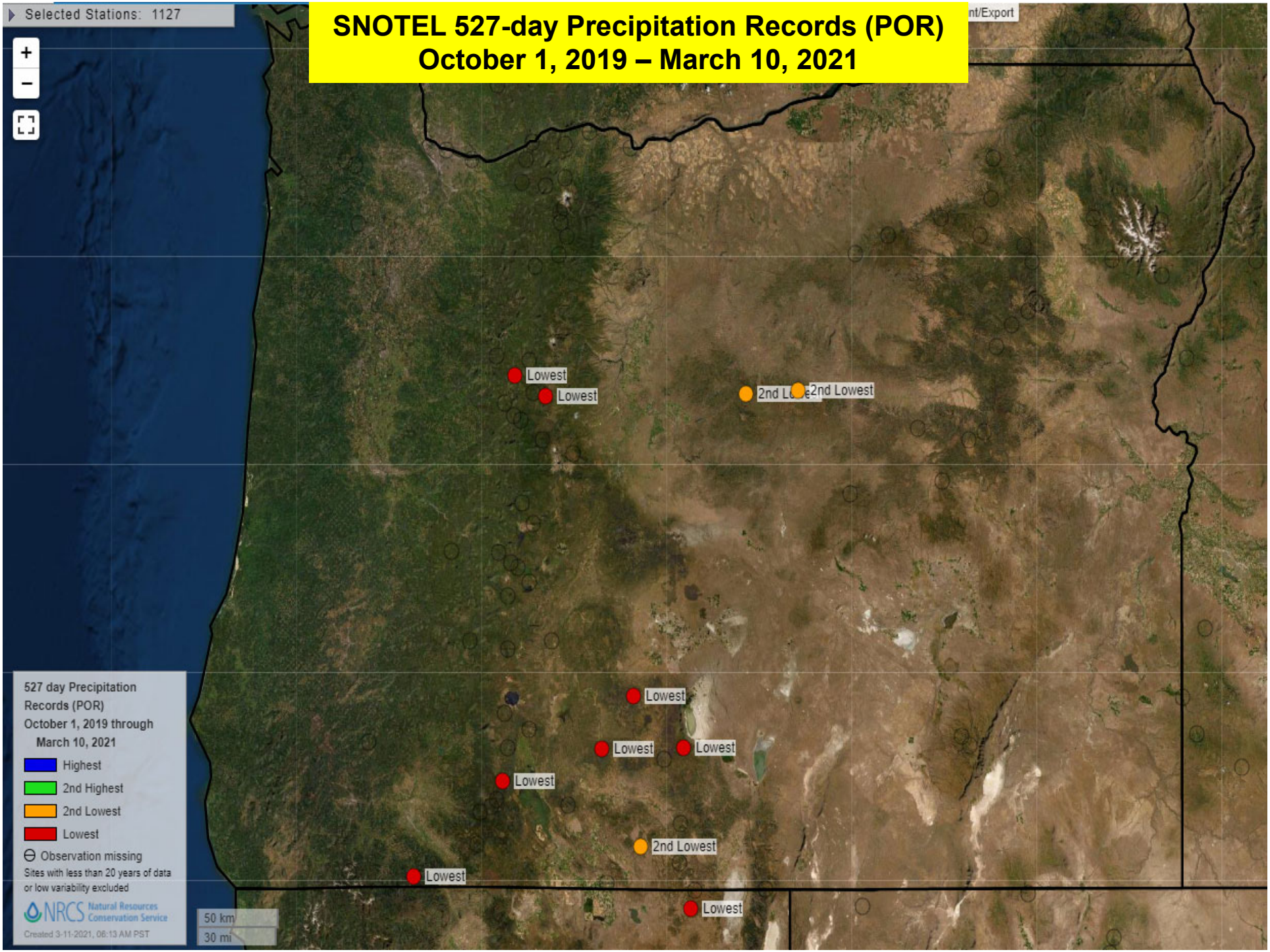


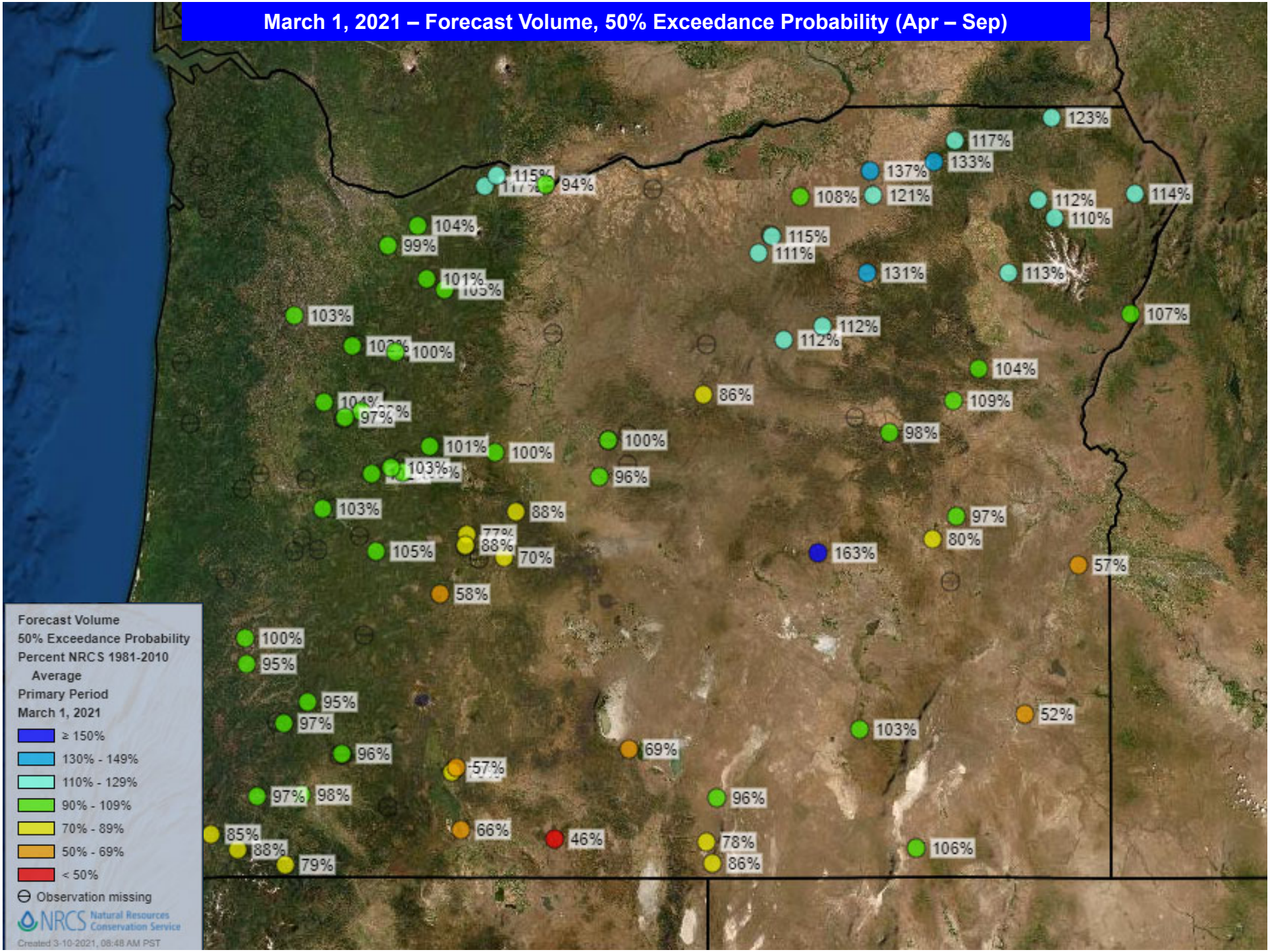
March 11th Statewide SNOTEL Water Year Precipitation is 95% of average




Selected Stations: 1127
SNOTEL Water Year Precipitation Minimum Rank (POR)
Water Year to Date
Precipitation
Percentile (POR)
October 1, 2020 through
March 10, 2021
100
87.5
75
62.5
50
37.5
25
12.5
0
Observation missing
Sites with less than 20 years of data
or low variability excluded
NRCS Natural Resources Conservation Service
Created 3-11-2021, 06:12 AM PST
50 km
30 mi


Selected Stations: 1127
SNOTEL 527-day Precipitation Minimum Rank (POR)
October 1, 2019 – March 10, 2021
527 day Precipitation
Percentile (POR)
October 1, 2019 through
March 10, 2021
100
87.5
75
62.5
50
37.5
25
12.5
0
Observation missing
Sites with less than 20 years of data
or low variability excluded
NRCS Natural Resources Conservation Service
Created 3-11-2021, 06:10 AM PST
50 km
30 mi


Selected Stations: 1127
SNOTEL 527-day Precipitation Records (POR)
October 1, 2019 – March 10, 2021
Lowest
Lowest
2nd Lowest
2nd Lowest
Lowest
Lowest
Lowest
Lowest
Lowest
2nd Lowest
Lowest
Lowest
527 day Precipitation Records (POR)
October 1, 2019 through March 10, 2021
Highest
2nd Highest
2nd Lowest
Lowest
Observation missing
Sites with less than 20 years of data or low variability excluded
NRCS Natural Resources Conservation Service
Created 3-11-2021, 06:13 AM PST
50 km
30 mi

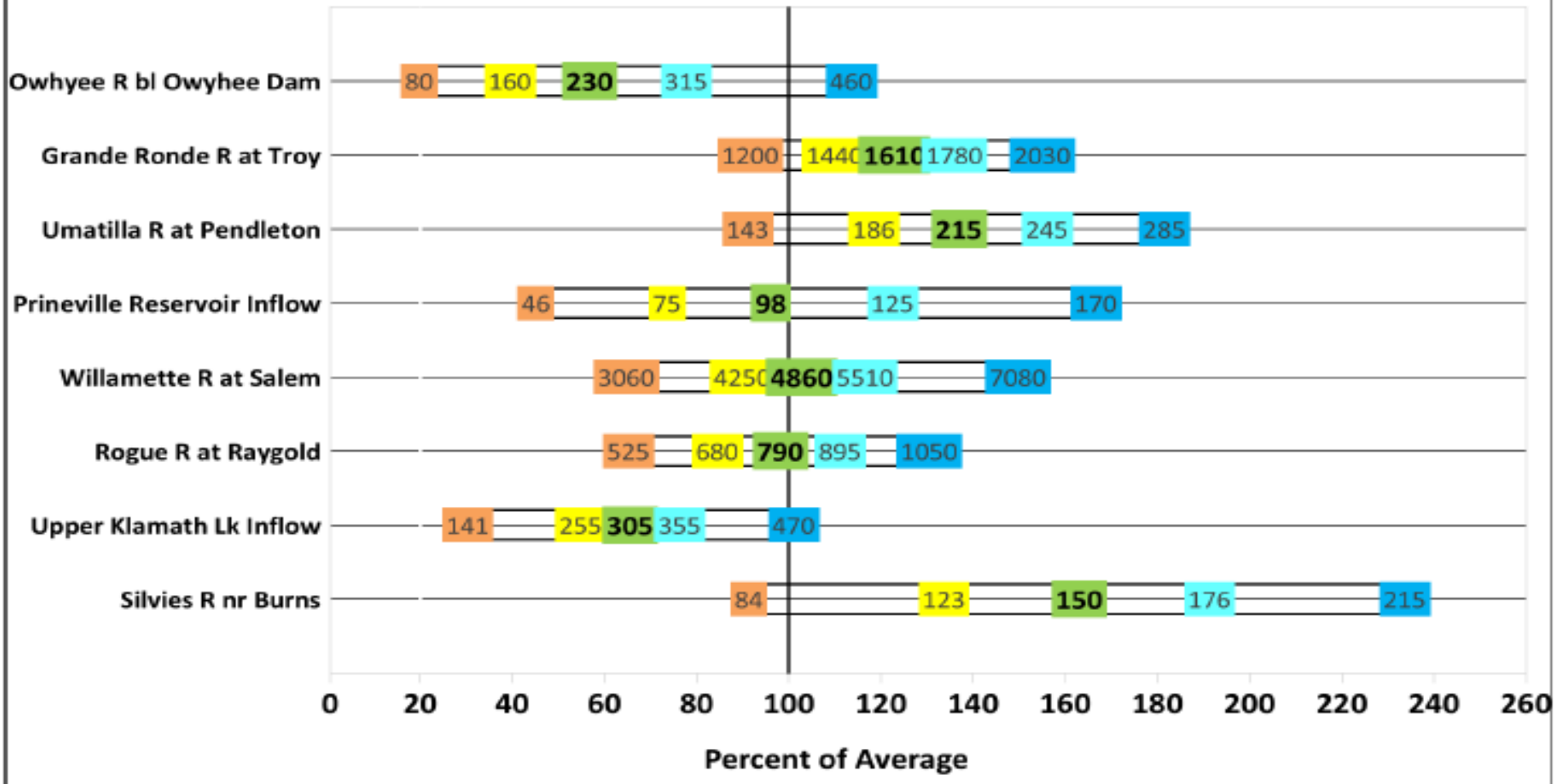

March 1, 2021 – Forecast Volume, 50% Exceedance Probability (Apr – Sep)
123%
117%
133%
137%
94%
108%
121%
112%
110%
114%
104%
99%
115%
111%
101%
131%
113%
103%
107%
112%
112%
100%
104%
86%
109%
97%
98%
101%
100%
100%
103%
96%
103%
88%
97%
80%
105%
88%
70%
163%
57%
58%
100%
95%
95%
97%
52%
103%
96%
69%
57%
97%
98%
96%
85%
66%
46%
88%
78%
106%
79%
86%
Forecast Volume
50% Exceedance Probability
Percent NRCS 1981-2010
Average
Primary Period
March 1, 2021
≥ 150%
130% - 149%
110% - 129%
90% - 109%
70% - 89%
50% - 69%
< 50%
Observation missing
NRCS Natural Resources Conservation Service
Created 3-10-2021, 08:48 AM PST

March 1, 2021

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.

Thank you

In accordance with Federal civil rights law and U.S. Department of Agriculture (USDA) civil rights regulations and policies, the USDA, its Agencies, offices, and employees, and institutions participating in or administering USDA programs are prohibited from discriminating based on race, color, national origin, religion, sex, gender identity (including gender expression), sexual orientation, disability, age, marital status, family/parental status, income derived from a public assistance program, political beliefs, or reprisal or retaliation for prior civil rights activity, in any program or activity conducted or funded by USDA (not all bases apply to all programs). Remedies and complaint filing deadlines vary by program or incident.

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To file a program discrimination complaint, complete the USDA Program Discrimination Complaint Form, AD-3027, found online at How to File a Program Discrimination Complaint and at any USDA office or write a letter addressed to USDA and provide in the letter all of the information requested in the form. To request a copy of the complaint form, call (866) 632-9992. Submit your completed form or letter to USDA by: (1) mail: U.S. Department of Agriculture, Office of the Assistant Secretary for Civil Rights, 1400 Independence Avenue, SW, Washington, D.C. 20250-9410; (2) fax: (202) 690-7442; or (3) email: program.intake@usda.gov.

Oregon Water Supply Availability Committee - March 11, 2021

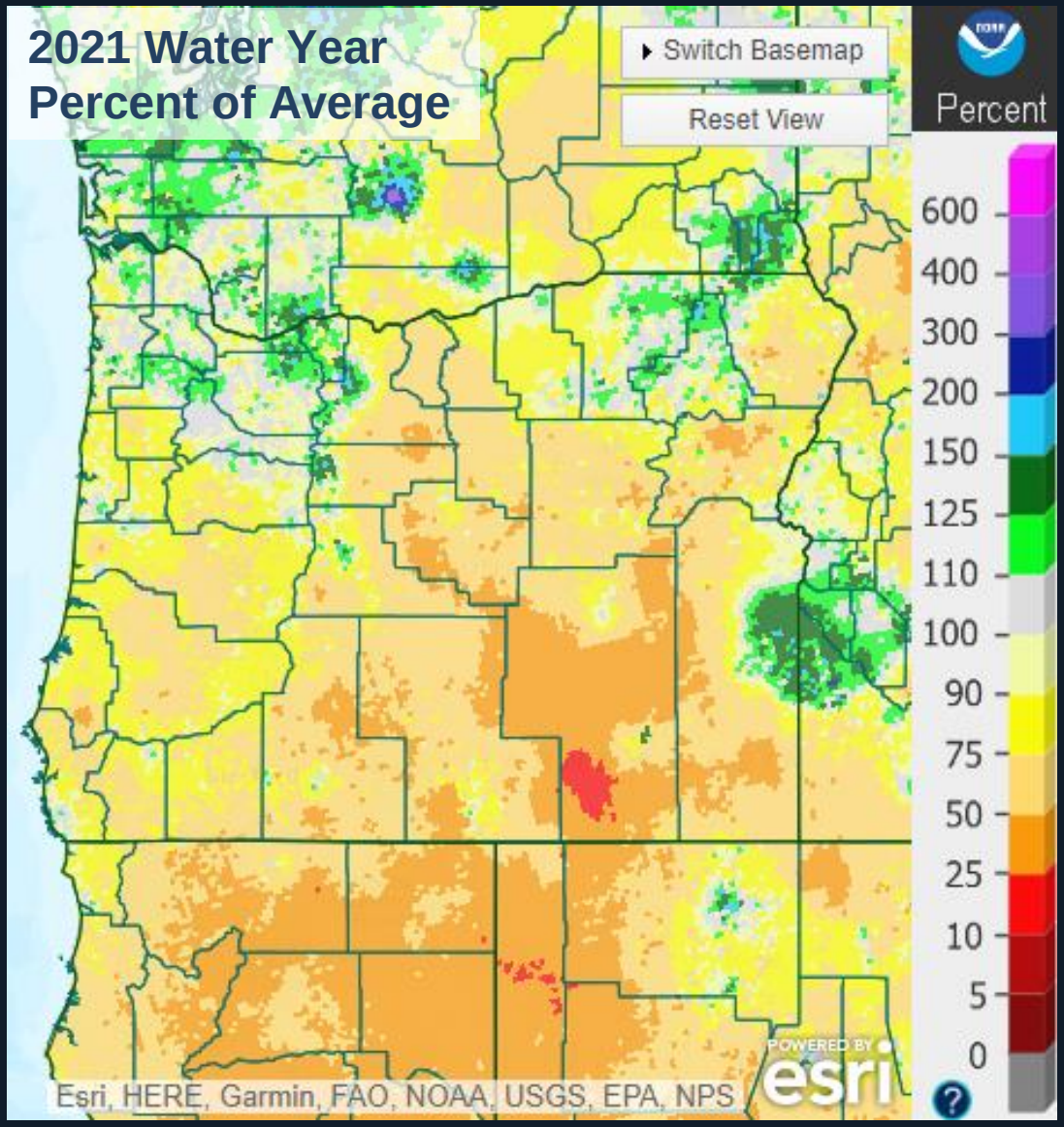
H. Scott Oviatt
USDA – Natural Resources Conservation Service
scott.oviatt@usda.gov
503-414-3271

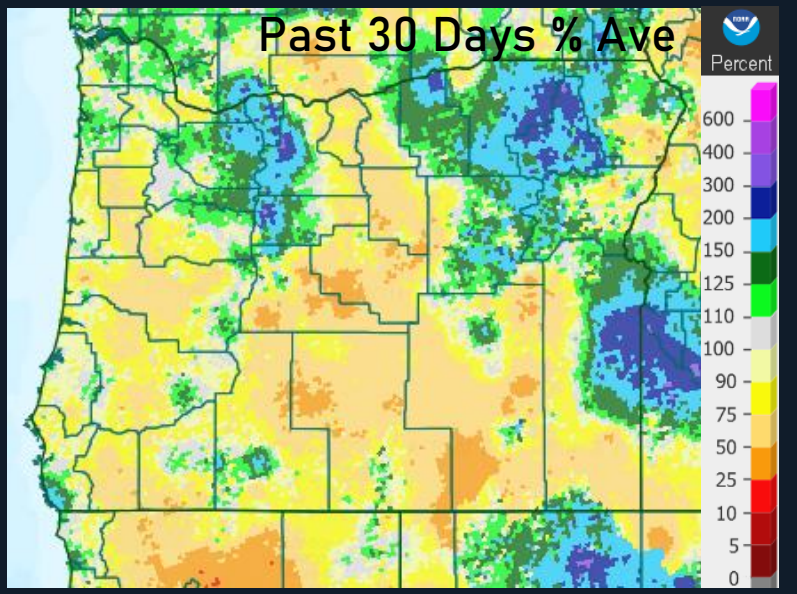
Oregon WSAC

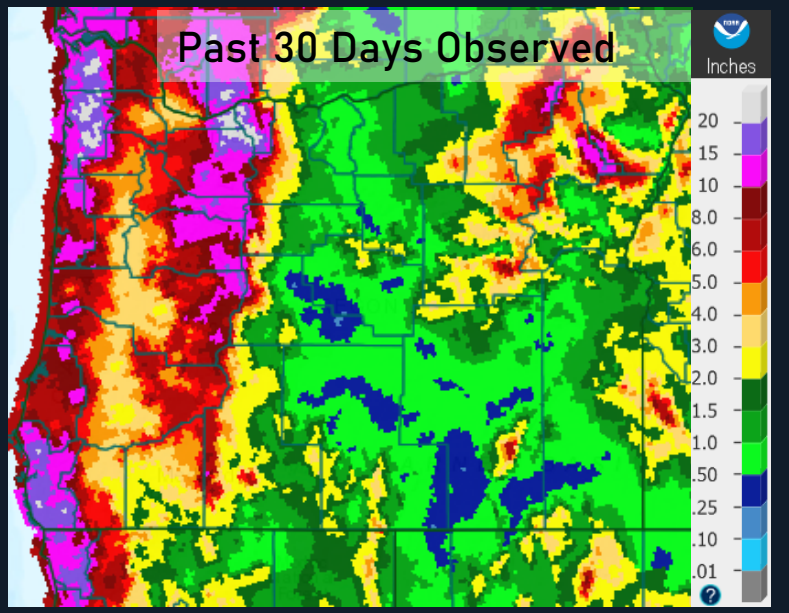
March 11, 2021
NWS Update on Precipitation & Temperatures

Andy Bryant
NOAA/NWS Portland
Weather Forecast Office

Precipitation





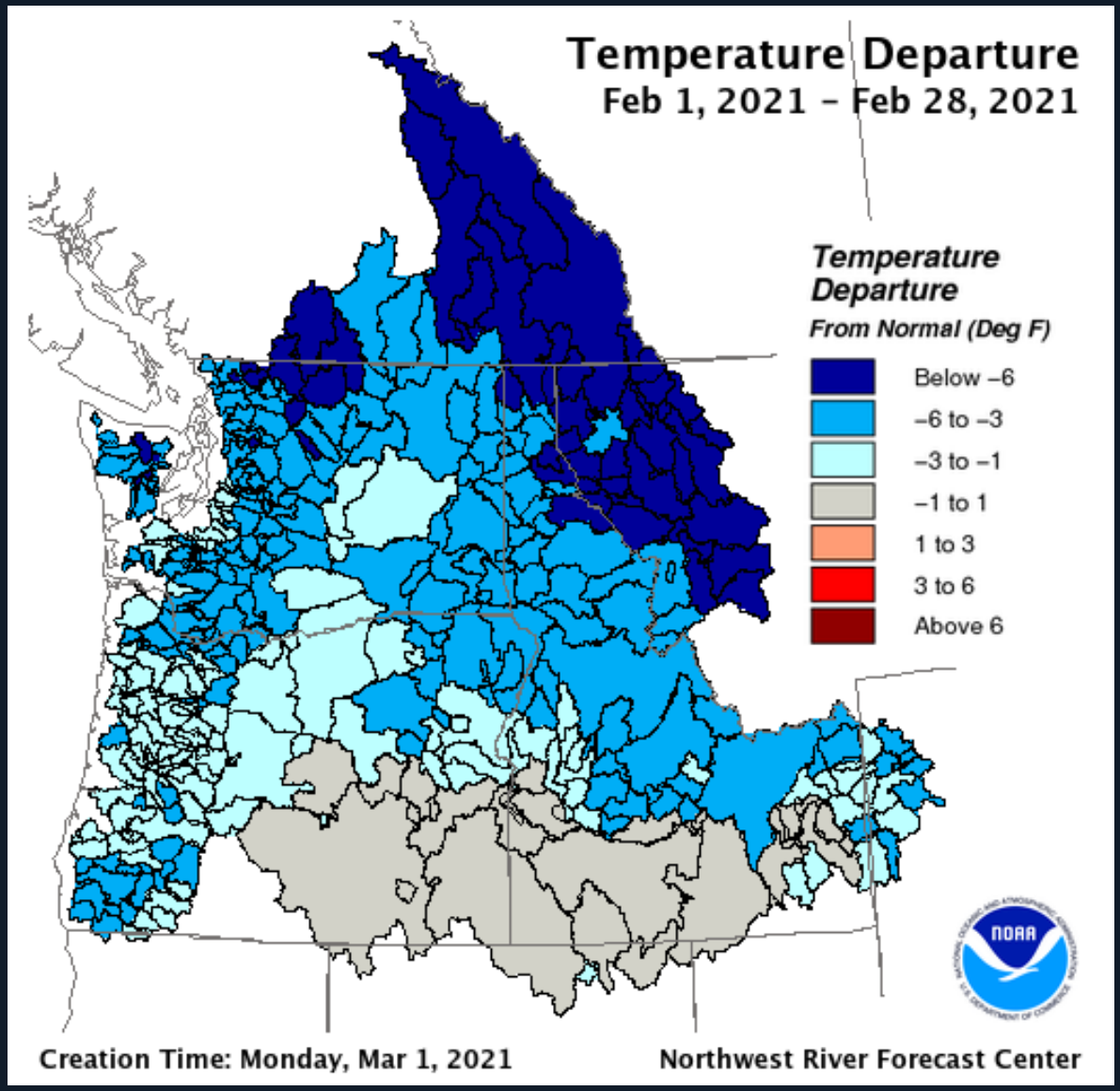


Precipitation Data as of March 10, 2021

Source: water.weather.gov/precip/index.php?location_type=wfo&location_name=pqr

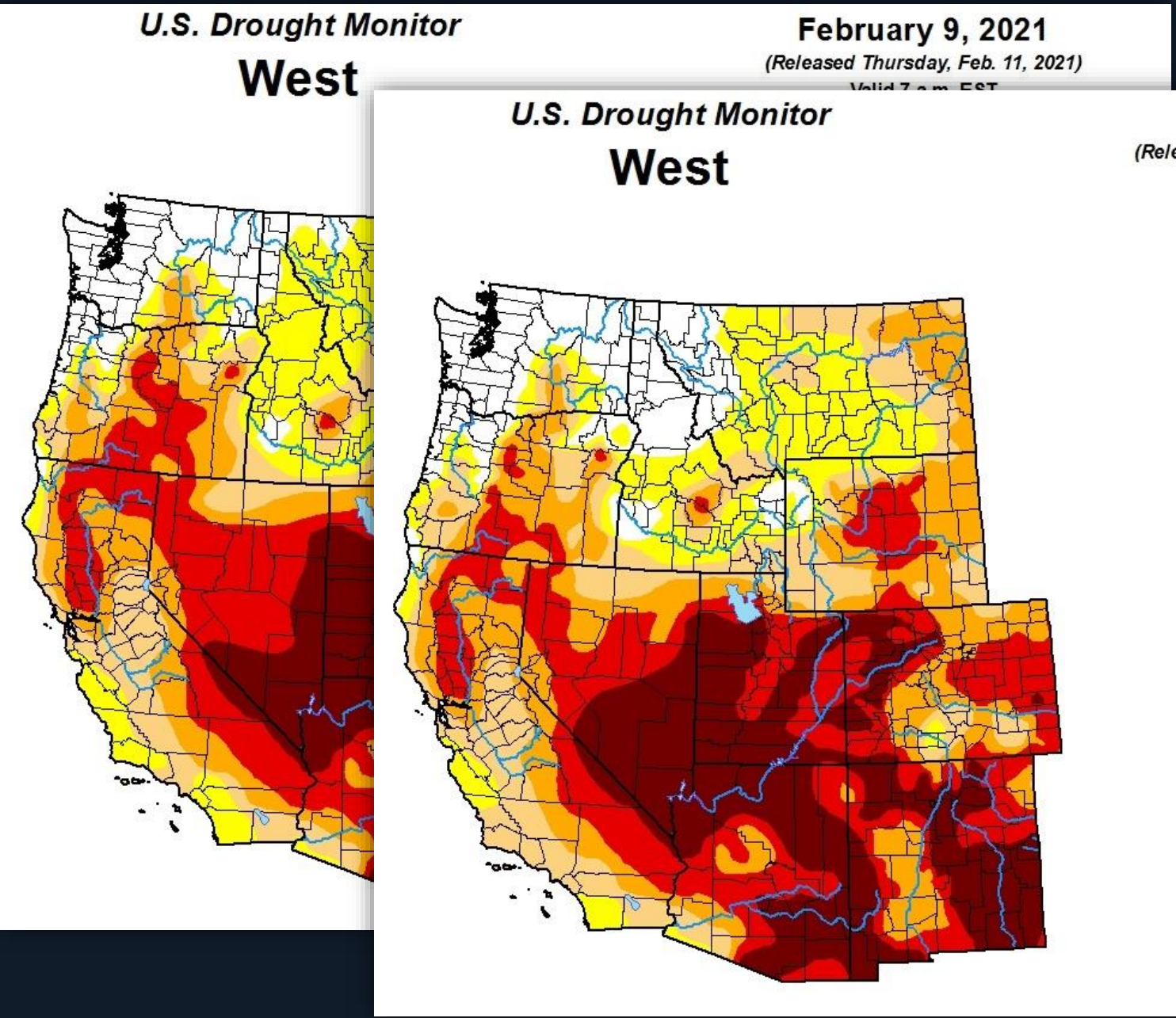
Recent Temperatures

February 2021



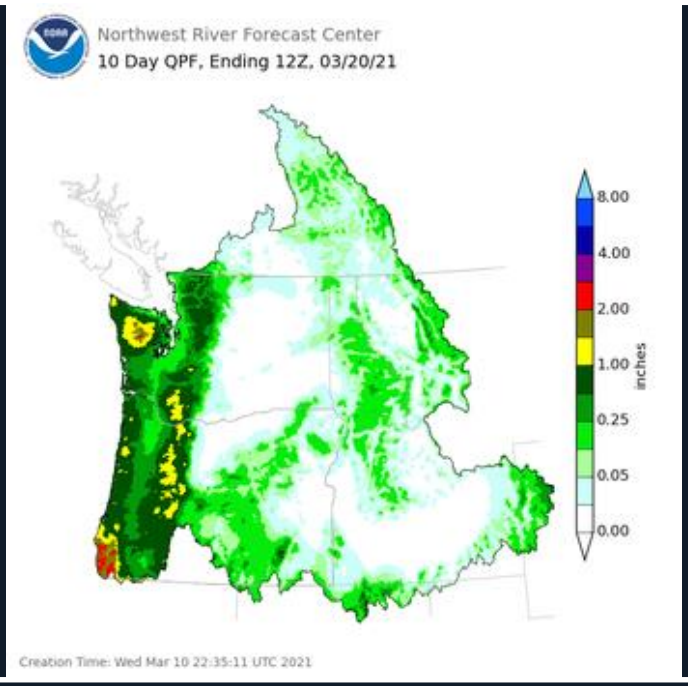
https://www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?

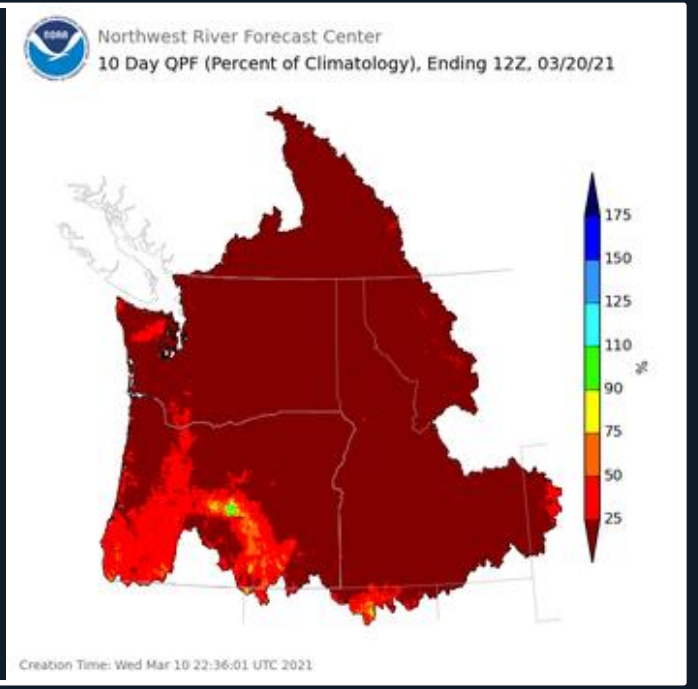
Drought Monitor



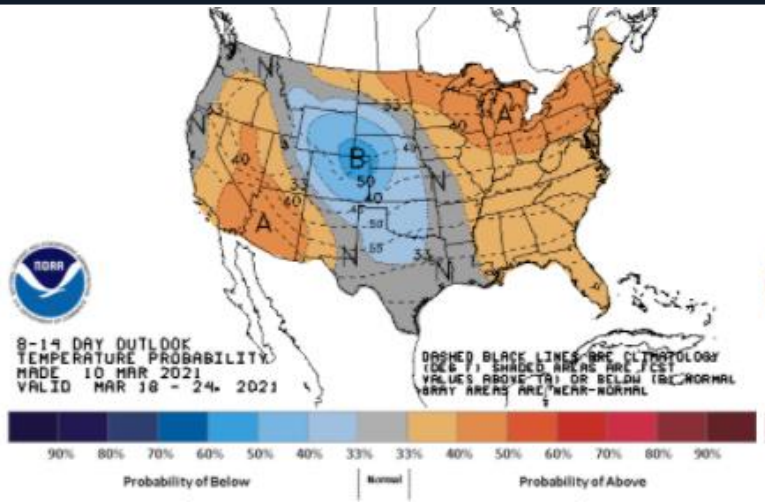
Mid/Late February Outlook

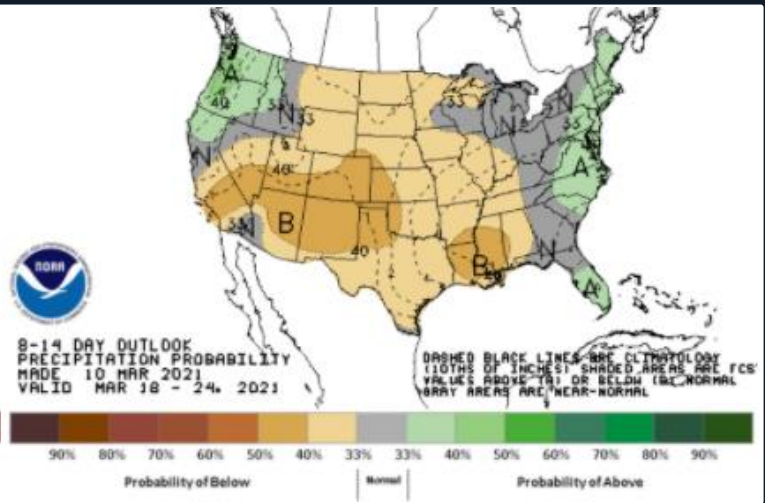
NWRFC
10-DAY
PRECIPITATION





CPC
8 – 14 DAY
OUTLOOK



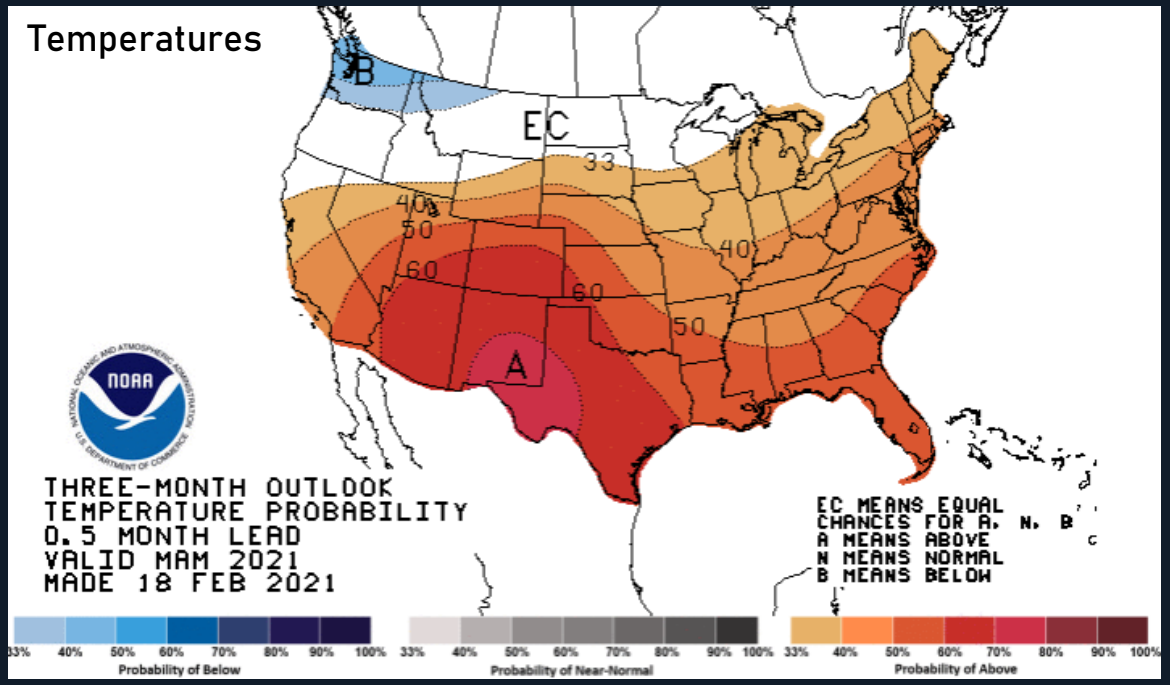


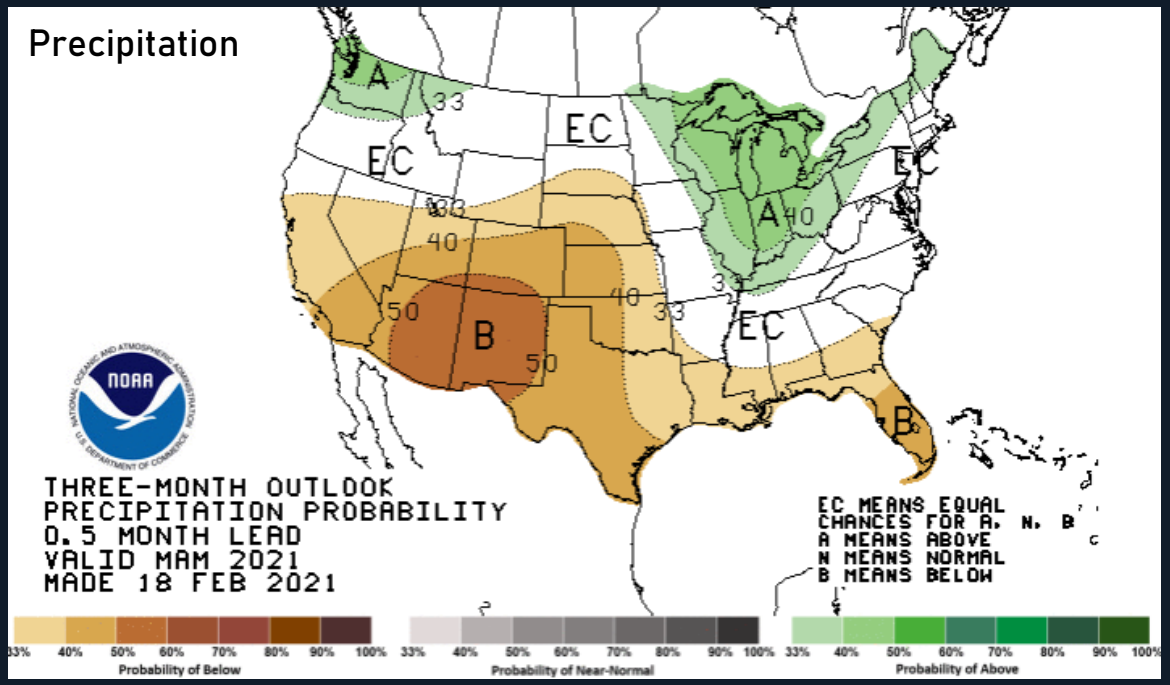
https://www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?t

https://www.cpc.ncep.noaa.gov/products/predictions/814day/

Climate Prediction Center Outlook

Mar – Apr – May 2021

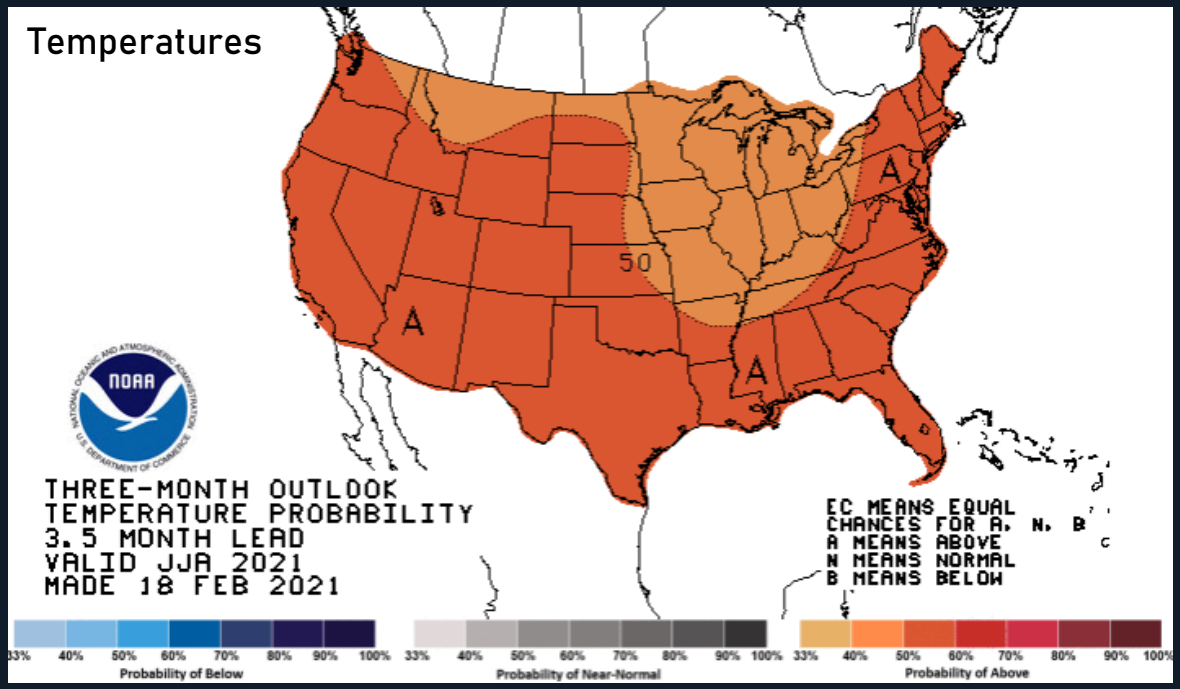


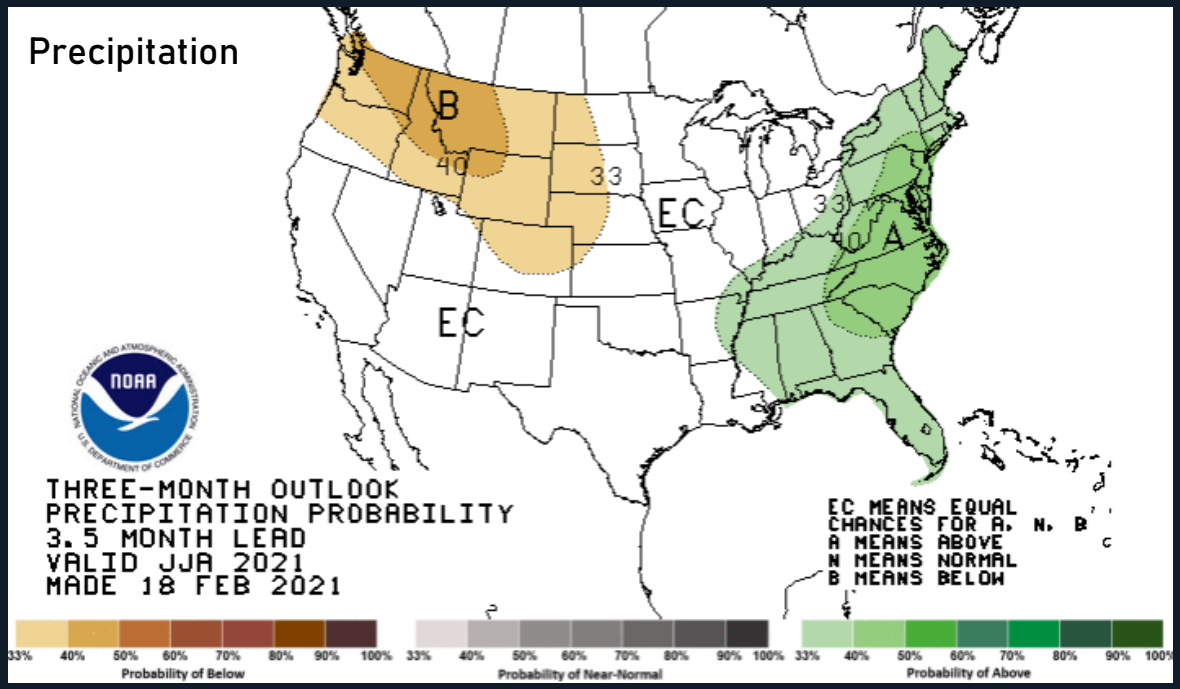


https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=2

Climate Prediction Center Outlook

Jun – Jul – Aug 2021





https://www.cpc.ncep.noaa.gov/products/predictions/long_range/seasonal.php?lead=4

USGS
science for a changing world

Oregon Water Supply Availability Meeting

March 2021

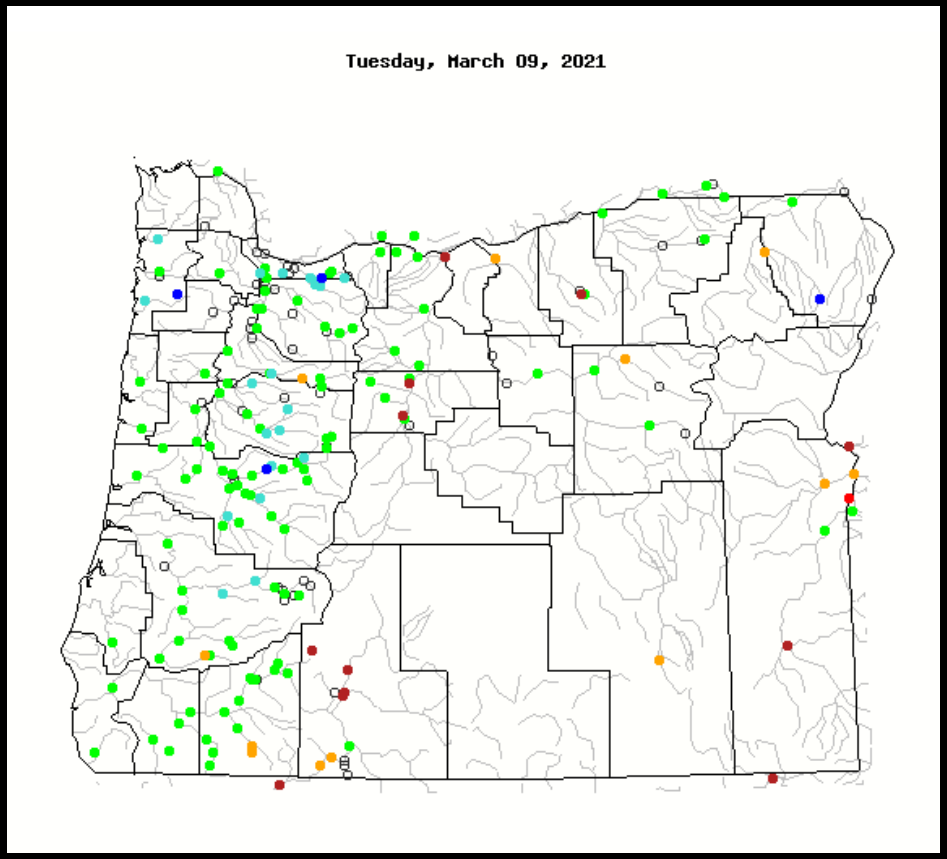
U.S. Department of the Interior
U.S. Geological Survey

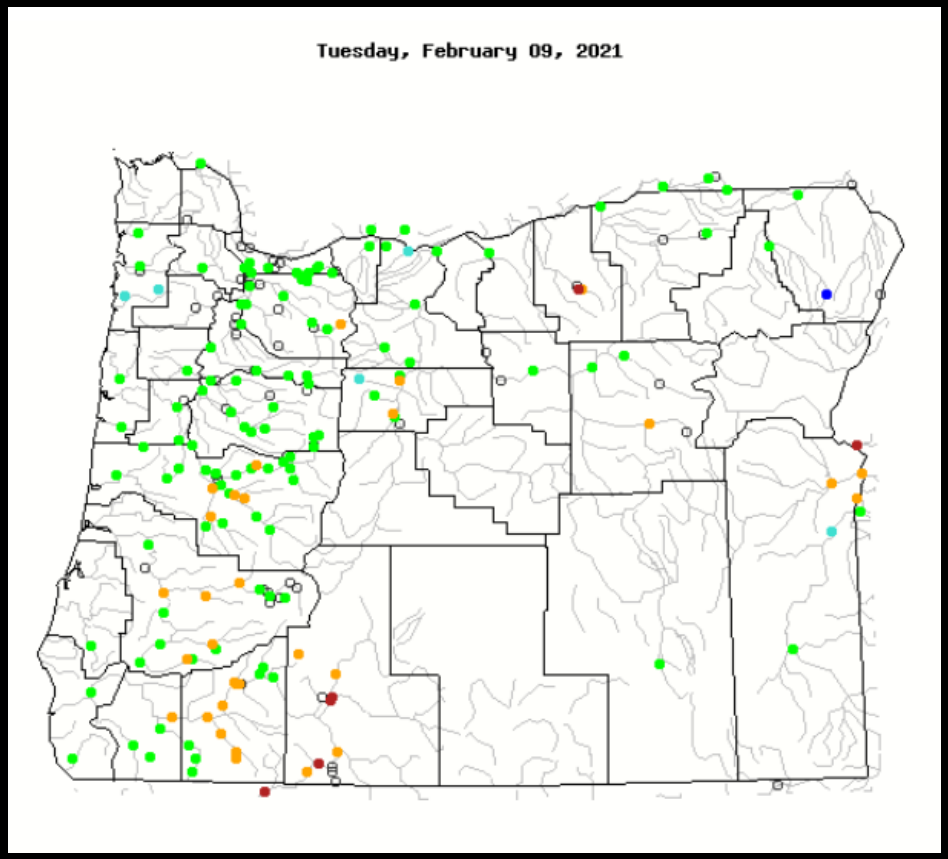
USGS Update on Surface Water Conditions

Carrie Boudreau & Marc Stewart
Oregon Water Science Center

Streamflow Conditions

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

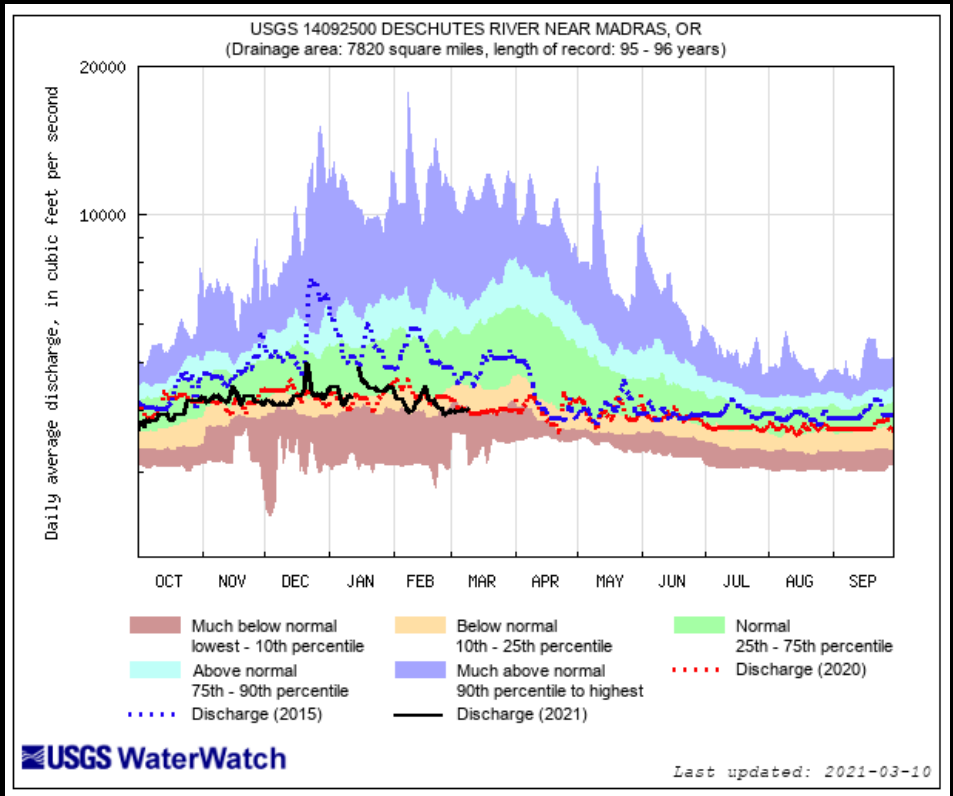


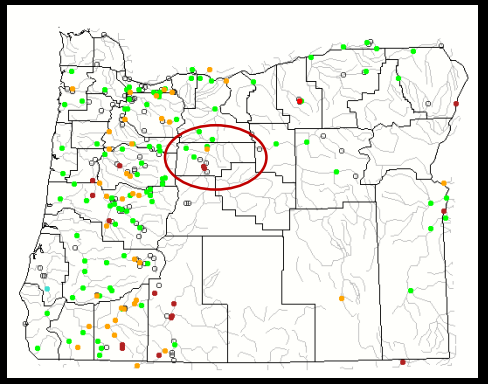


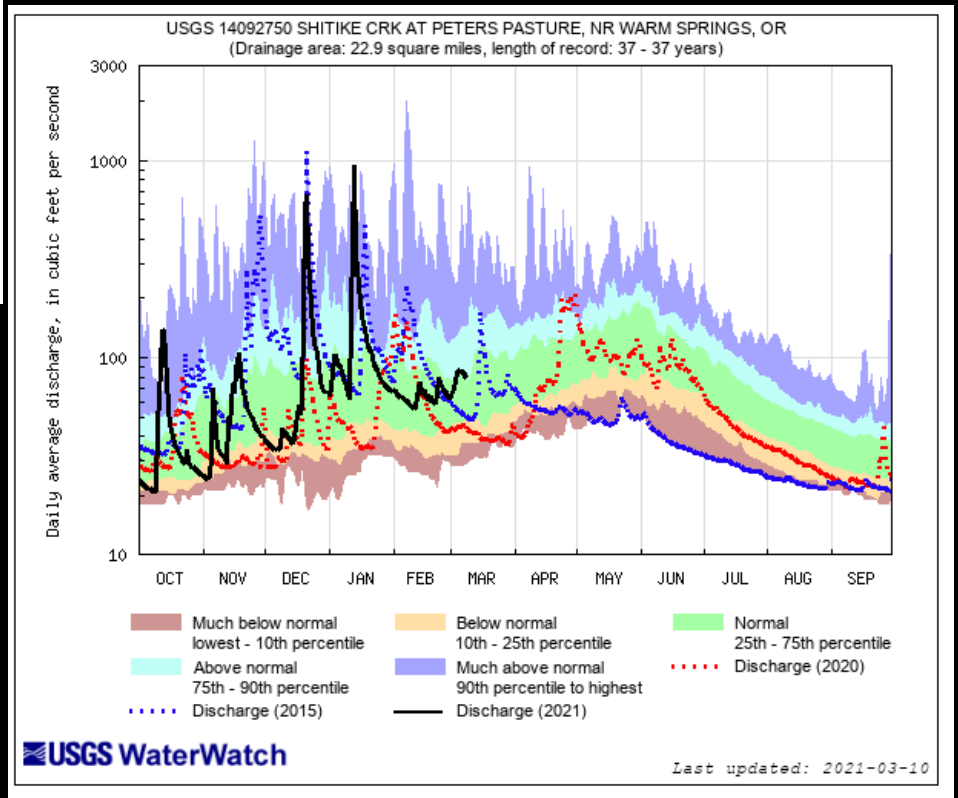
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

USGS

Deschutes Basin

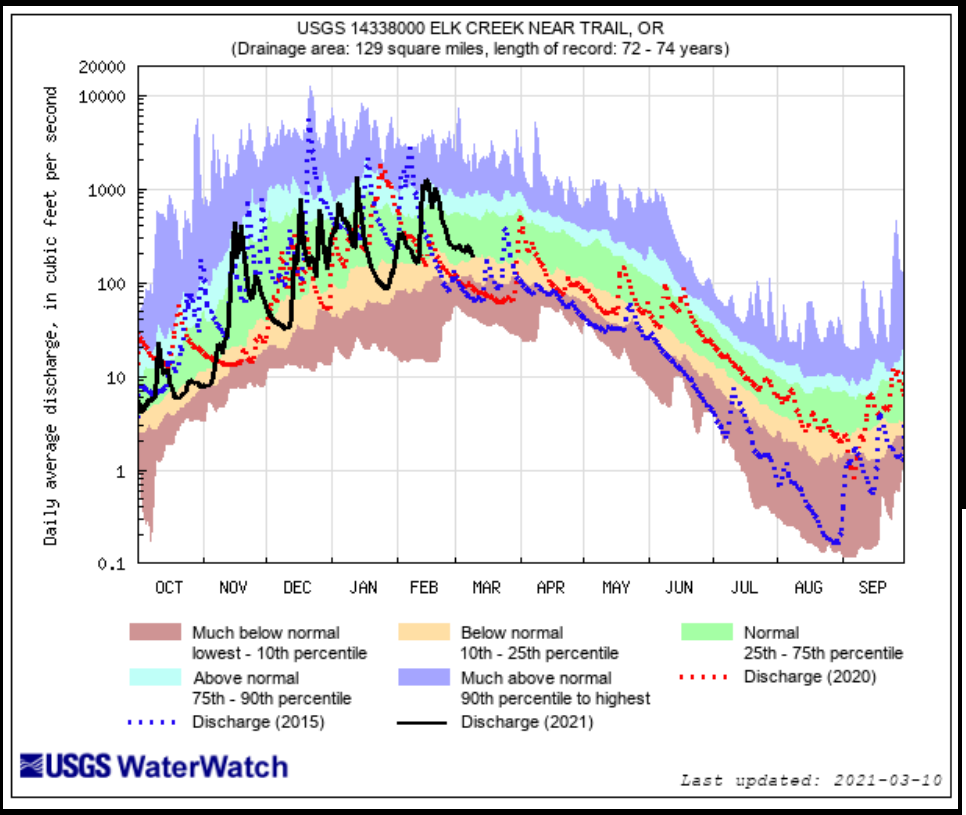


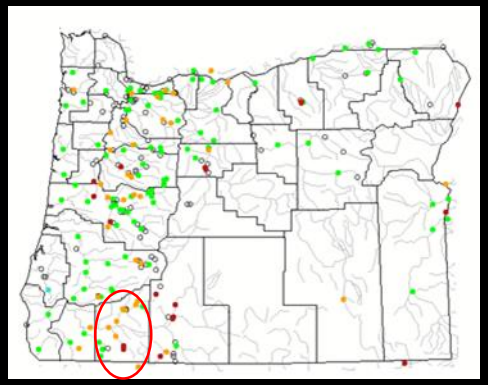


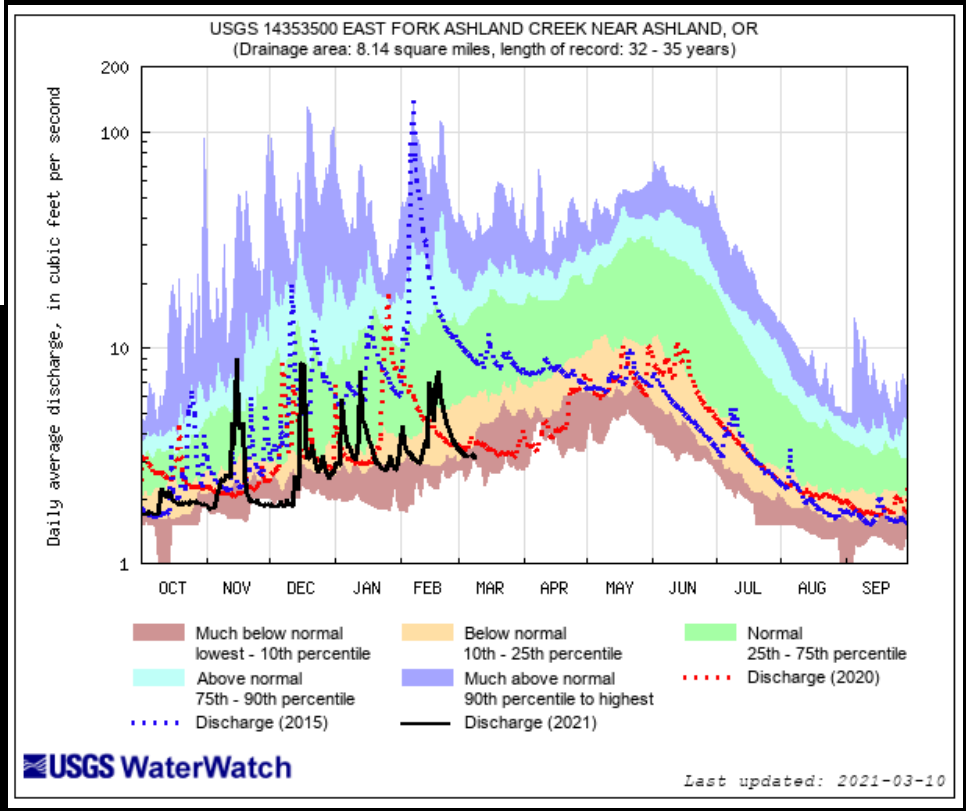


USGS

Southern Oregon

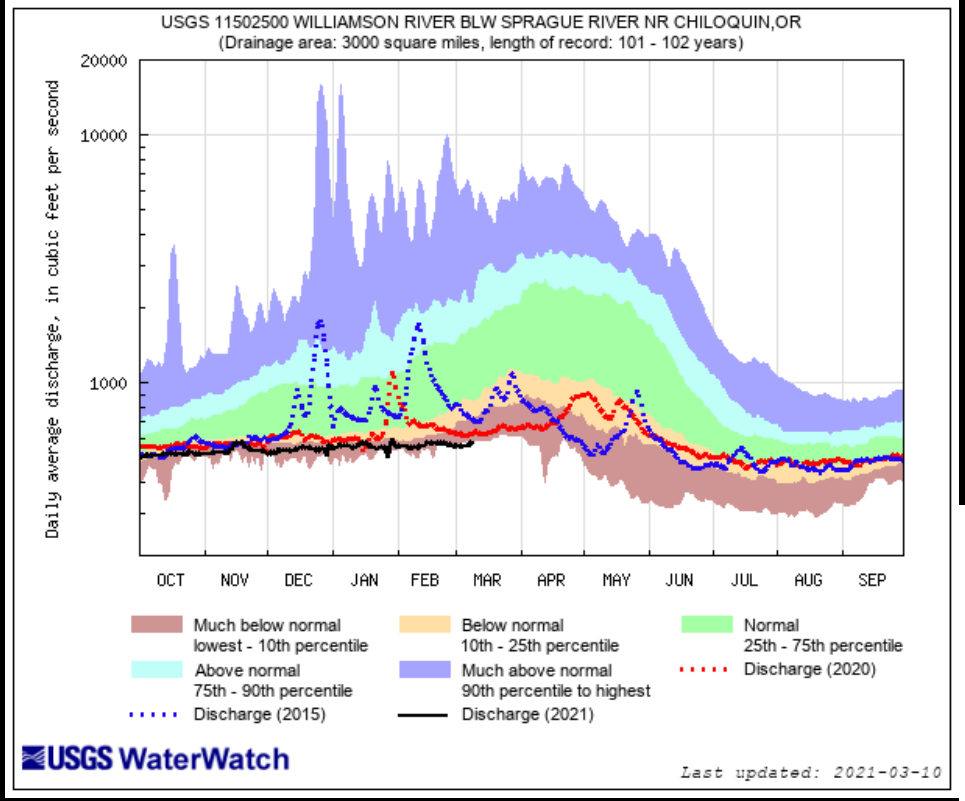


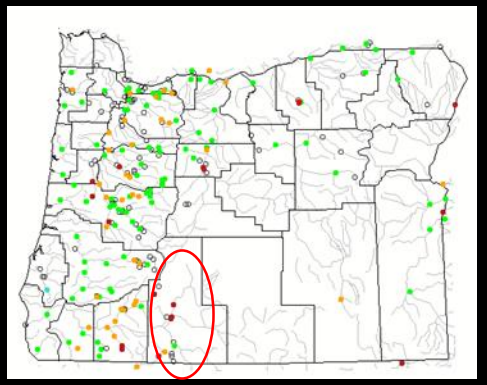


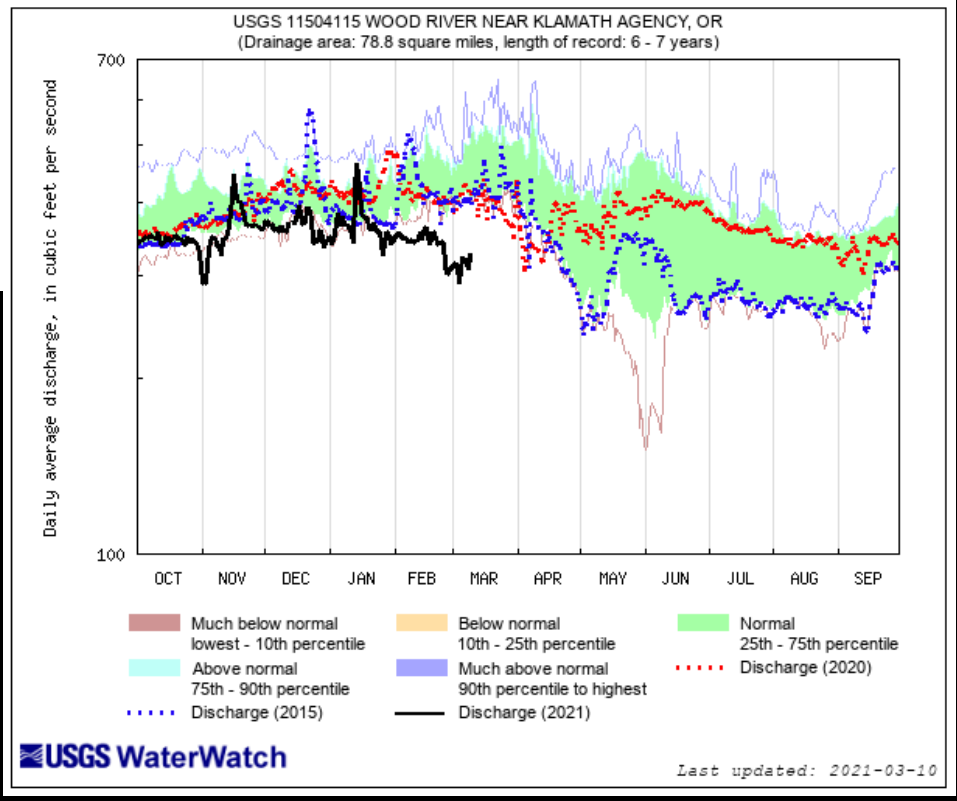


USGS

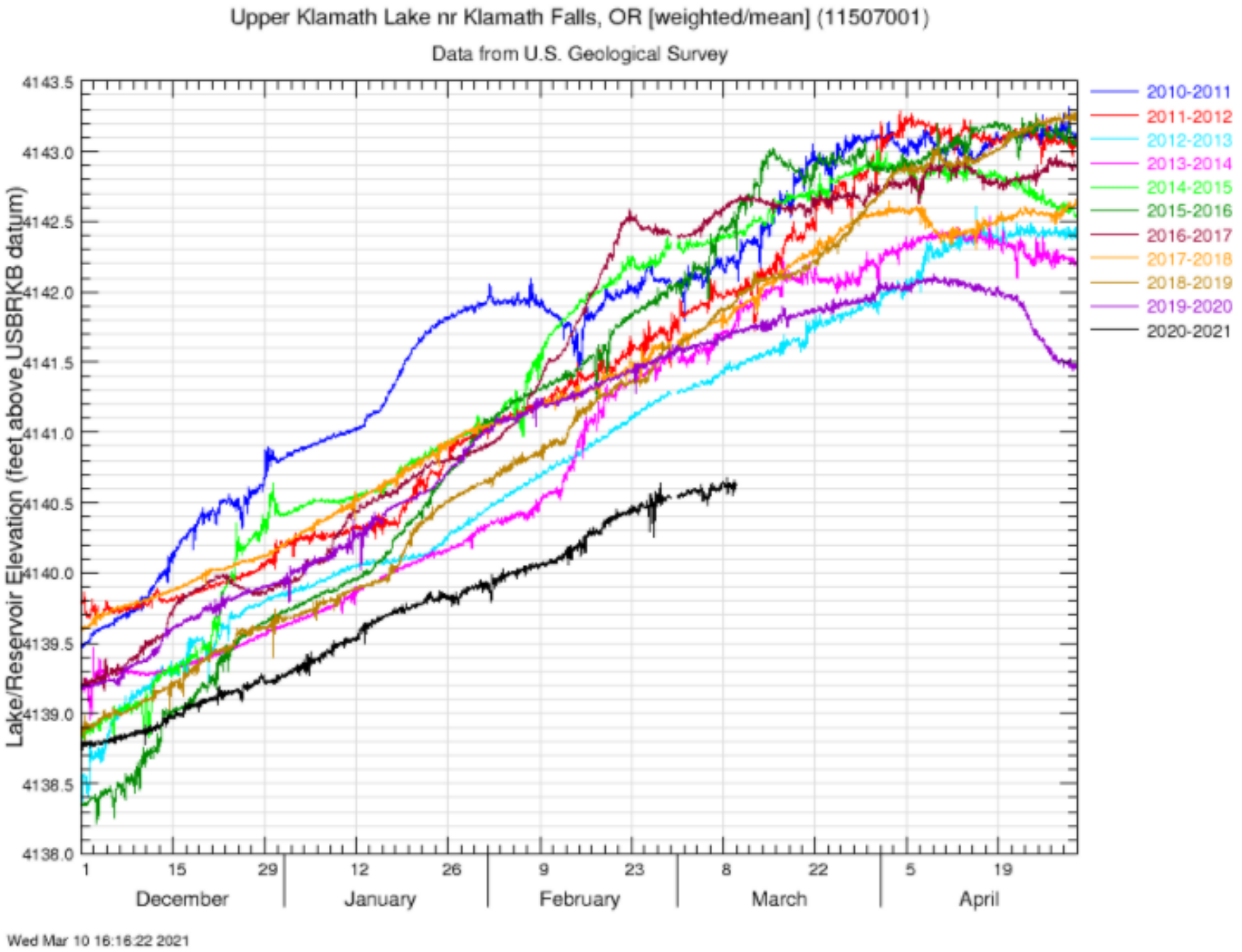
Southern Oregon



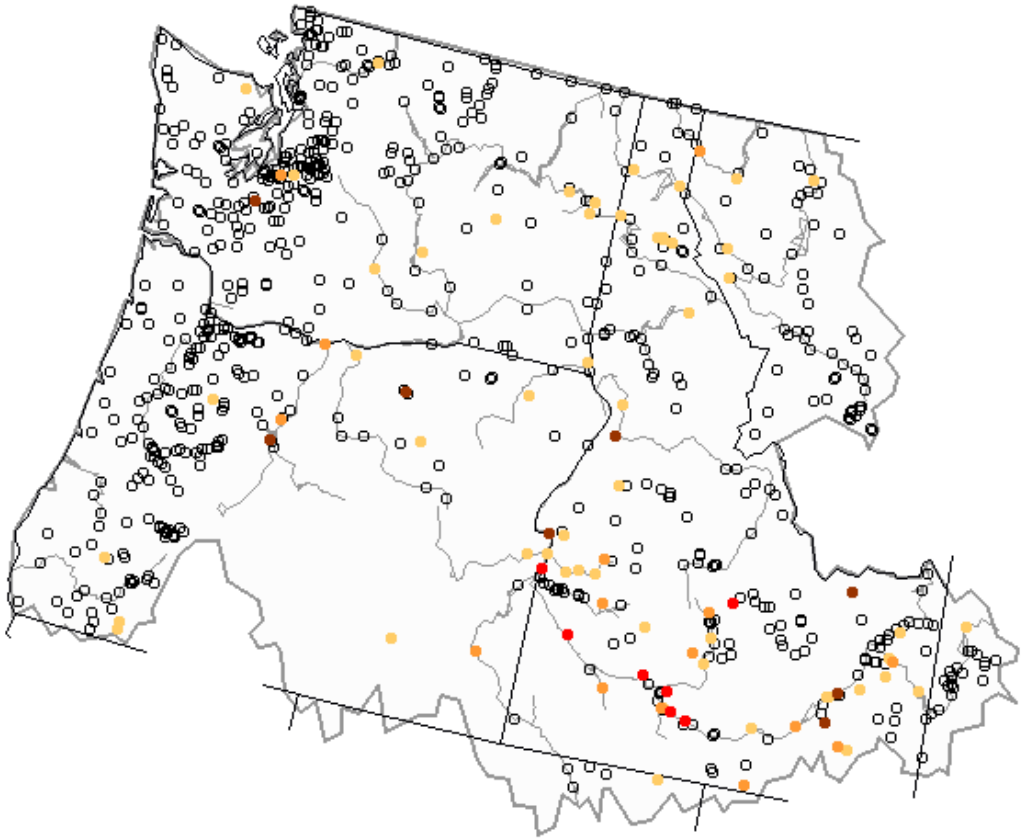


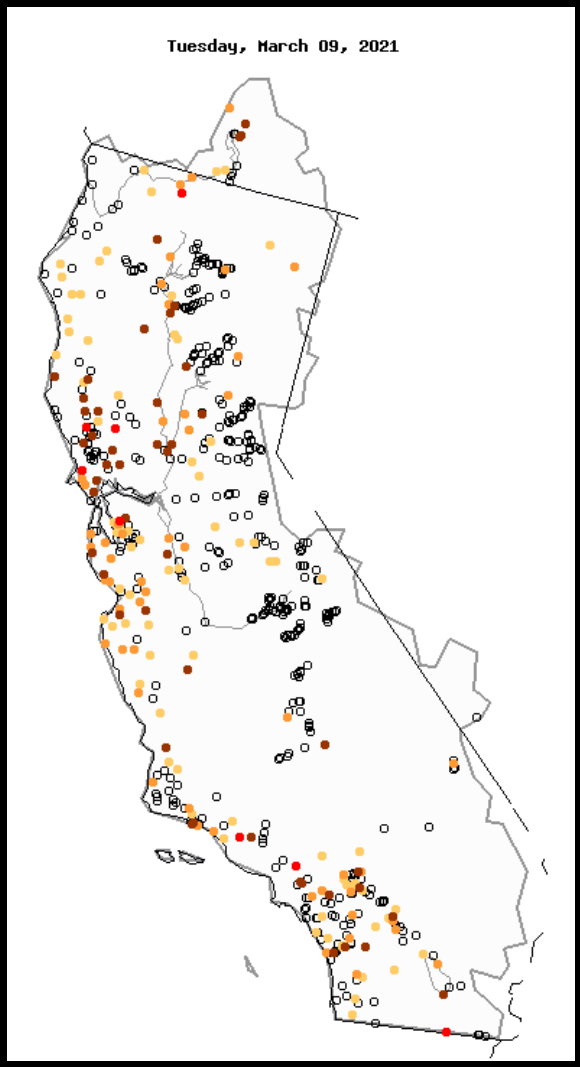


USGS


Upper Klamath Lake nr Klamath Falls, OR [weighted/mean] (11507001)
Data from U.S. Geological Survey
Lake/Reservoir Elevation (feet above USBRKB datum)
4143.5
4143.0
4142.5
4142.0
4141.5
4141.0
4140.5
4140.0
4139.5
4139.0
4138.5
4138.0
1
15
29
12
26
9
23
8
22
5
19
December
January
February
March
April
2010-2011
2011-2012
2012-2013
2013-2014
2014-2015
2015-2016
2016-2017
2017-2018
2018-2019
2019-2020
2020-2021
Wed Mar 10 16:16:22 2021

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





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

USGS

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 Feb.: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	36	39	-10	58
(*)Deep Creek above Adel	Lake County	21	18	-13	25
(*)Chewaucan River near Paisley	Lake County	38	30	-12	46
Williamson River near Chiloquin	Klamath	551	43	1	59
Owyhee River near Rome	Owyhee	231	20	20	36
(*)NF Malheur River near Beulah	Malheur	49	42	-11	66
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	1,740	54	-11	81
Umatilla River nr Gibbon	Umatilla Lower John Day	177	50	-49	95
John Day River at Service Crk	Upper John Day	967	37	12	46
(*)Little Deschutes River nr LaPine	Upper Deschutes	70	39	-20	58
Hood River nr Hood River	Lower Deschutes Mt.Hood	1,130	78	-41	99
Willamette River at Salem	Willamette	37,200	110	-27	97
Wilson River near Tillamook	North Coast	2,940	142	-20	124
Umpqua River near Elkton	Rogue/Umpqua	15,700	118	35	77
Rogue River near Agness	Rogue/Umpqua	9,770	104	51	65
SF Coquille River at Powers	South Coast	2,380	153	10	94
Chetco River near Brookings	South Coast	5,910	129	-5	90

All data should be considered provisional and subject to revision.
Percent of average computed using 30-year base period, water years 1981-2010.
(*) provided by Oregon Water Resources Department

3/1/2021

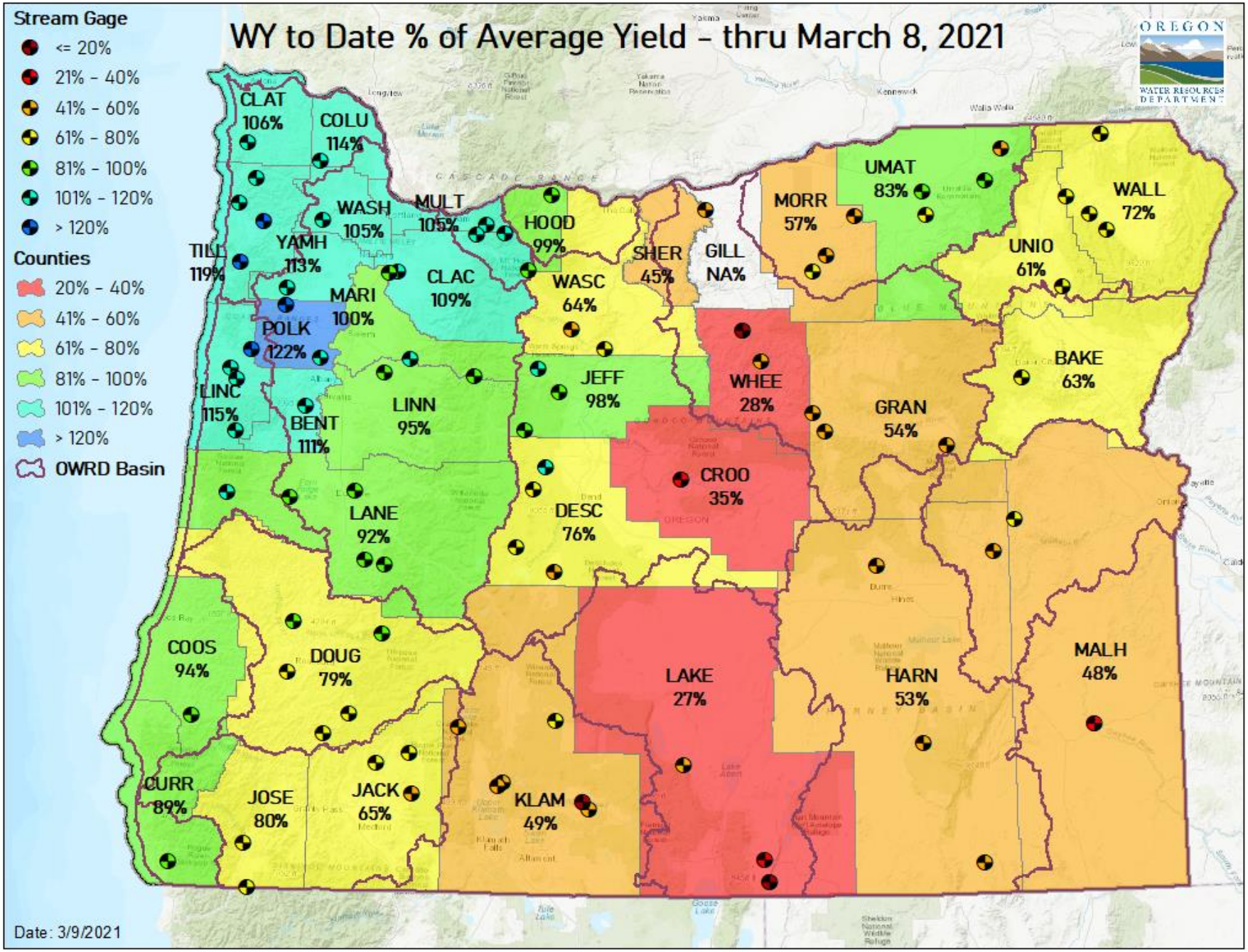
USGS

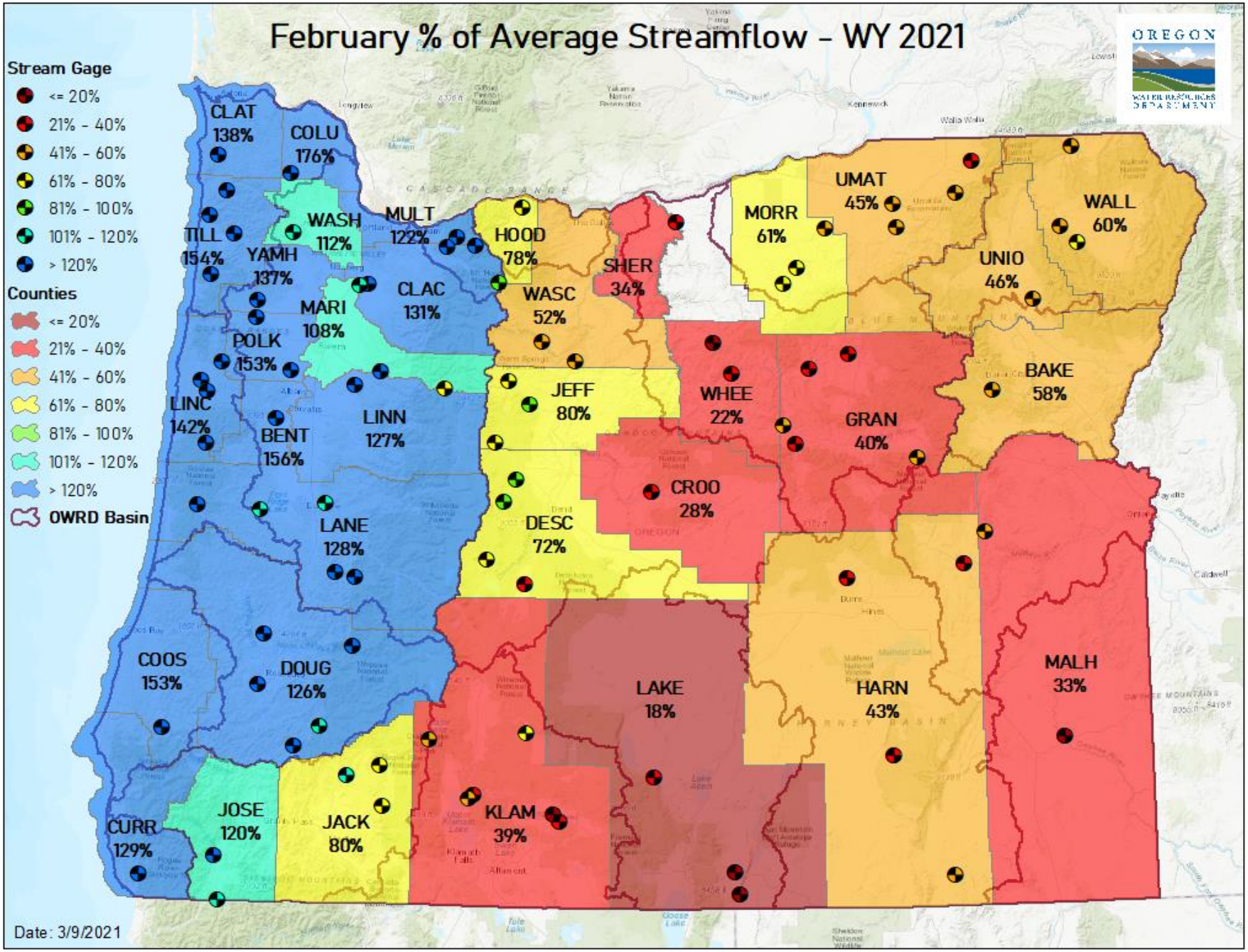
Water Supply Availability Committee

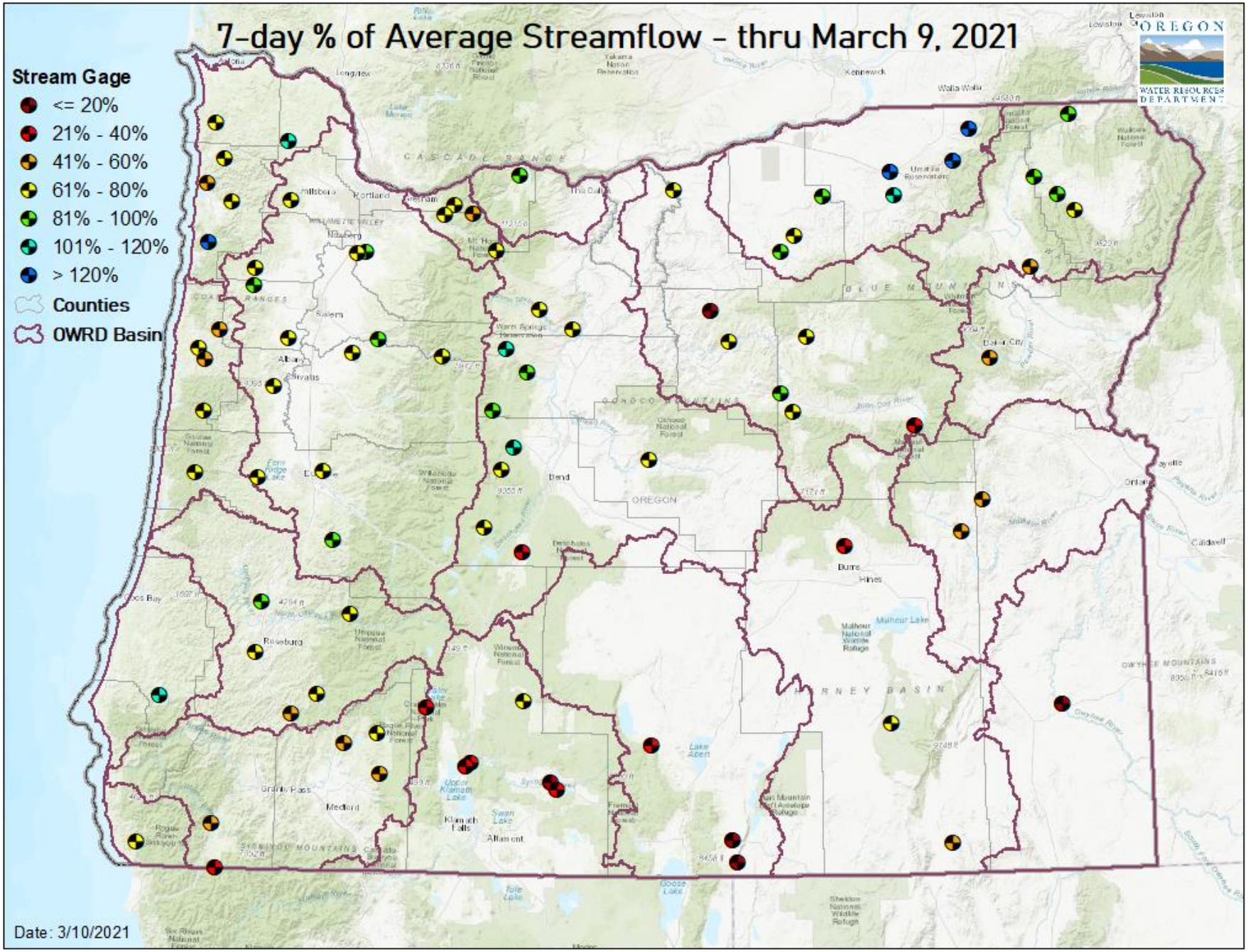
OREGON
WATER RESOURCES DEPARTMENT

Ryan Andrews
Oregon Water Resources Department
March 8th, 2021

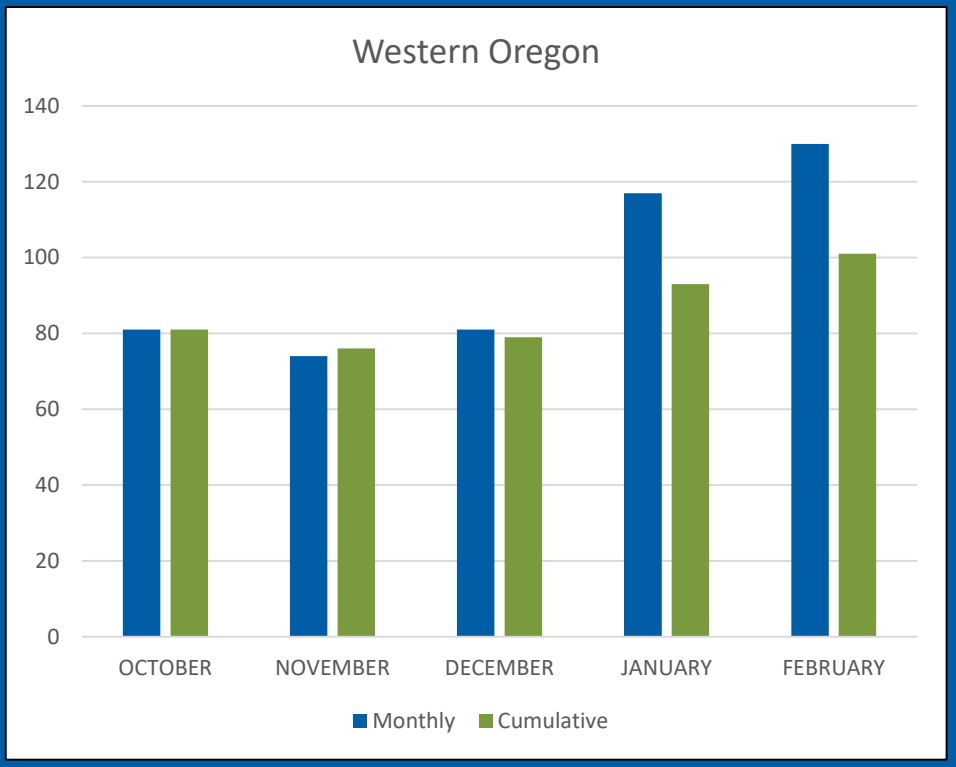
Stream: Umatilla @ Pendleton

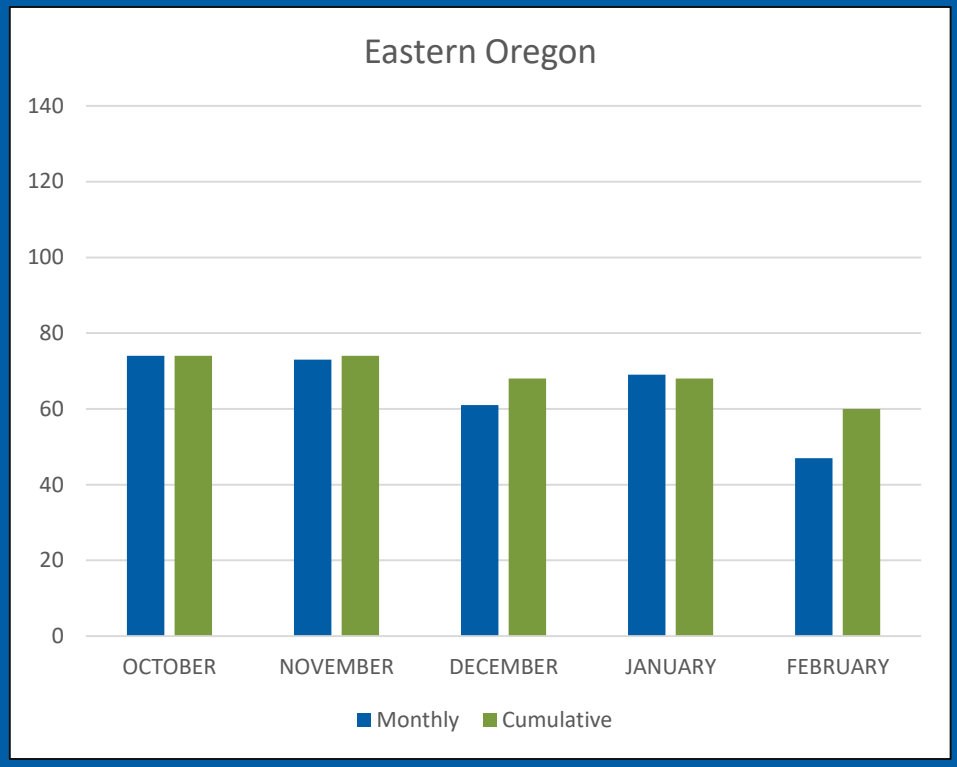

WY to Date % of Average Yield - thru March 8, 2021
Stream Gage
<= 20%
21% - 40%
41% - 60%
61% - 80%
81% - 100%
101% - 120%
> 120%
Counties
20% - 40%
41% - 60%
61% - 80%
81% - 100%
101% - 120%
> 120%
OWRD Basin
OREGON
WATER RESOURCES DEPARTMENT
CLAT 106%
COLU 114%
WASH 105%
MULT 105%
HOOD 99%
MORR 57%
UMAT 83%
WALL 72%
TILL 119%
YAMH 113%
CLAC 109%
SHER 45%
GILL NA%
UNIO 61%
MARI 100%
WASC 64%
POLK 122%
WHEE 28%
BAKE 63%
JEFF 98%
LINC 115%
LINN 95%
BENT 111%
GRAN 54%
CROO 35%
LANE 92%
DESC 76%
COOS 94%
DOUG 79%
LAKE 27%
HARN 53%
MALH 48%
CURR 89%
JOSE 80%
JACK 65%
KLAM 49%
Date: 3/9/2021

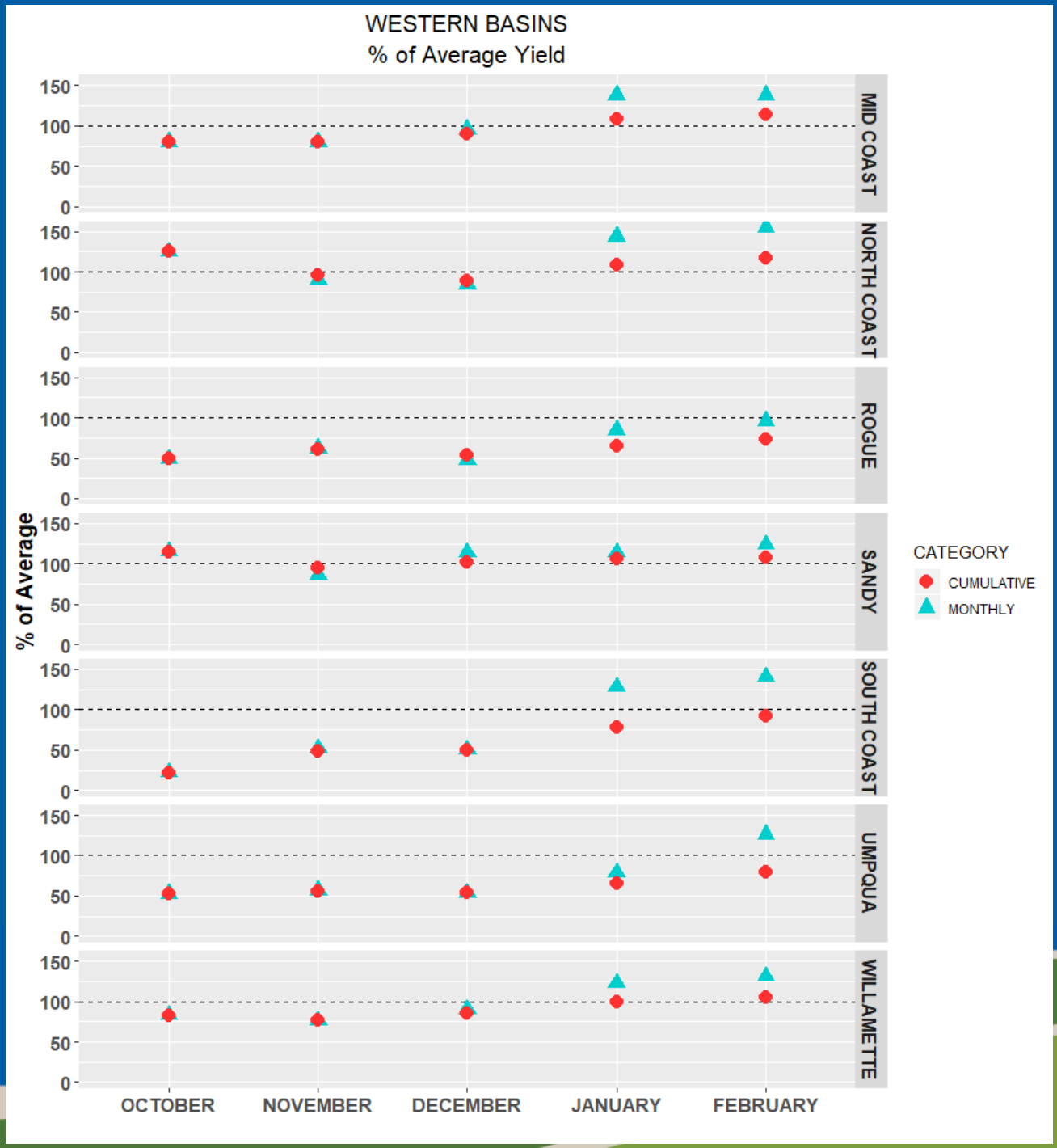

February % of Average Streamflow - WY 2021
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 20%
21% - 40%
41% - 60%
61% - 80%
81% - 100%
101% - 120%
> 120%
Counties
<= 20%
21% - 40%
41% - 60%
61% - 80%
81% - 100%
101% - 120%
> 120%
OWRD Basin
CLAT 138%
COLU 176%
WASH 112%
MULT 122%
TILL 154%
YAMH 137%
CLAC 131%
MARI 108%
POLK 153%
LINC 142%
BENT 156%
LINN 127%
LANE 128%
COOS 153%
DOUG 126%
CURR 129%
JOSE 120%
JACK 80%
KLAM 39%
LAKE 18%
HOOD 78%
WASC 52%
SHER 34%
JEFF 80%
DESC 72%
CROO 28%
MORR 61%
UMAT 45%
UNIO 46%
WALL 60%
WHEE 22%
GRAN 40%
BAKE 58%
HARN 43%
MALH 33%
Date: 3/9/2021

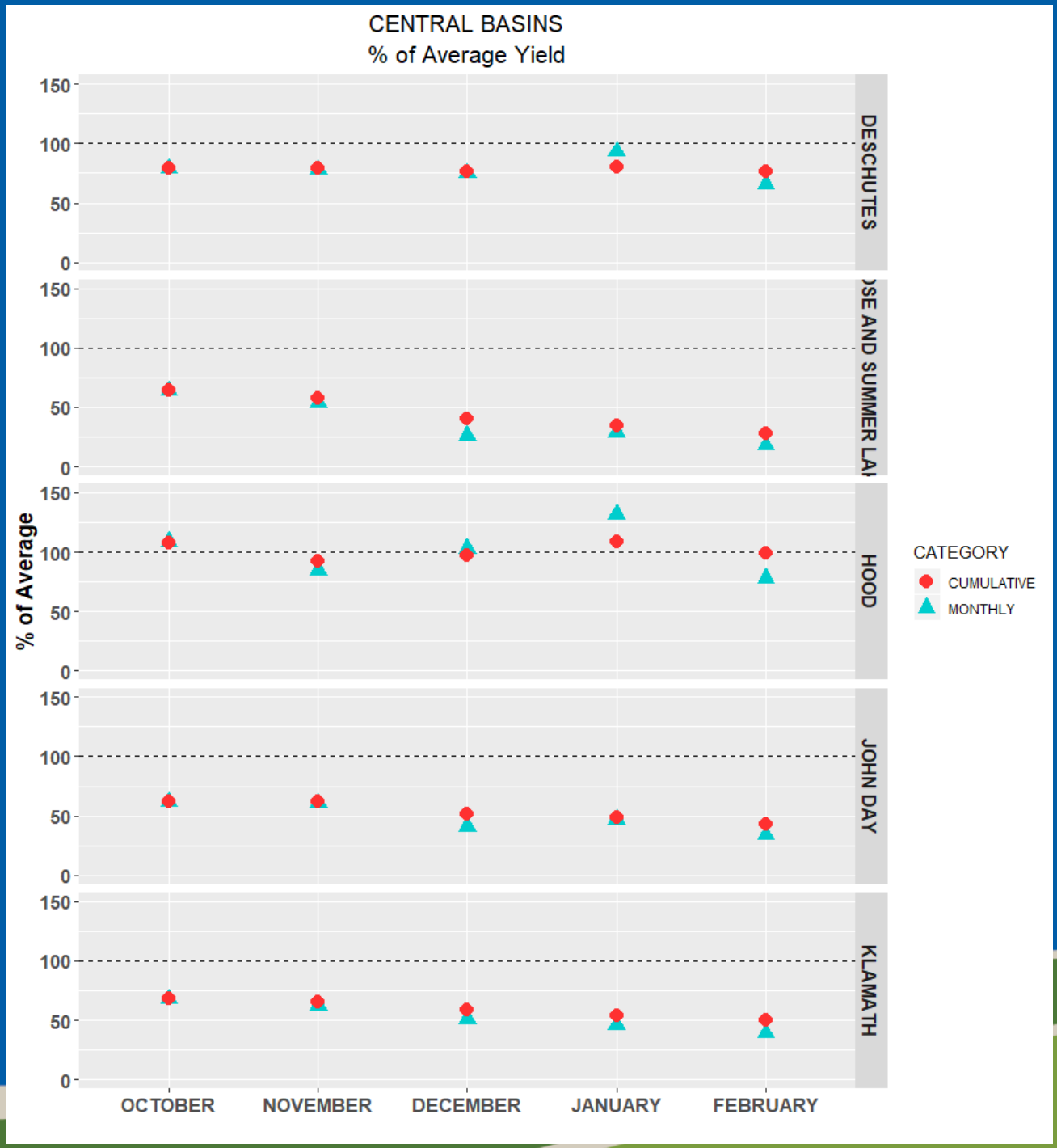

7-day % of Average Streamflow - thru March 9, 2021
OREGON
WATER RESOURCES DEPARTMENT
Stream Gage
<= 20%
21% - 40%
41% - 60%
61% - 80%
81% - 100%
101% - 120%
> 120%
Counties
OWRD Basin
Date: 3/10/2021

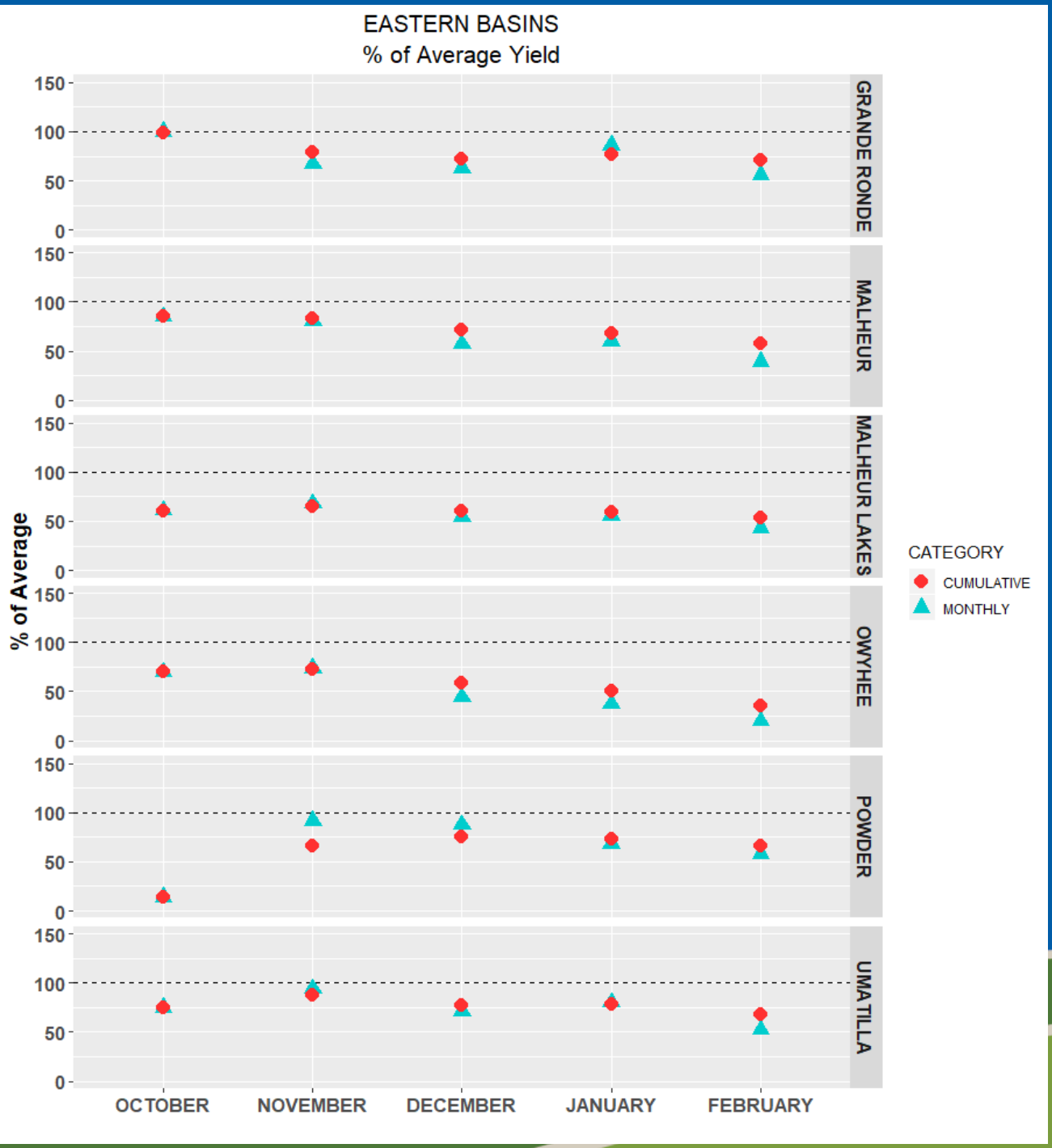
Regional Averages

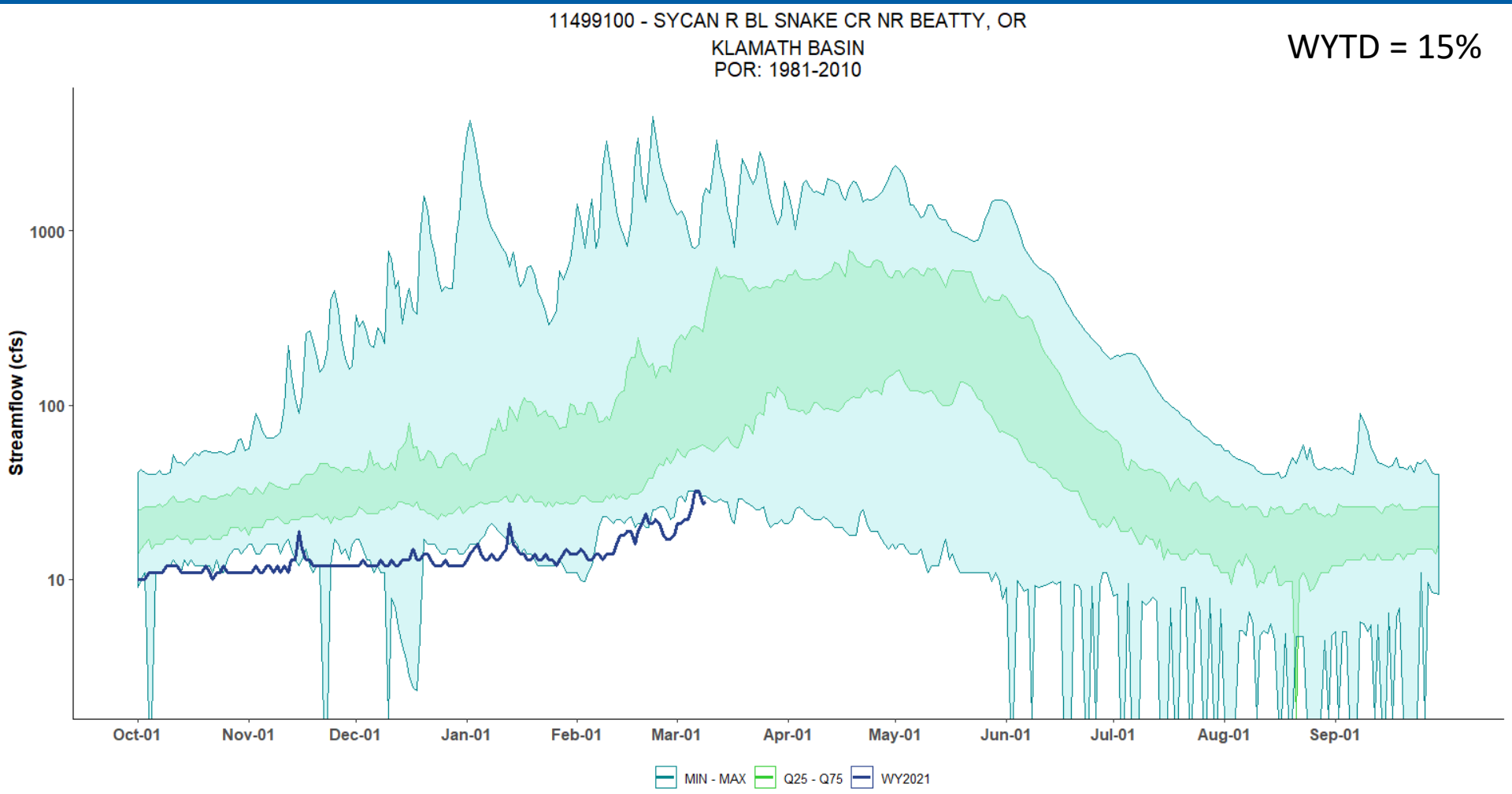


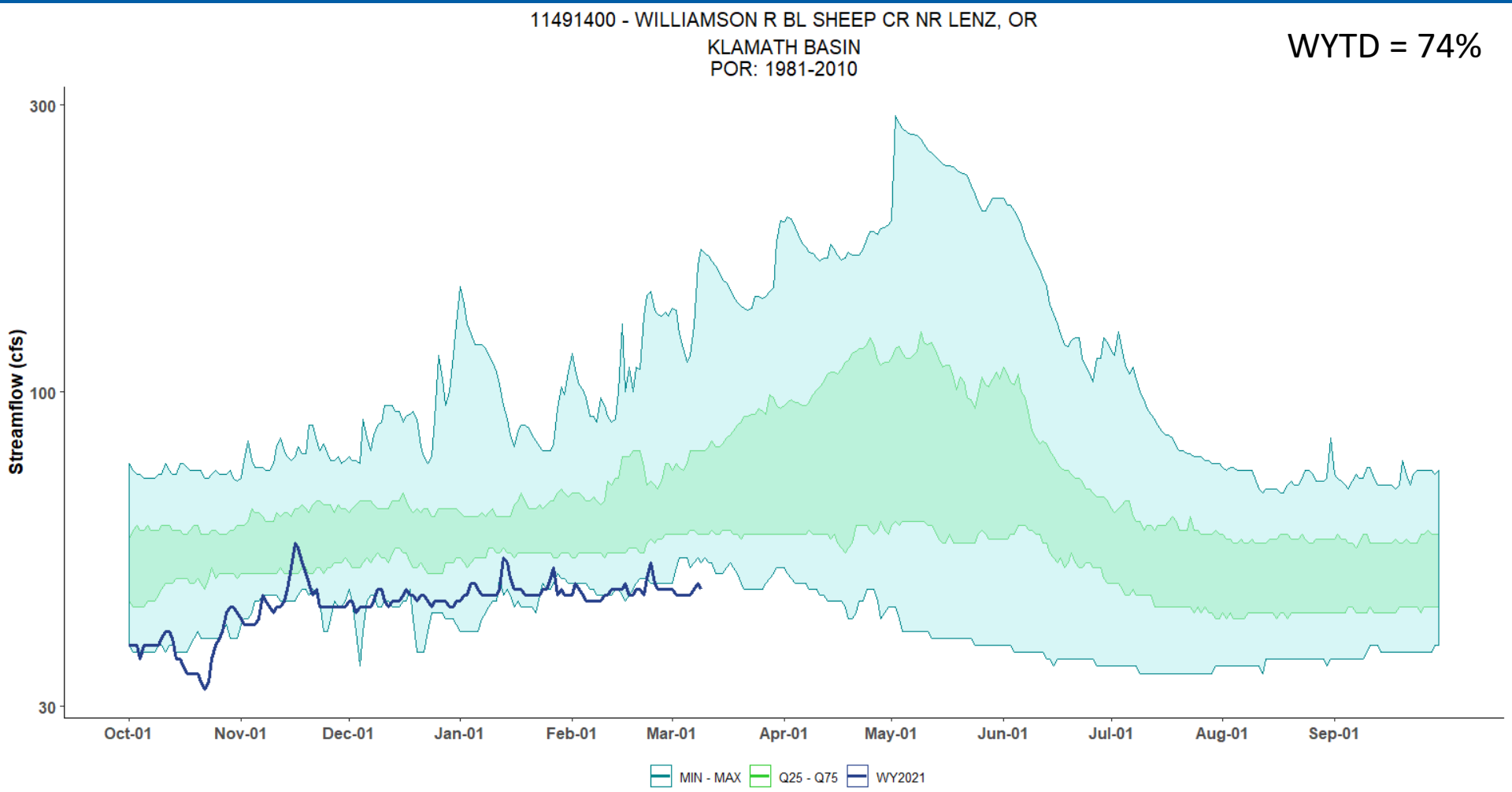


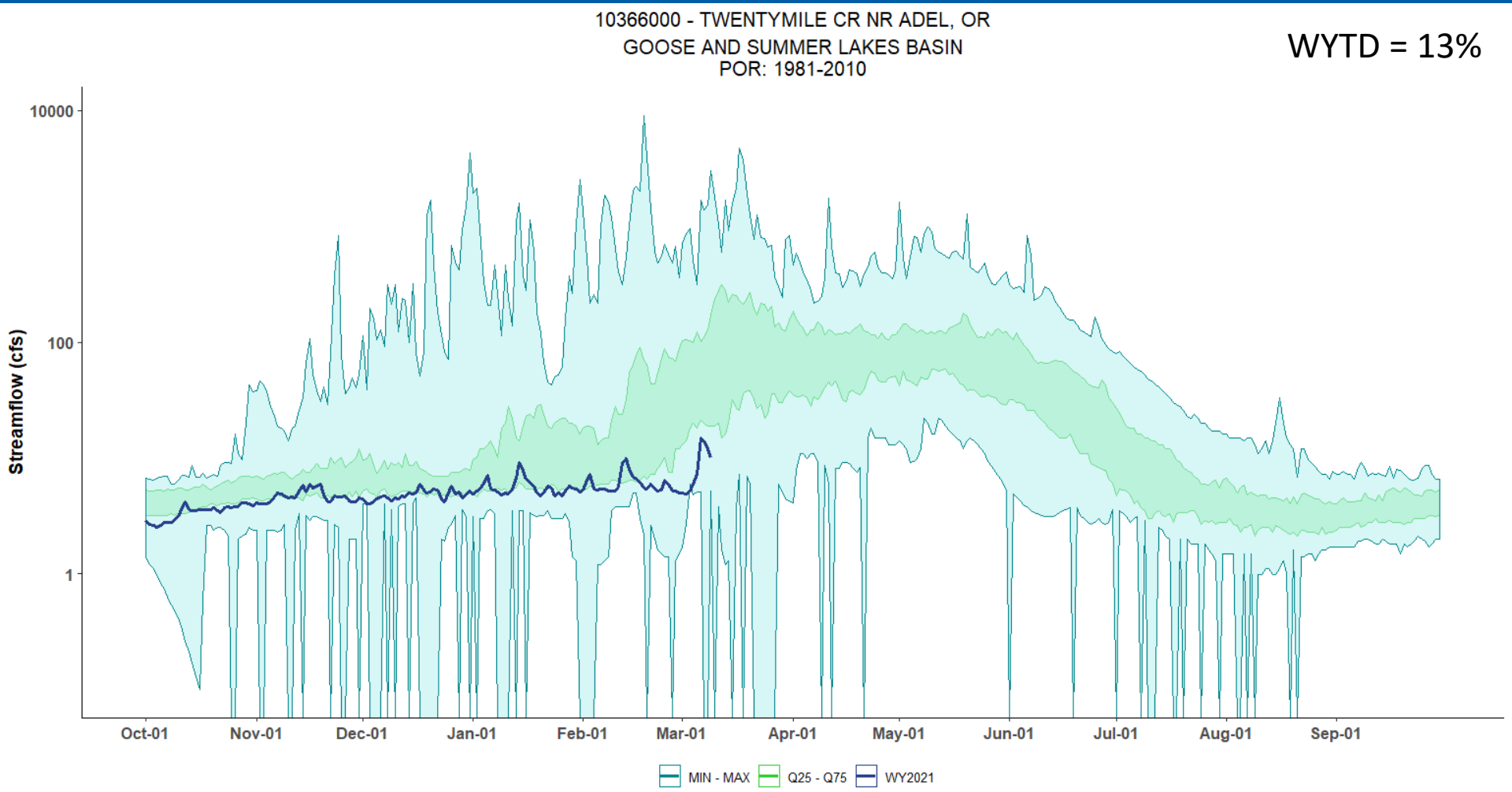

WESTERN BASINS
% of Average Yield
% of Average
150
100
50
0
MID COAST
NORTH COAST
ROGUE
SANDY
SOUTH COAST
UMPQUA
WILLAMETTE
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
CATEGORY
CUMULATIVE
MONTHLY

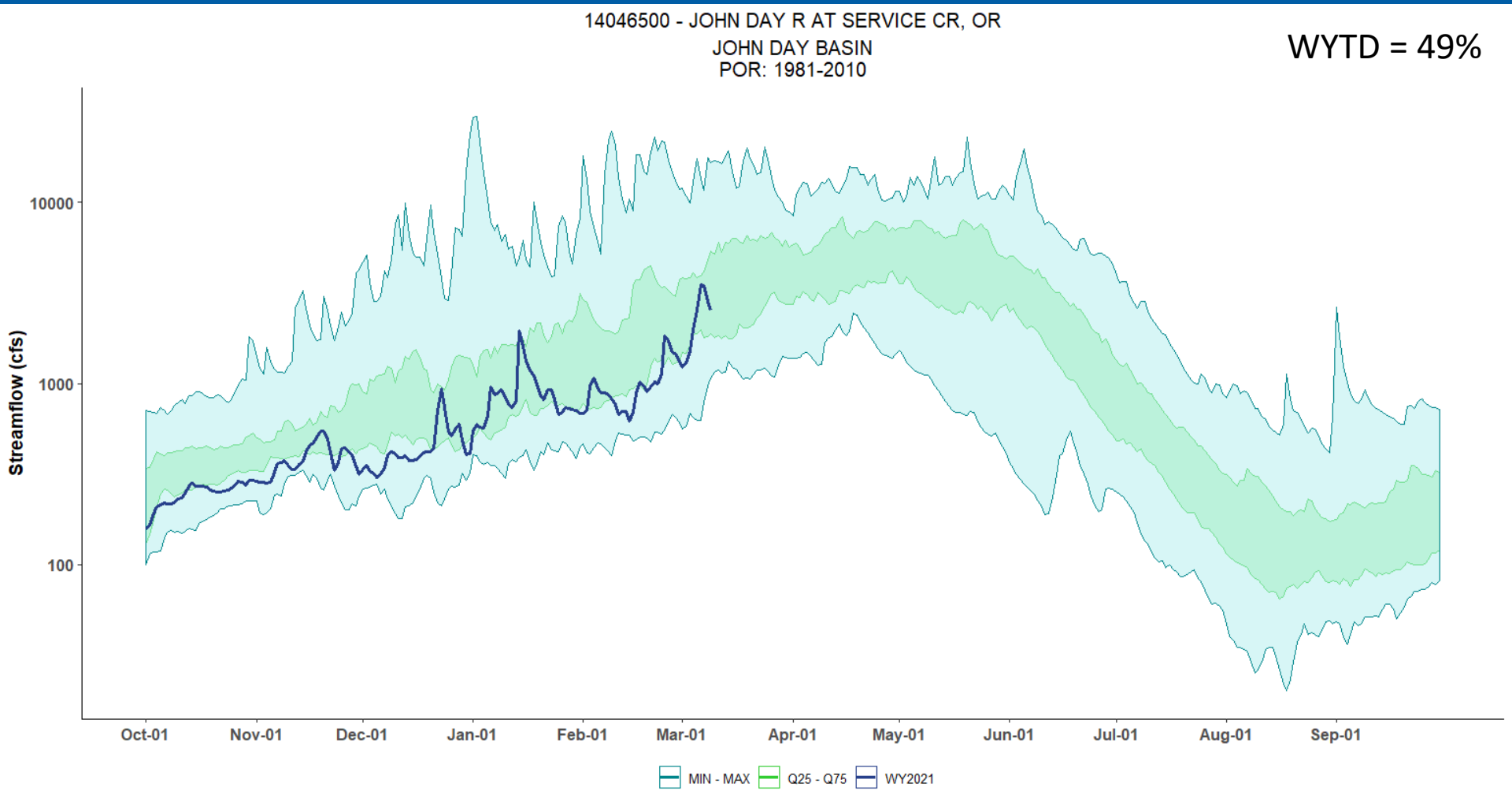

CENTRAL BASINS
% of Average Yield
% of Average
150
100
50
0
DESCHUTES
SE AND SUMMER LA
HOOD
JOHN DAY
KLAMATH
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
CATEGORY
CUMULATIVE
MONTHLY

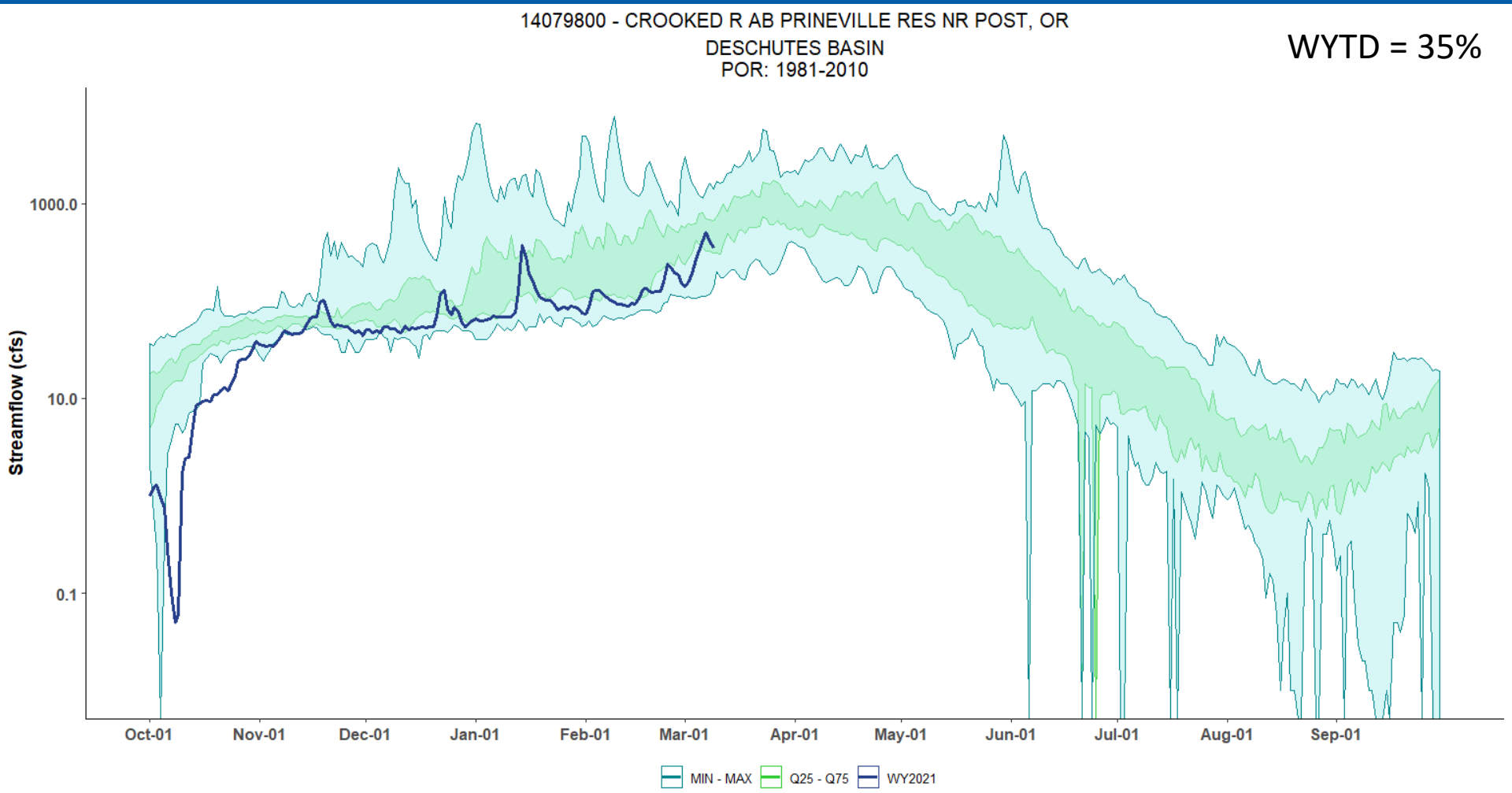

EASTERN BASINS
% of Average Yield
% of Average
150
100
50
0
GRANDE RONDE
MALHEUR
MALHEUR LAKES
OWYHEE
POWDER
UMATILLA
OCTOBER
NOVEMBER
DECEMBER
JANUARY
FEBRUARY
CATEGORY
CUMULATIVE
MONTHLY

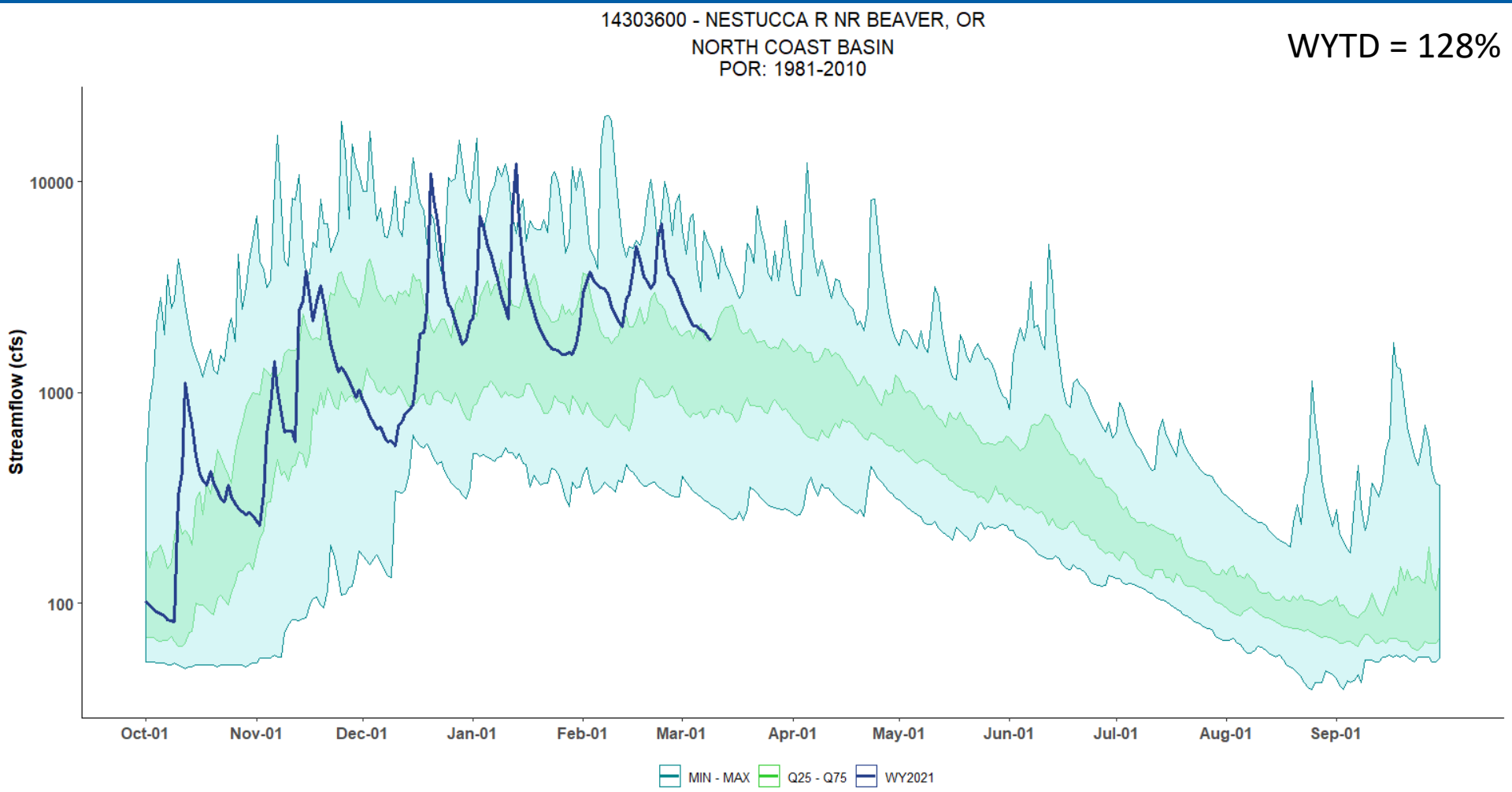

11499100 - SYCAN R BL SNAKE CR NR BEATTY, OR
KLAMATH BASIN
POR: 1981-2010
WYTD = 15%
Streamflow (cfs)
1000
100
10
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021

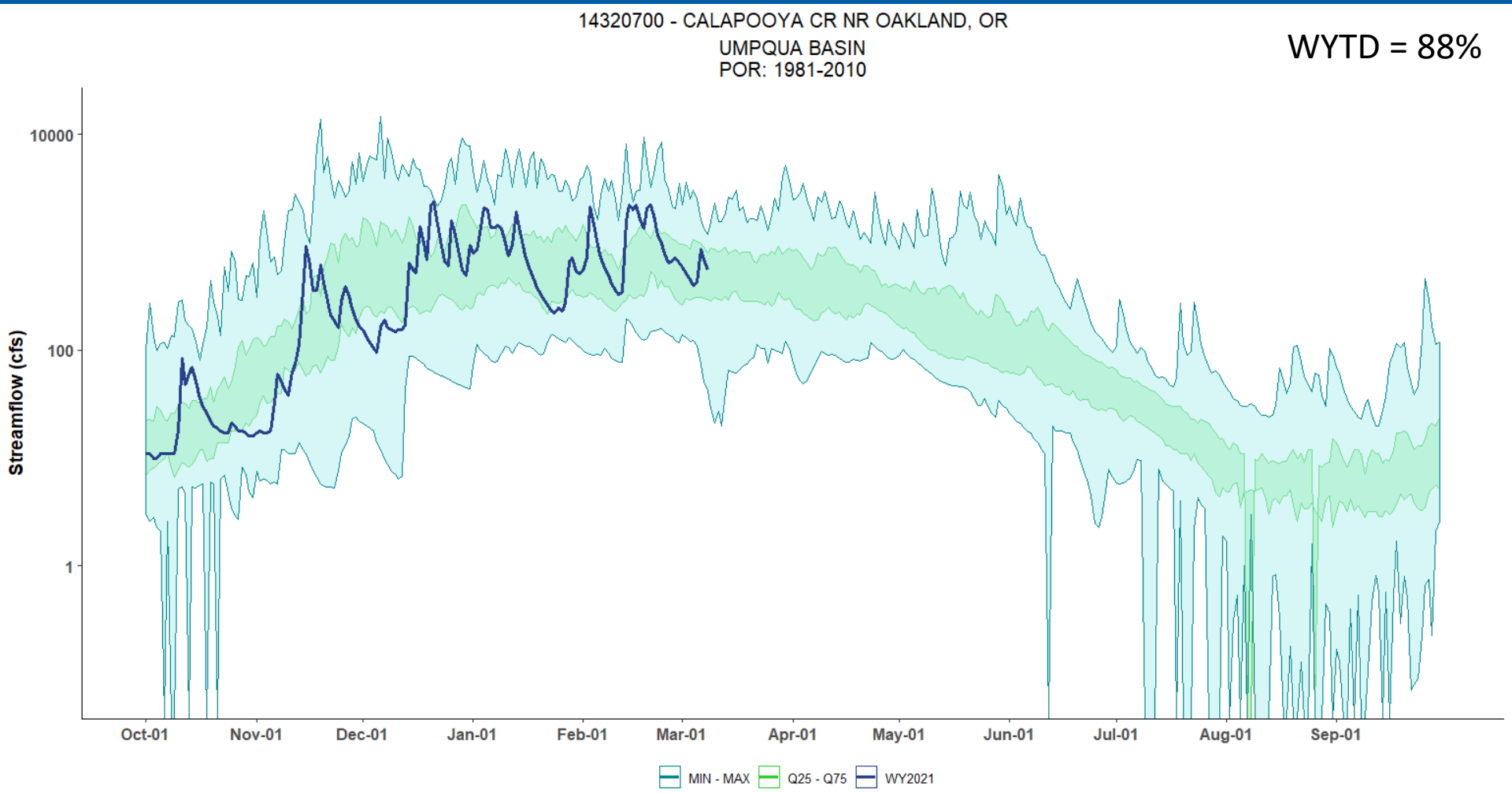

11491400 - WILLIAMSON R BL SHEEP CR NR LENZ, OR
KLAMATH BASIN
POR: 1981-2010
WYTD = 74%
Streamflow (cfs)
300
100
30
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021


10366000 - TWENTYMILE CR NR ADEL, OR
GOOSE AND SUMMER LAKES BASIN
POR: 1981-2010
WYTD = 13%
Streamflow (cfs)
10000
100
1
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021


14046500 - JOHN DAY R AT SERVICE CR, OR
JOHN DAY BASIN
POR: 1981-2010
WYTD = 49%
Streamflow (cfs)
10000
1000
100
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021


14079800 - CROOKED R AB PRINEVILLE RES NR POST, OR
DESCHUTES BASIN
POR: 1981-2010
WYTD = 35%
Streamflow (cfs)
1000.0
10.0
0.1
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021


14303600 - NESTUCCA R NR BEAVER, OR
NORTH COAST BASIN
POR: 1981-2010
WYTD = 128%
Streamflow (cfs)
10000
1000
100
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021


14320700 - CALAPOOYA CR NR OAKLAND, OR
UMPQUA BASIN
POR: 1981-2010
WYTD = 88%
Streamflow (cfs)
10000
100
1
Oct-01
Nov-01
Dec-01
Jan-01
Feb-01
Mar-01
Apr-01
May-01
Jun-01
Jul-01
Aug-01
Sep-01
MIN - MAX
Q25 - Q75
WY2021

QUESTIONS?

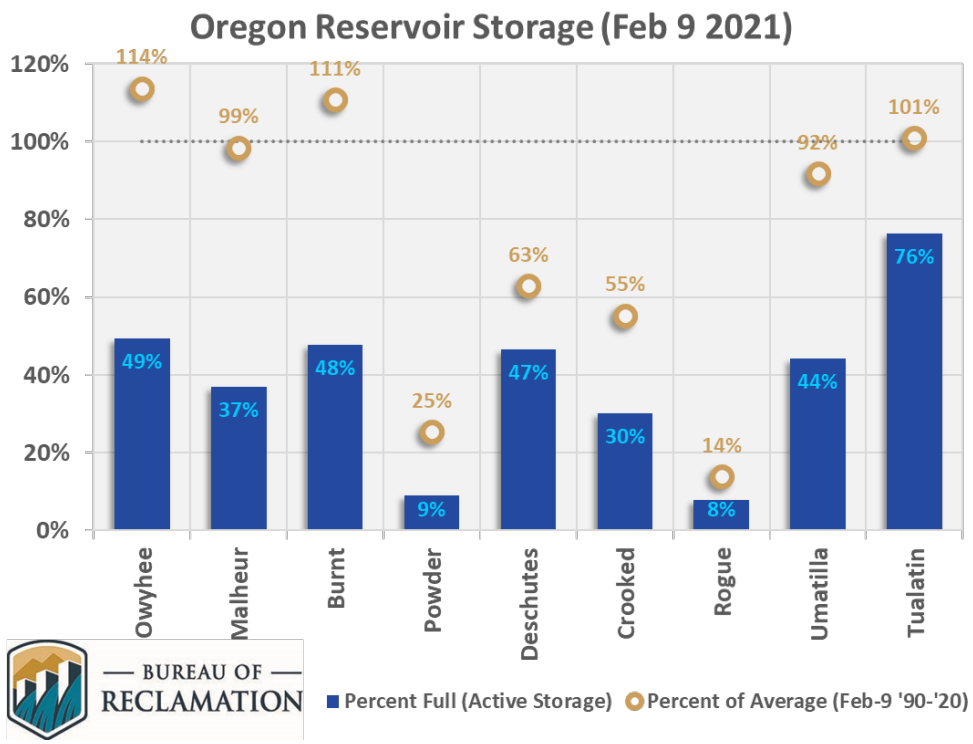
BUREAU OF RECLAMATION

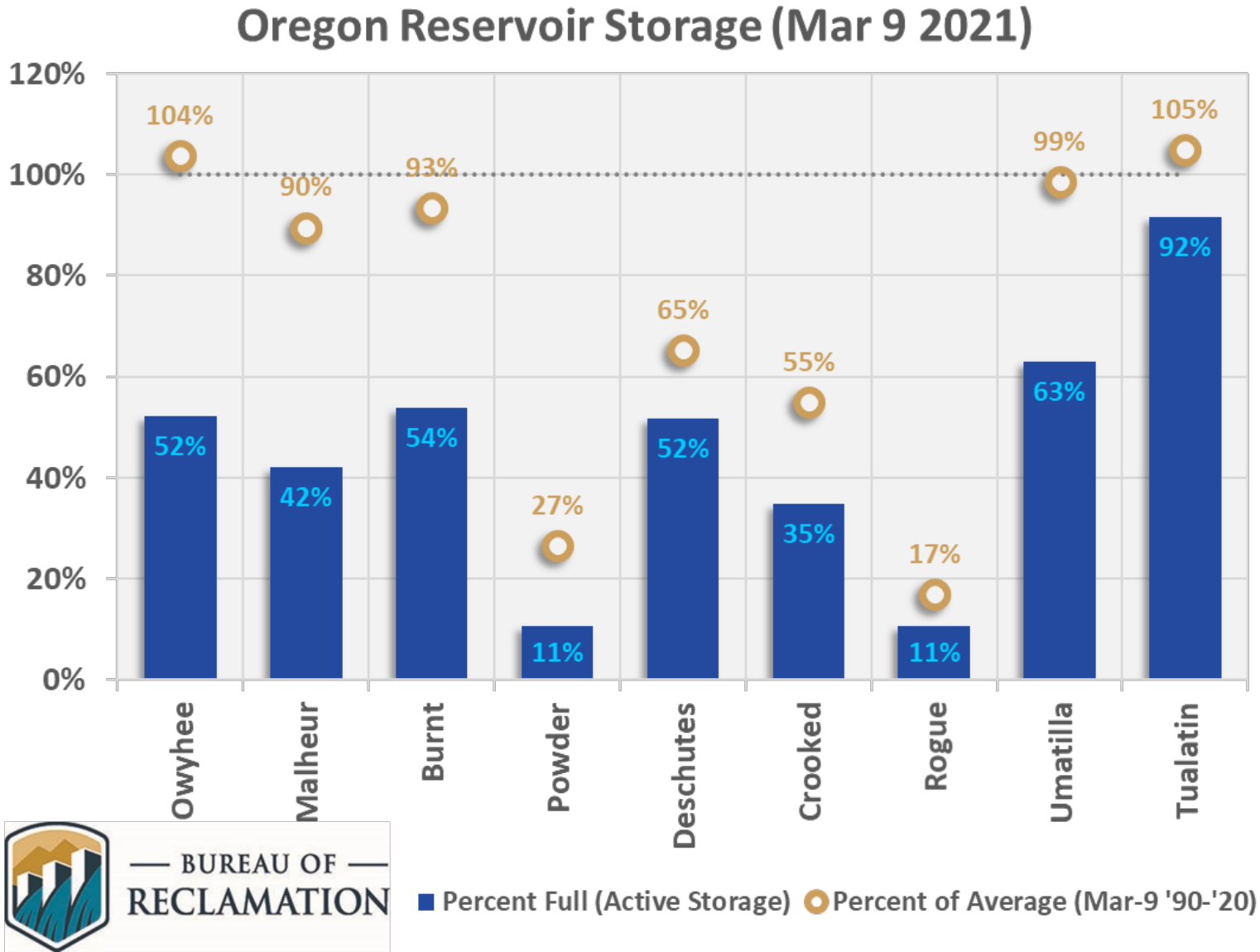
Reclamation Storage Update

Oregon Water Supply Availability Committee Meeting

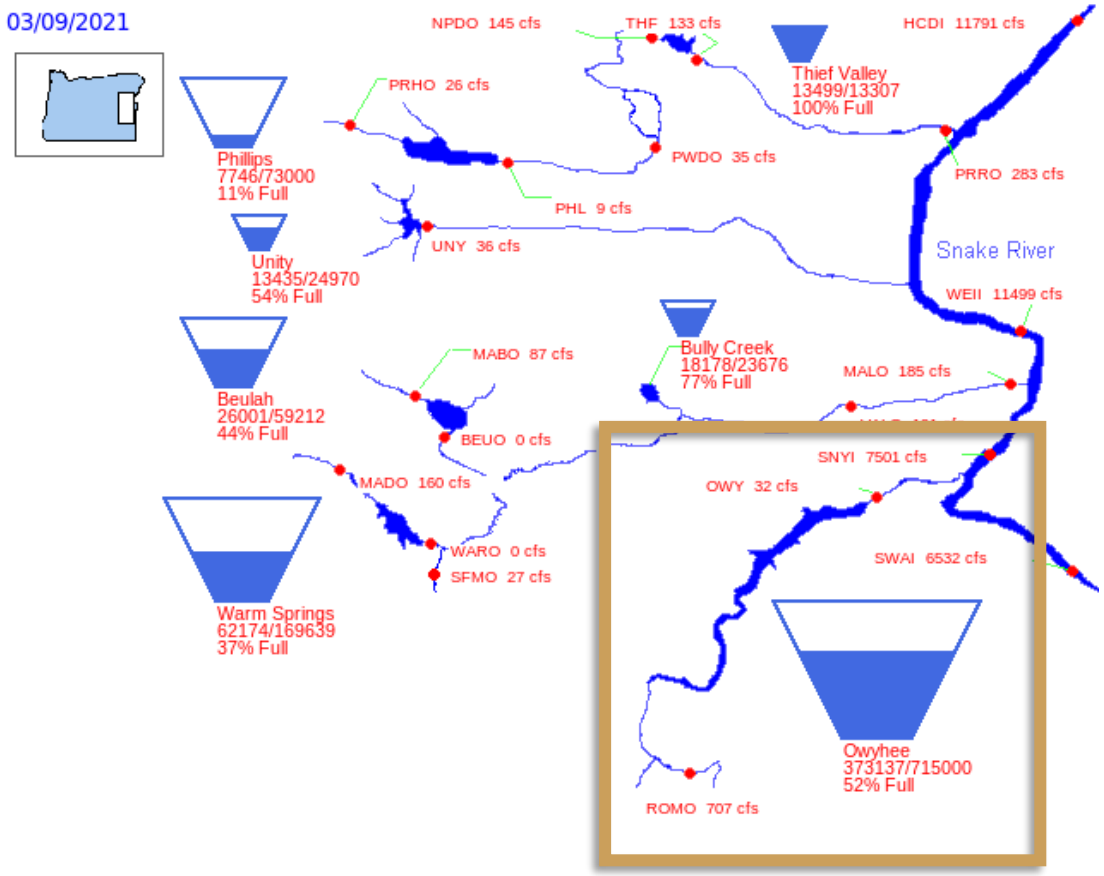
March 11, 2021

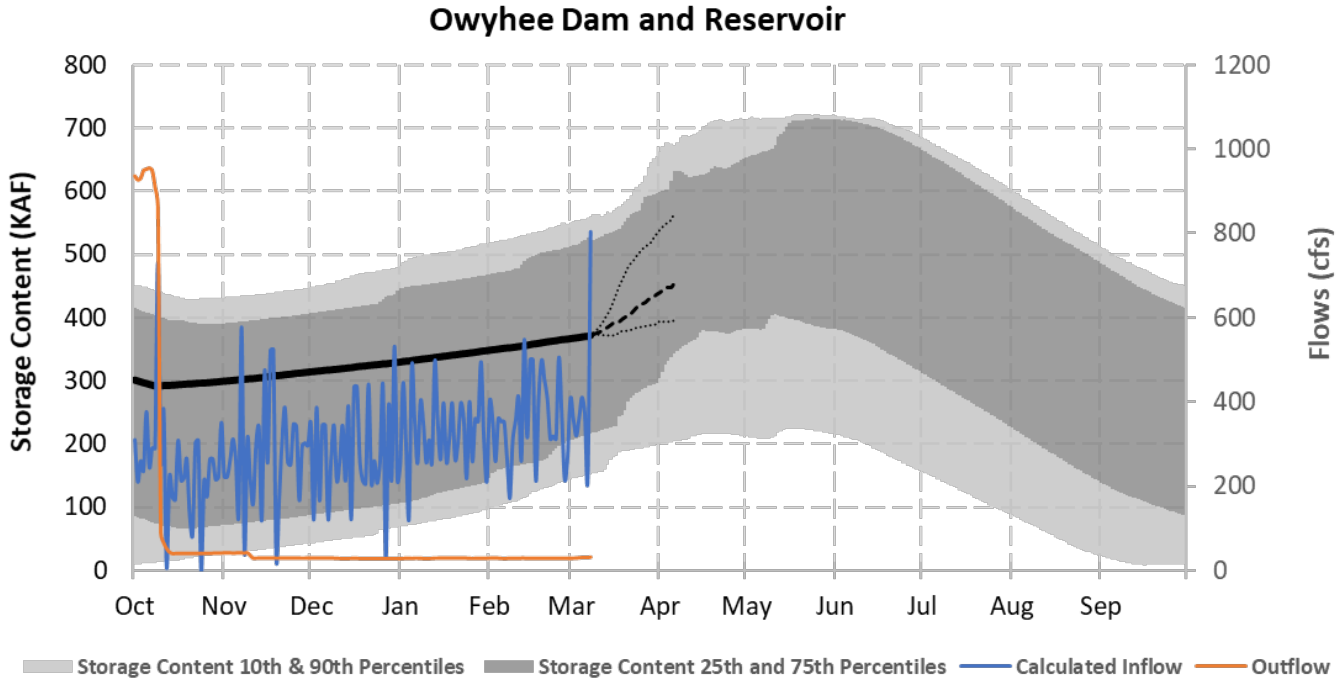
Reservoir Storage Conditions





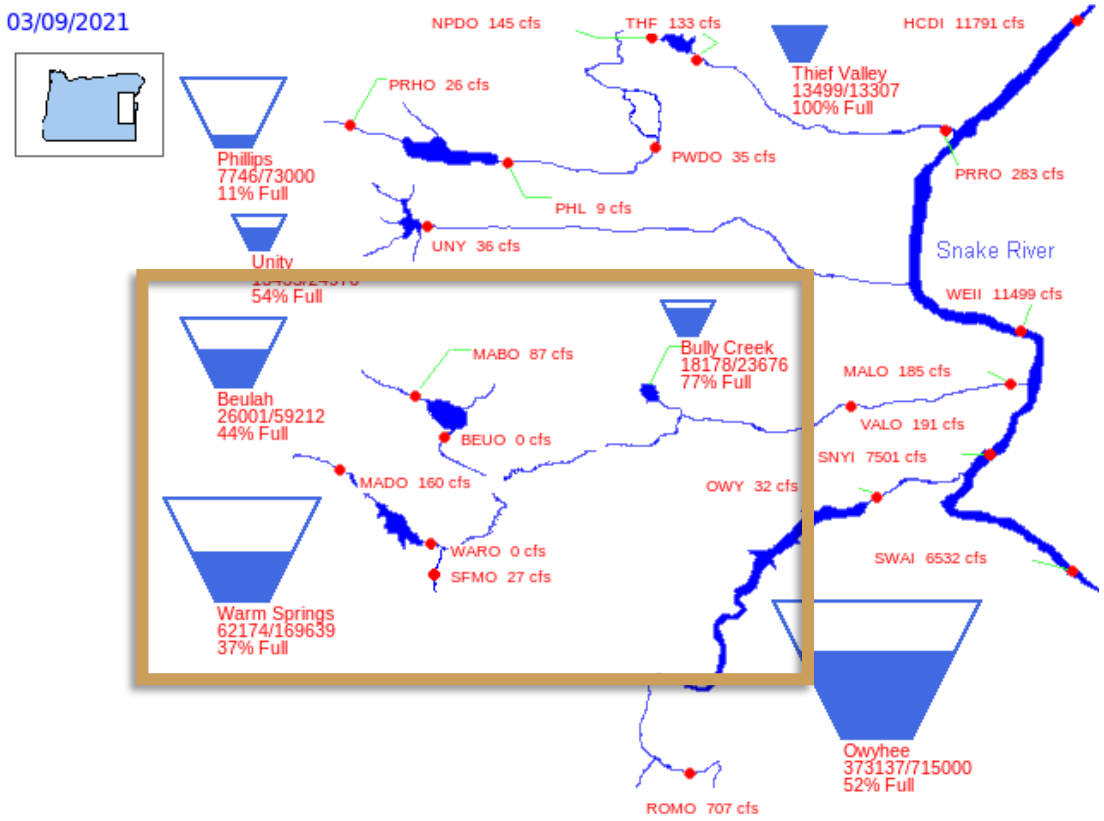
Owyhee River Basin

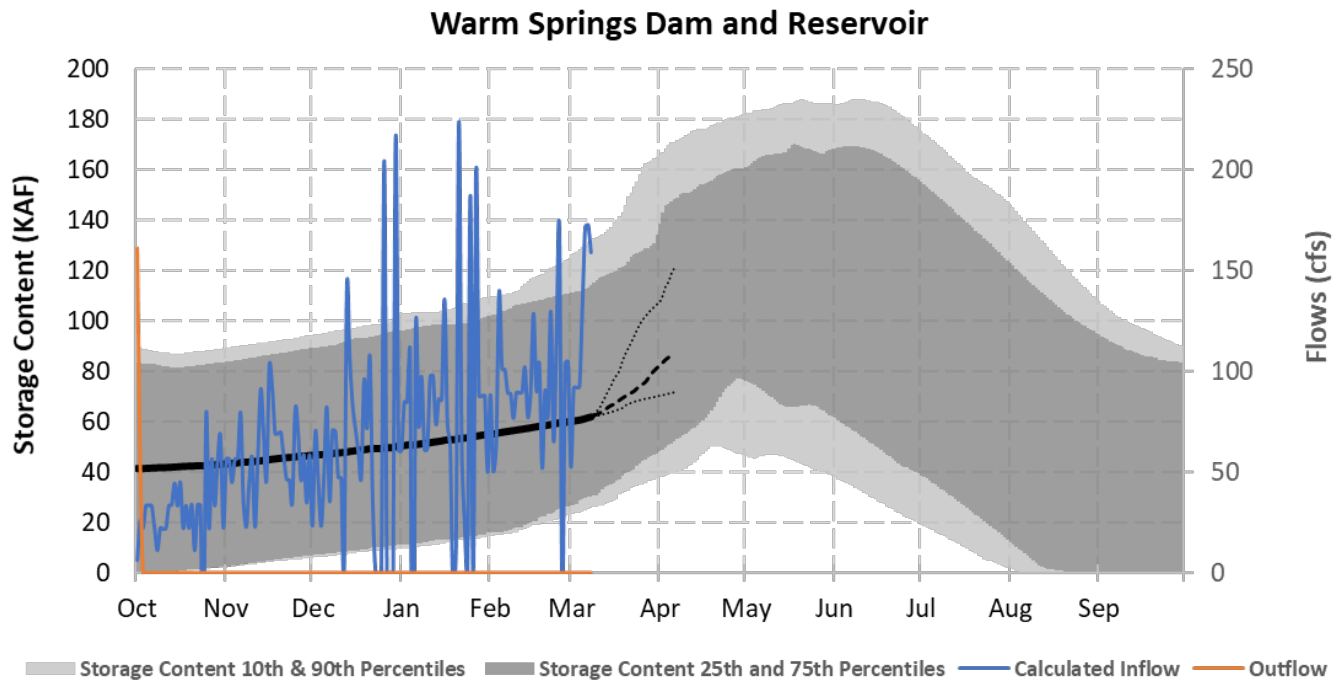


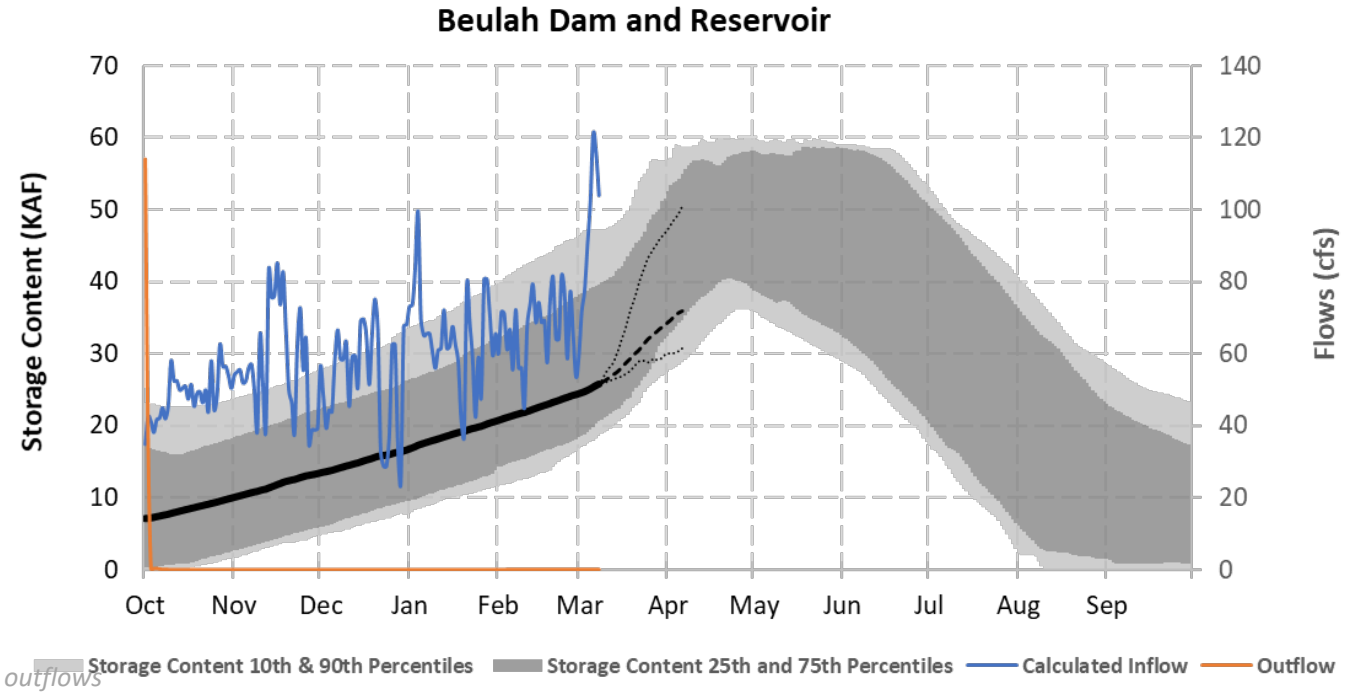


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Malheur River Basin

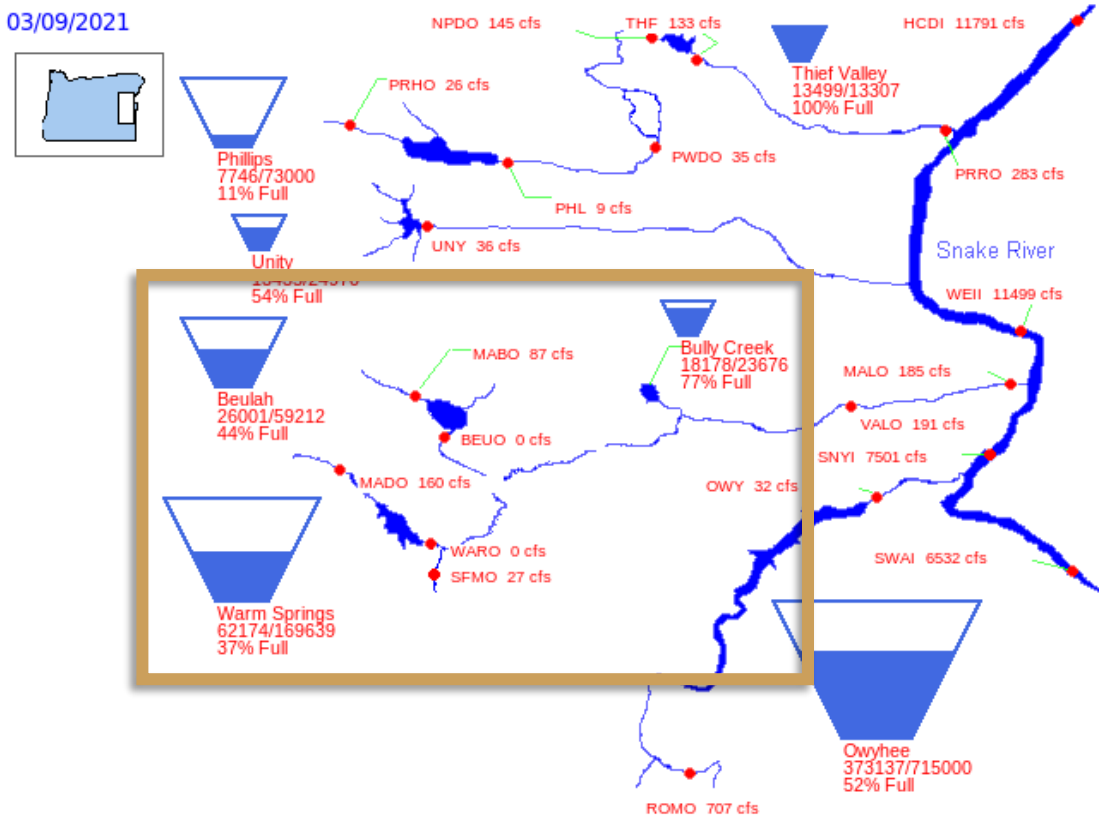


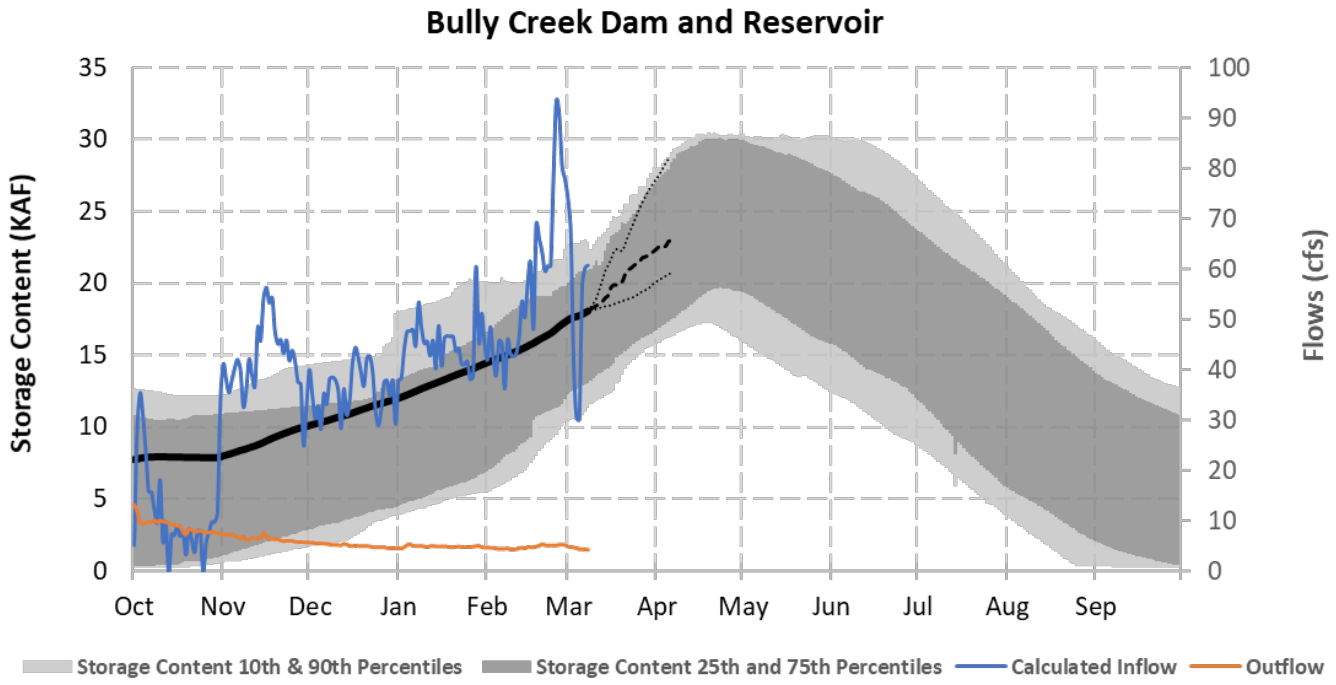




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

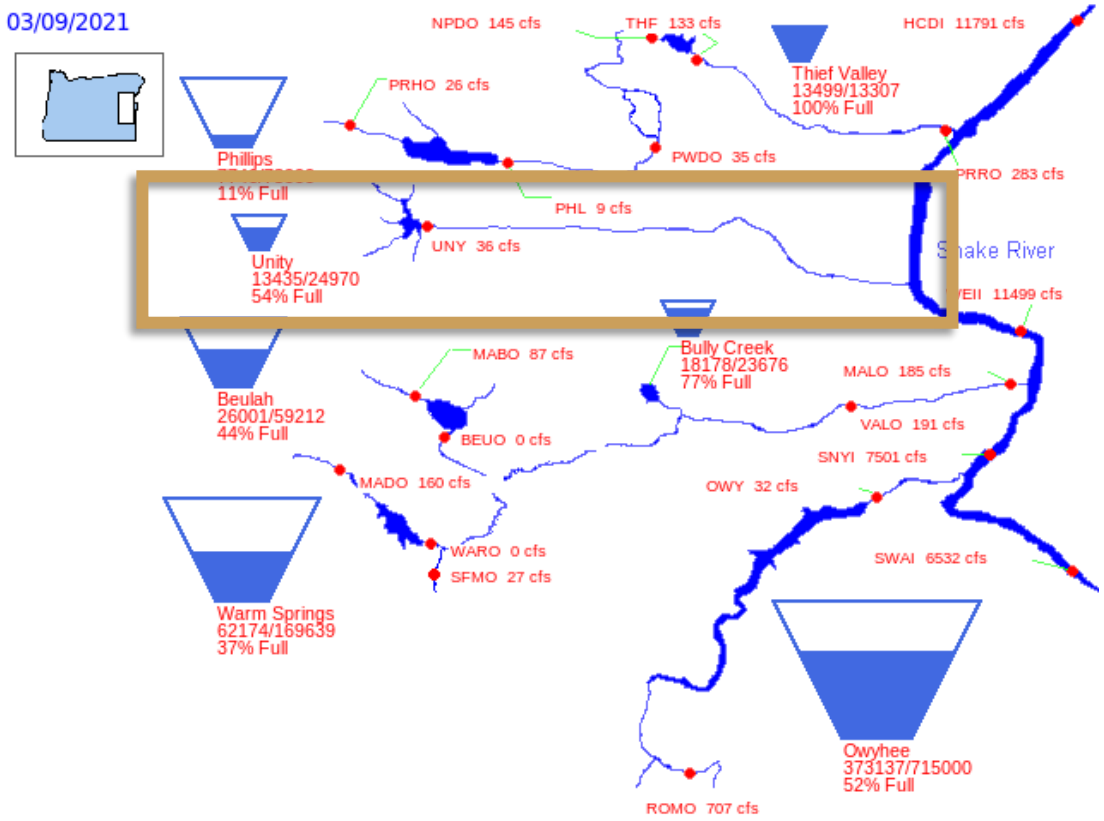
Malheur River Basin

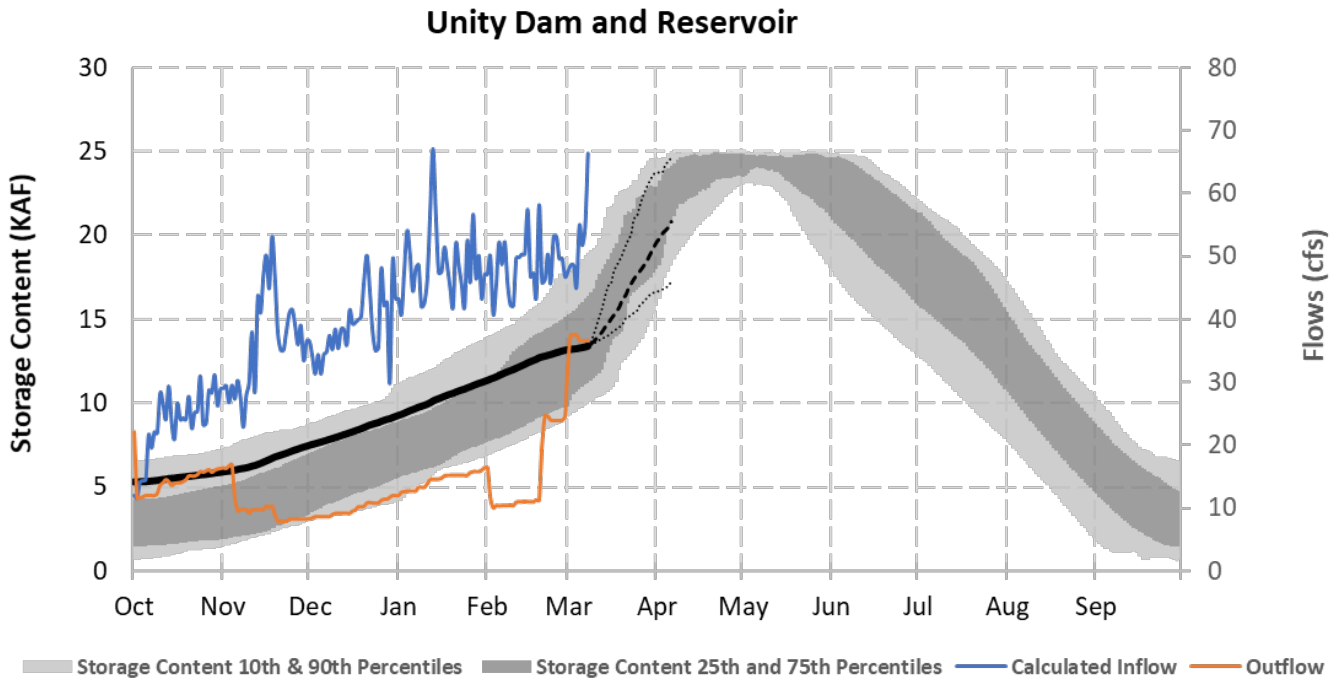




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

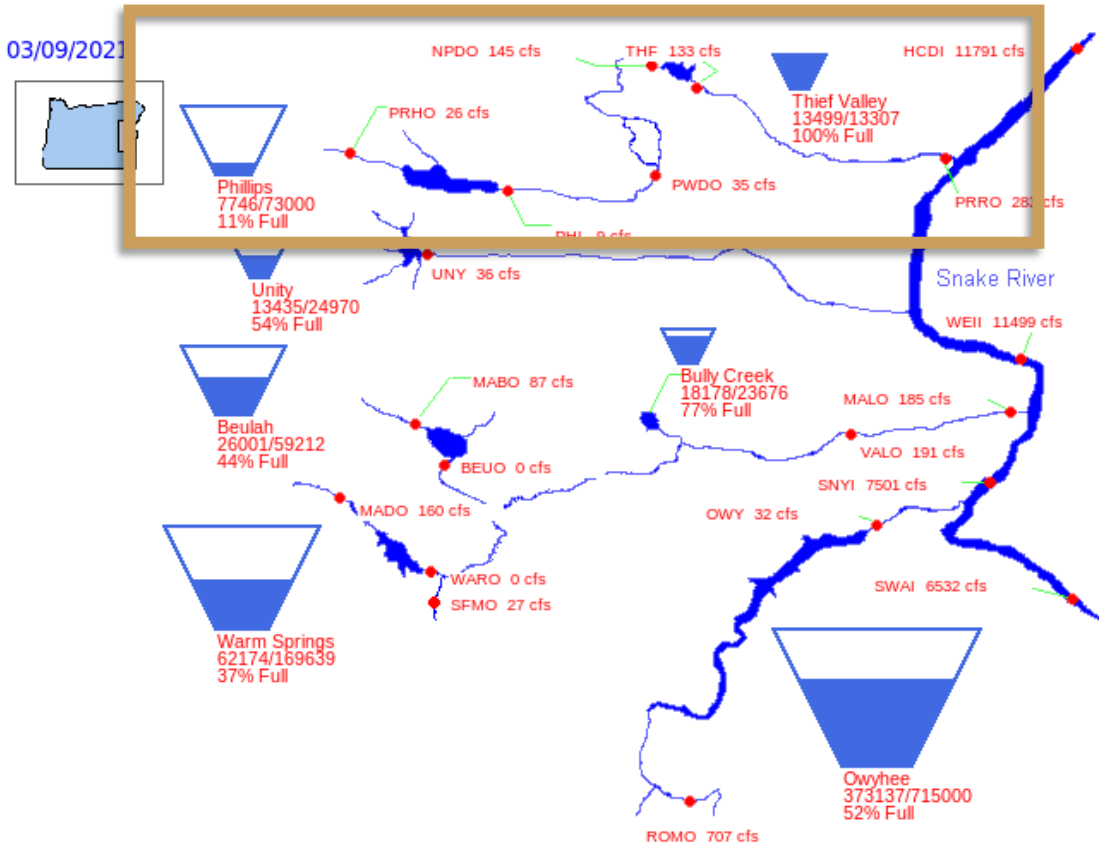
Burnt River Basin

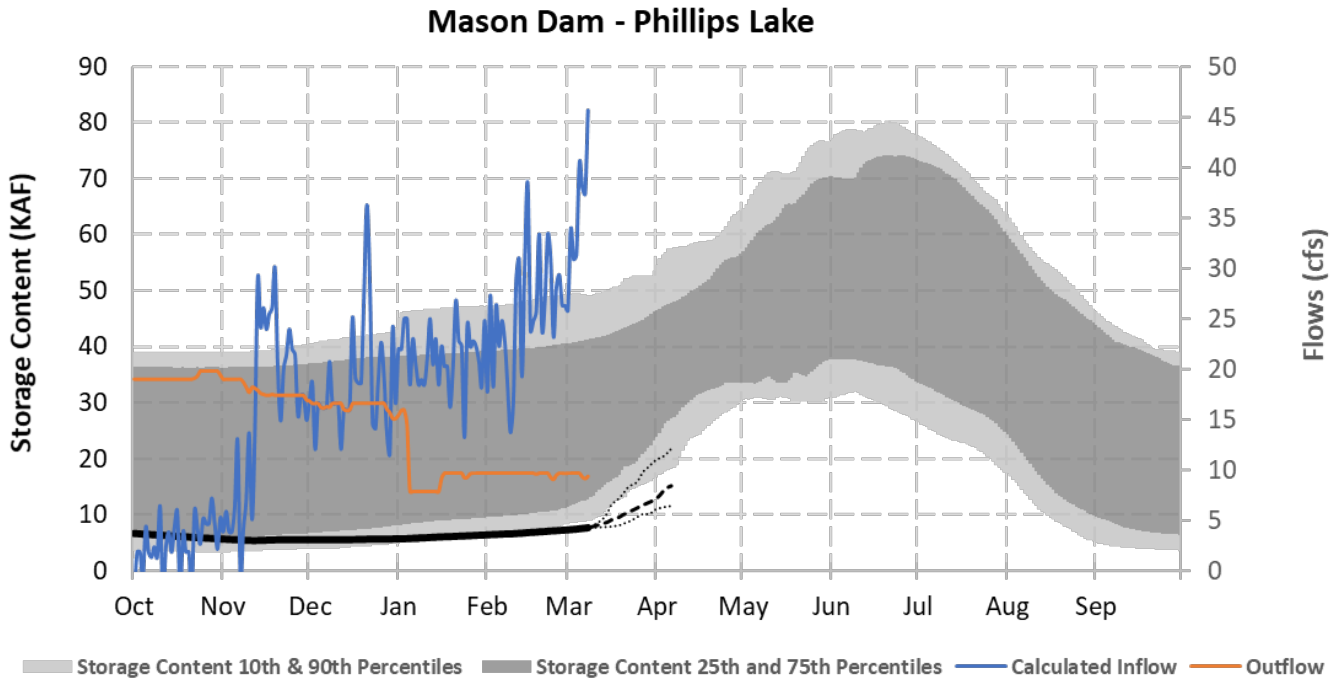




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

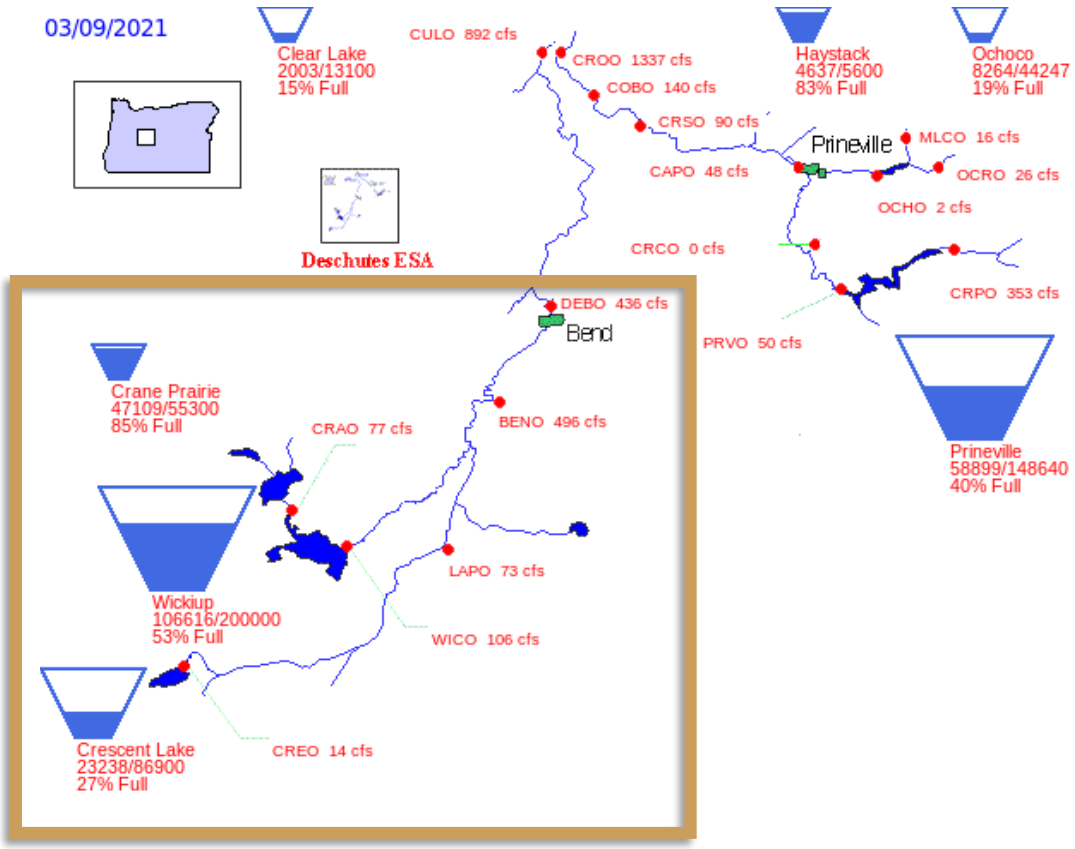
Powder River Basin

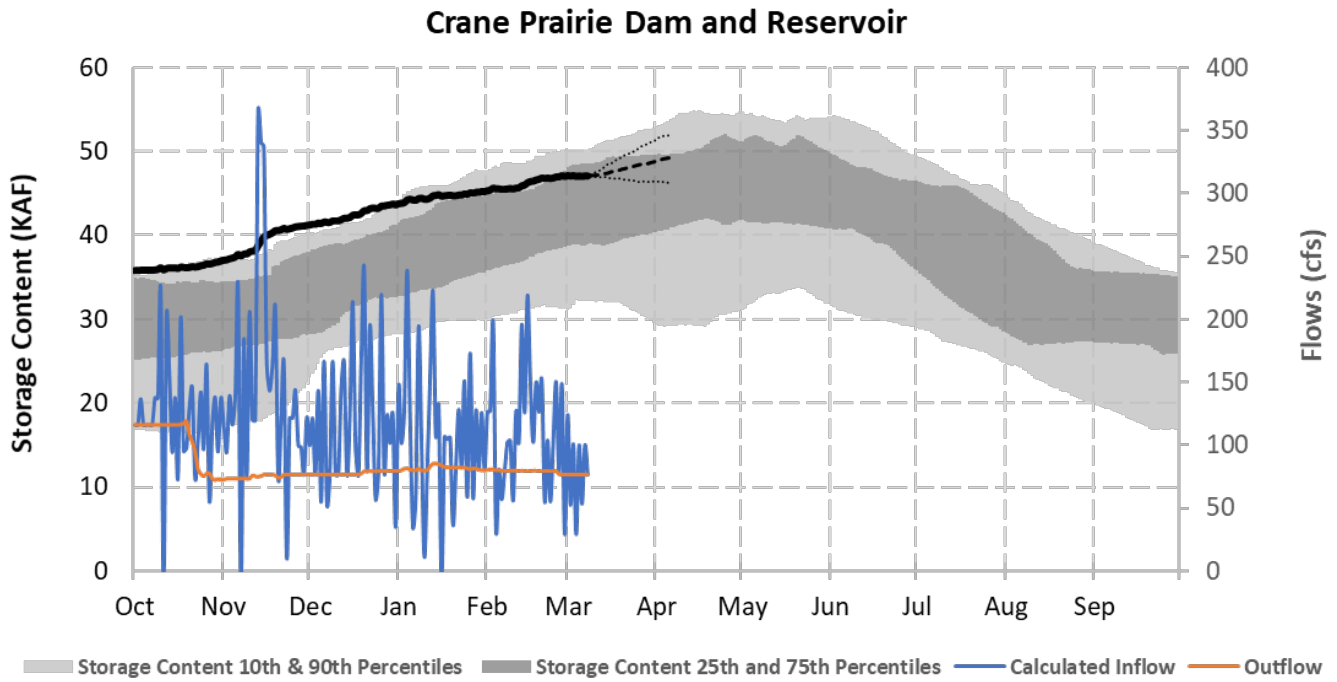


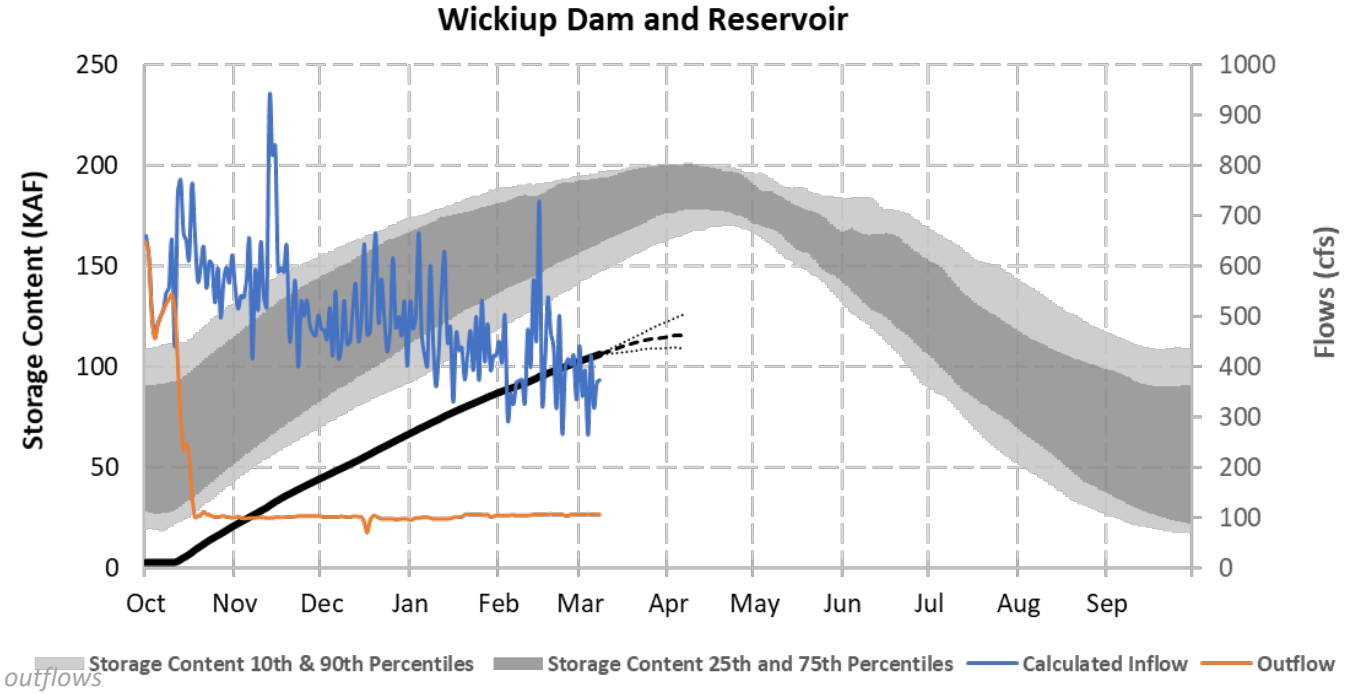


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Deschutes River Basin

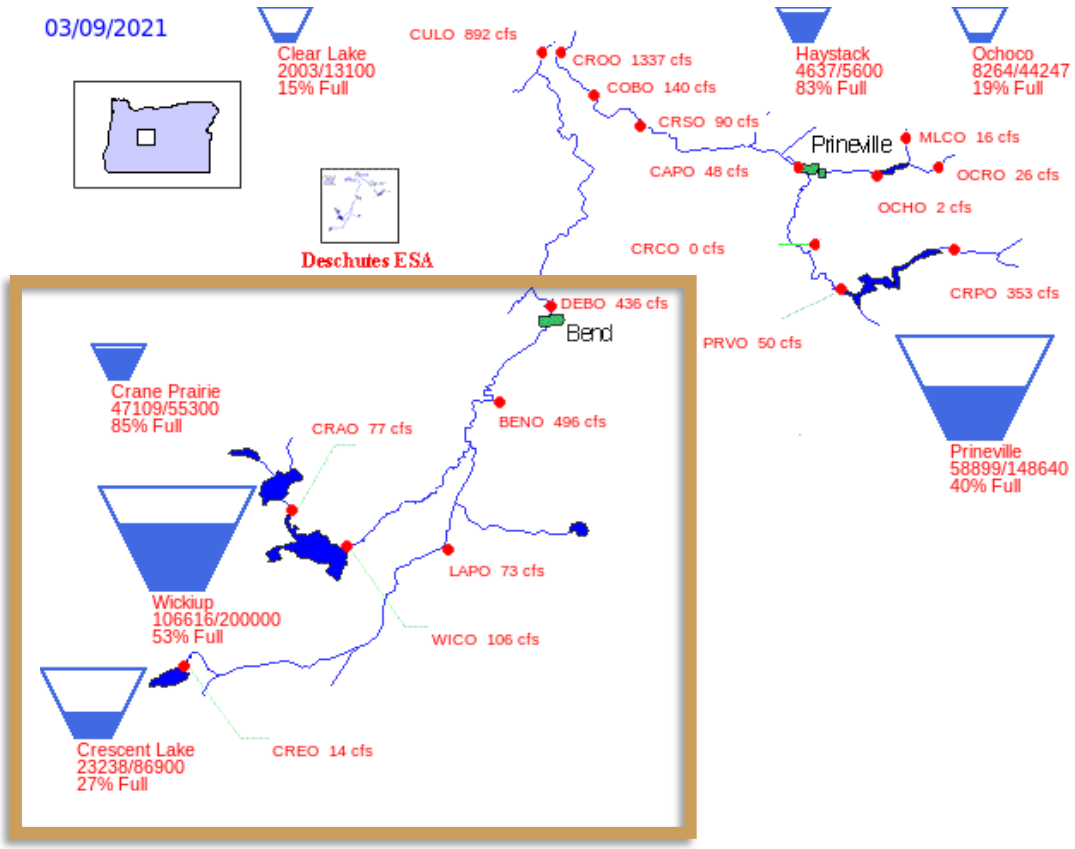


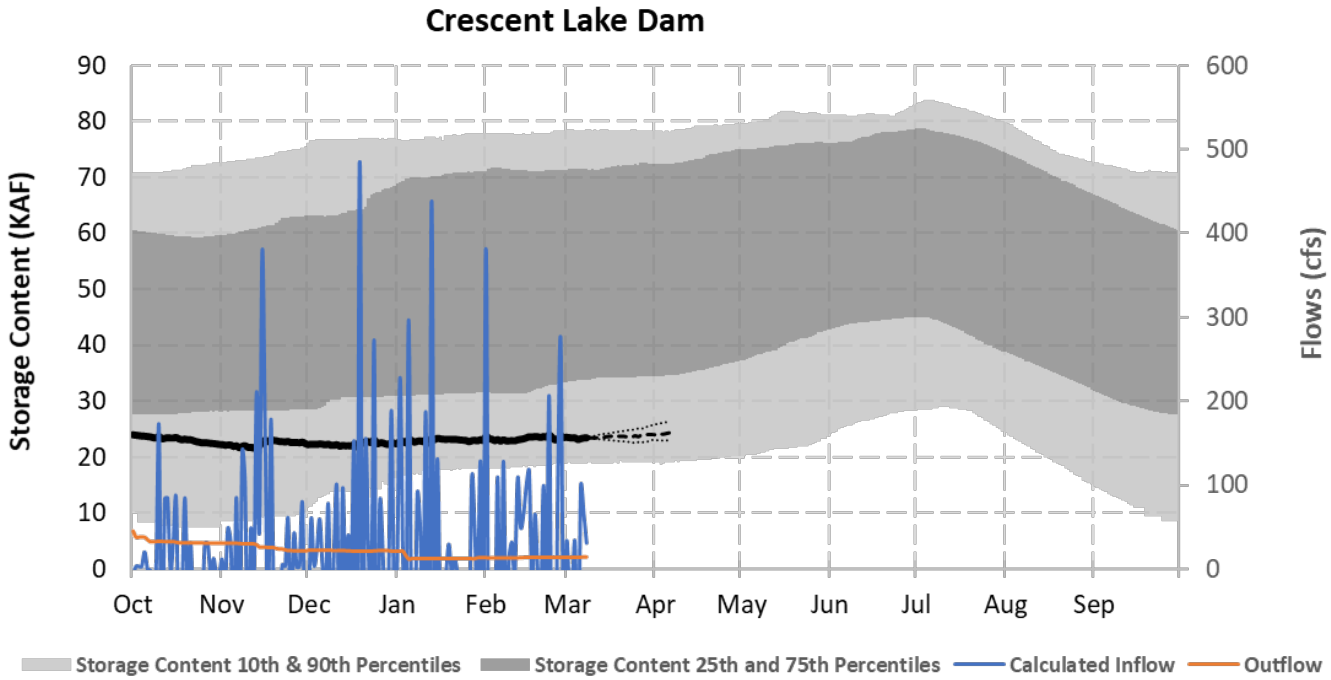




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

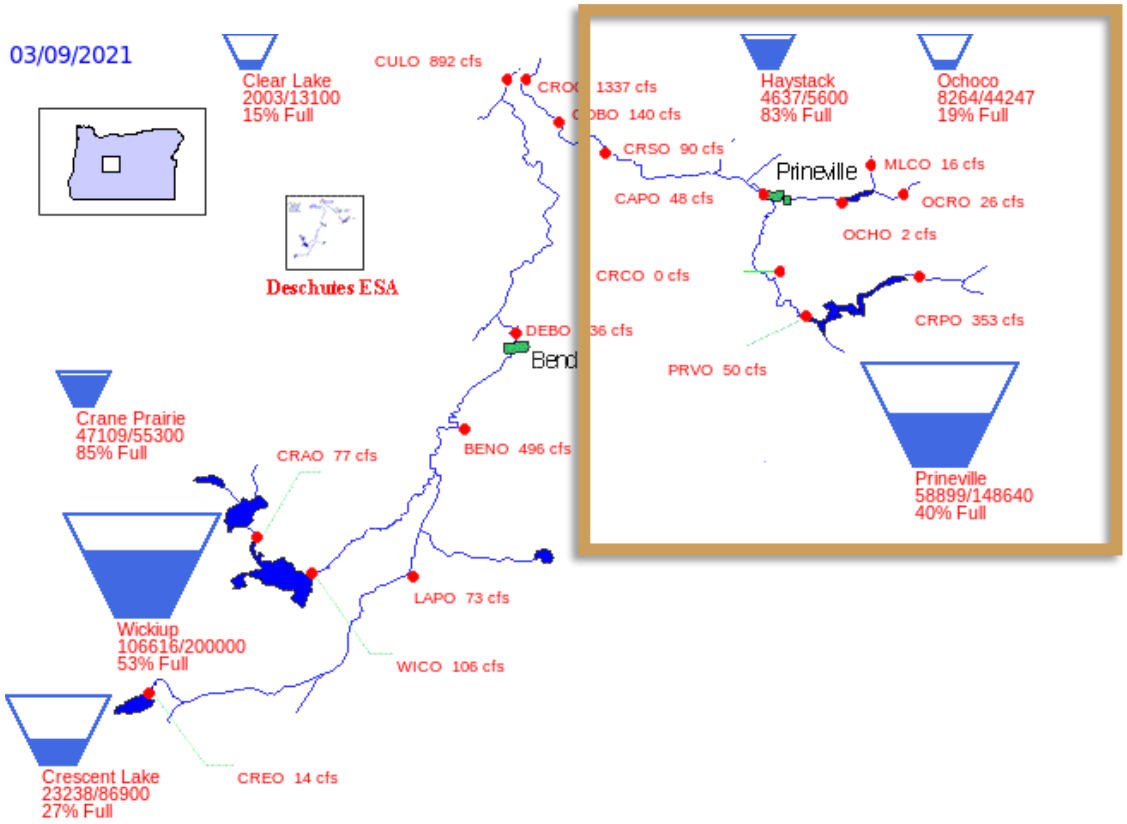
Deschutes River Basin

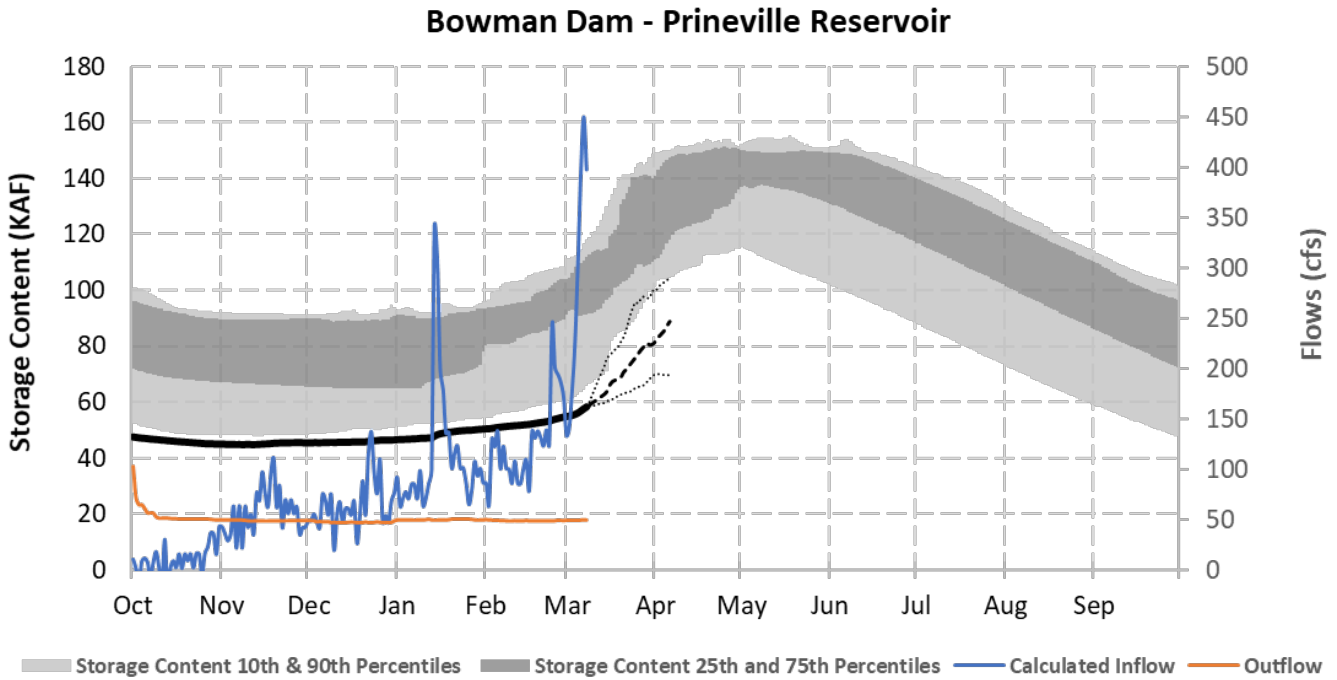


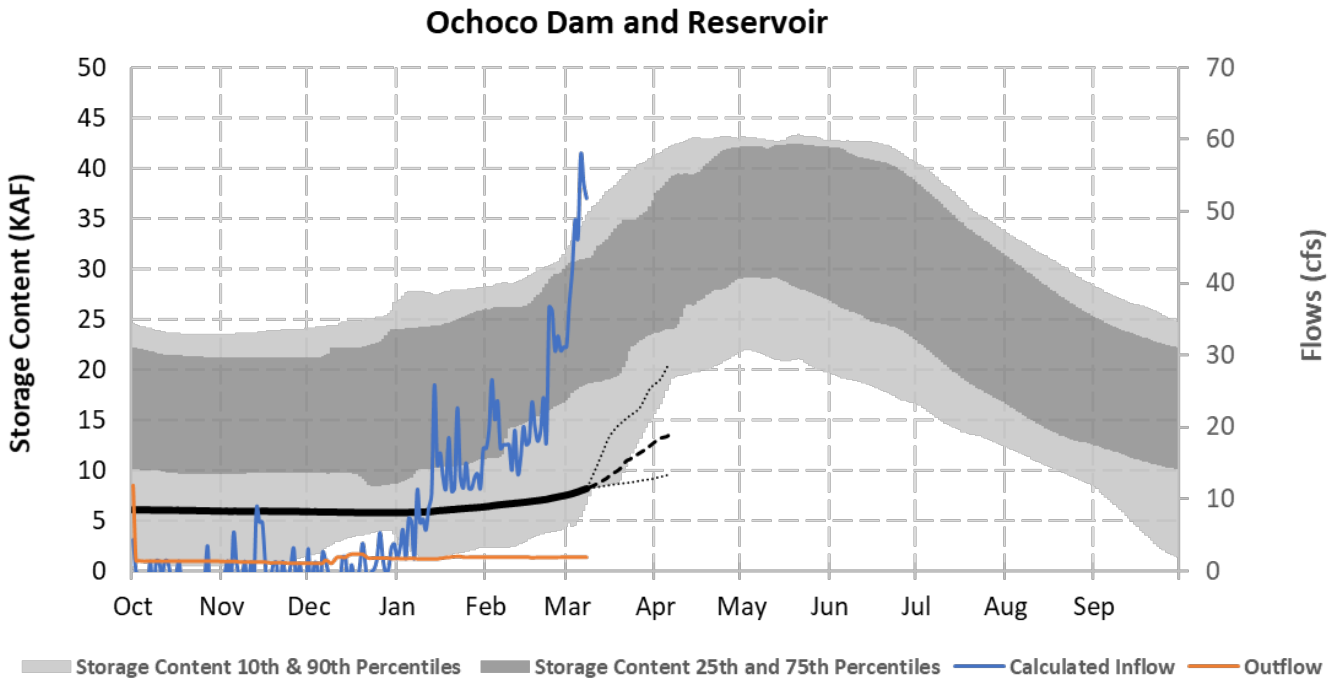


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Crooked River Basin

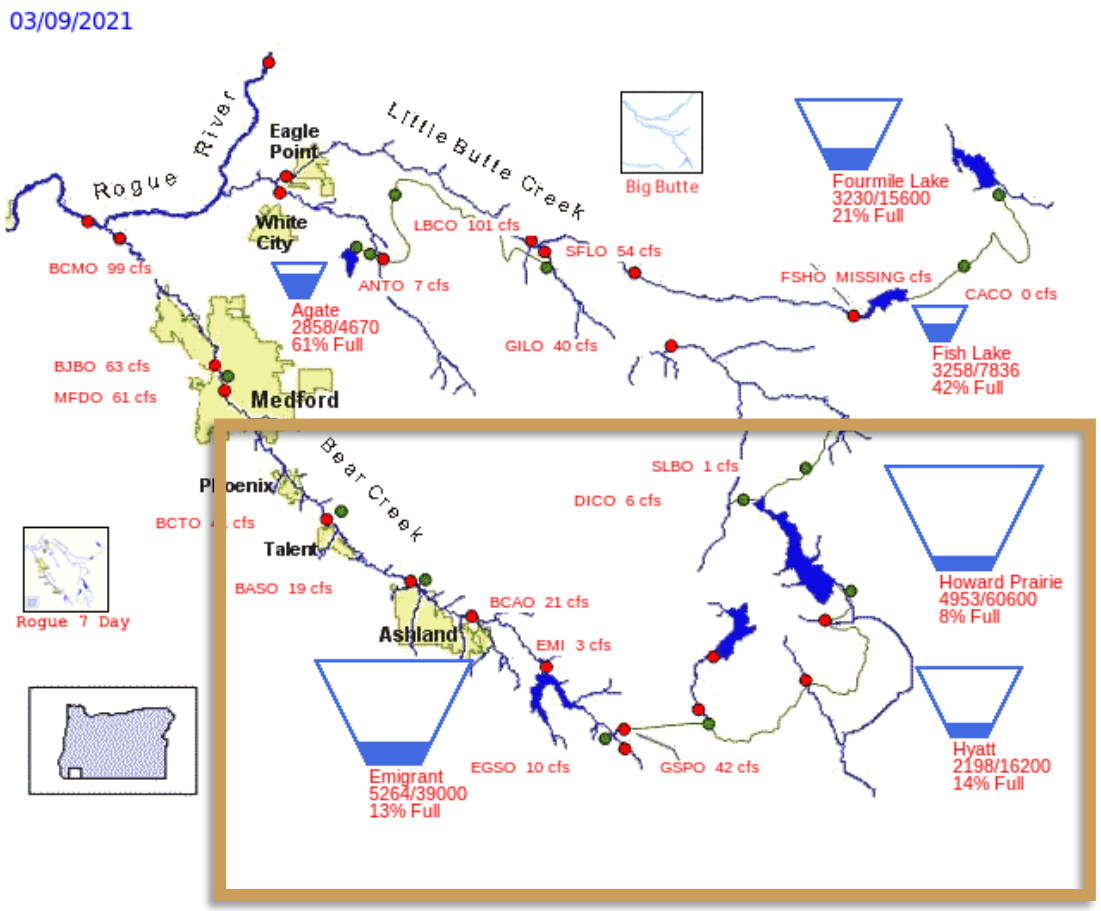


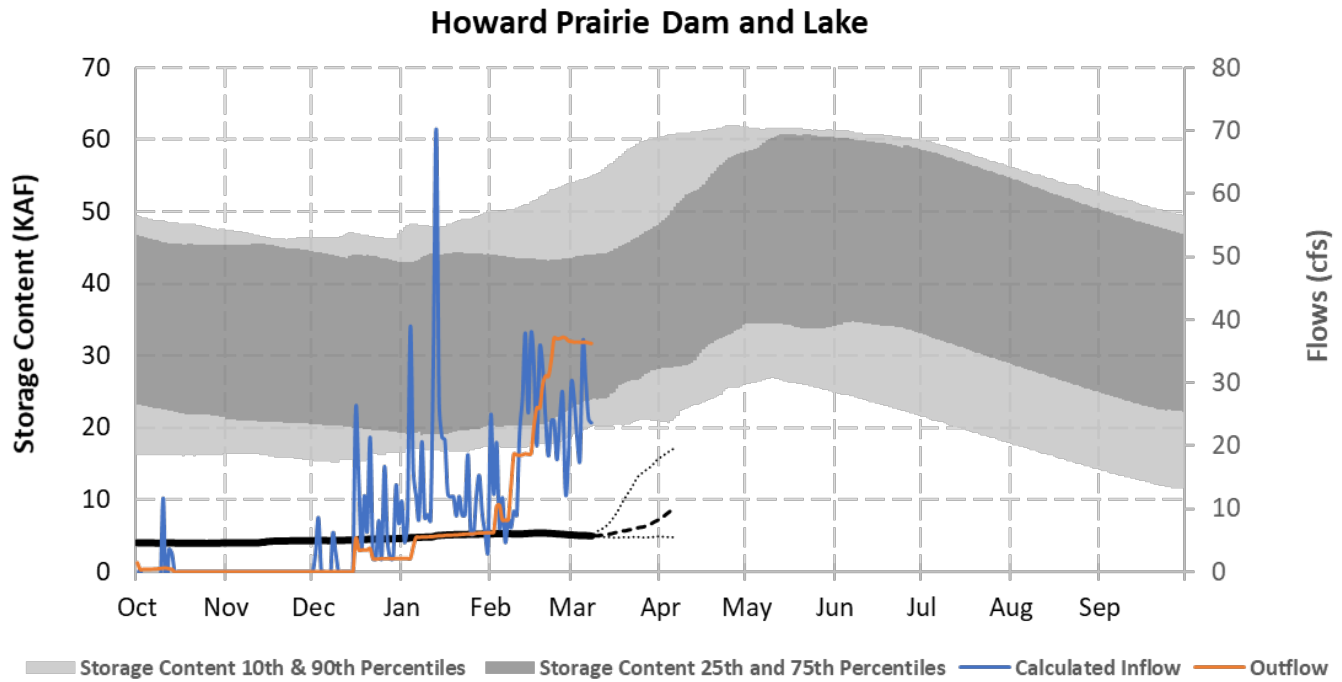


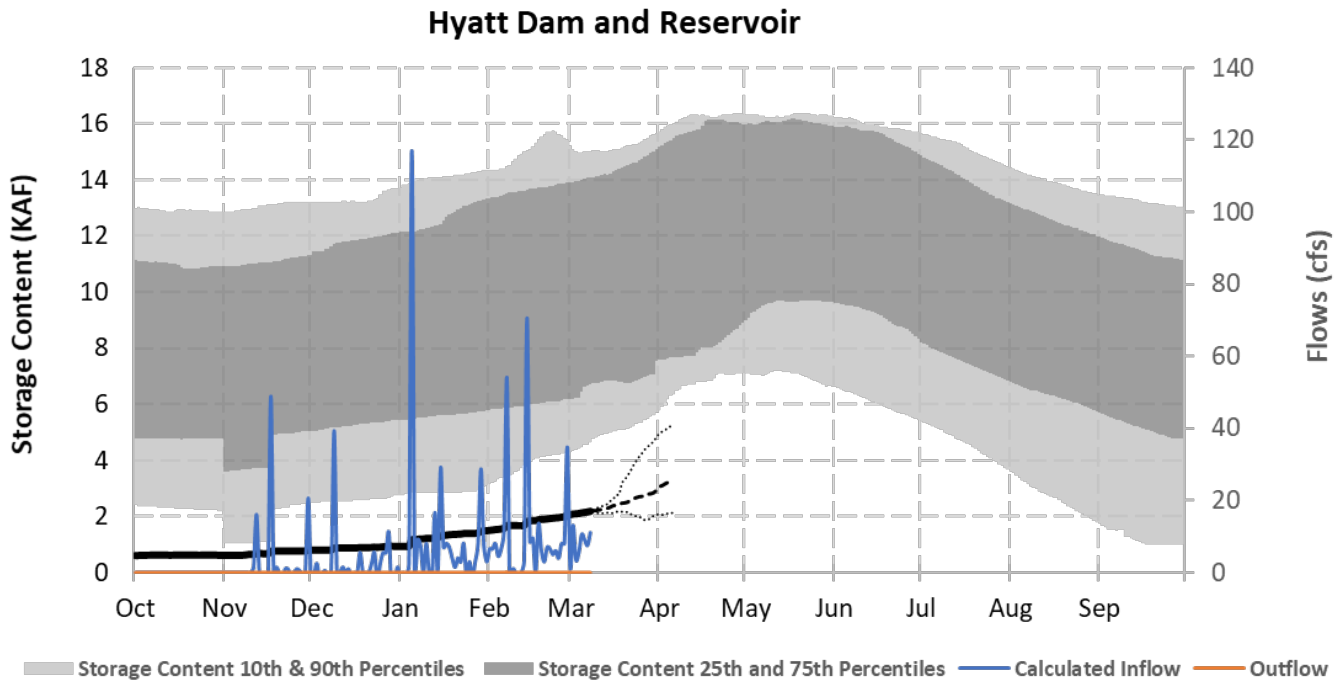


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin



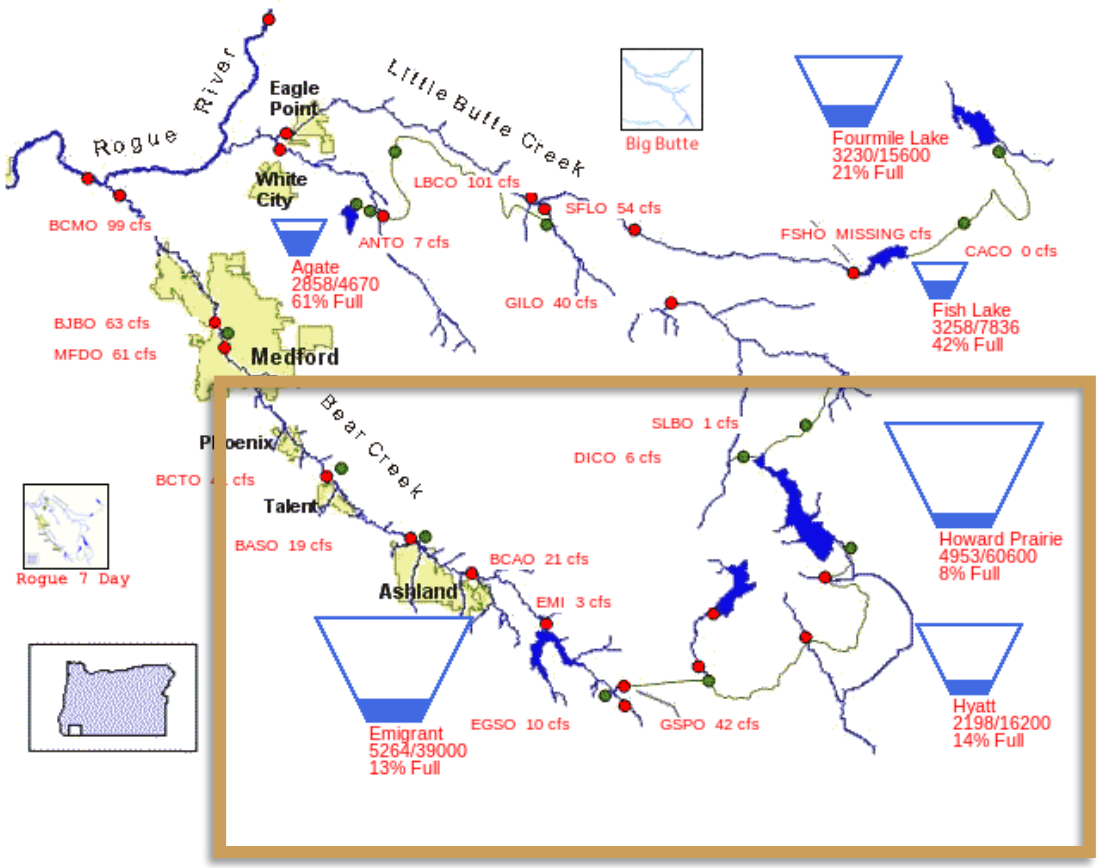


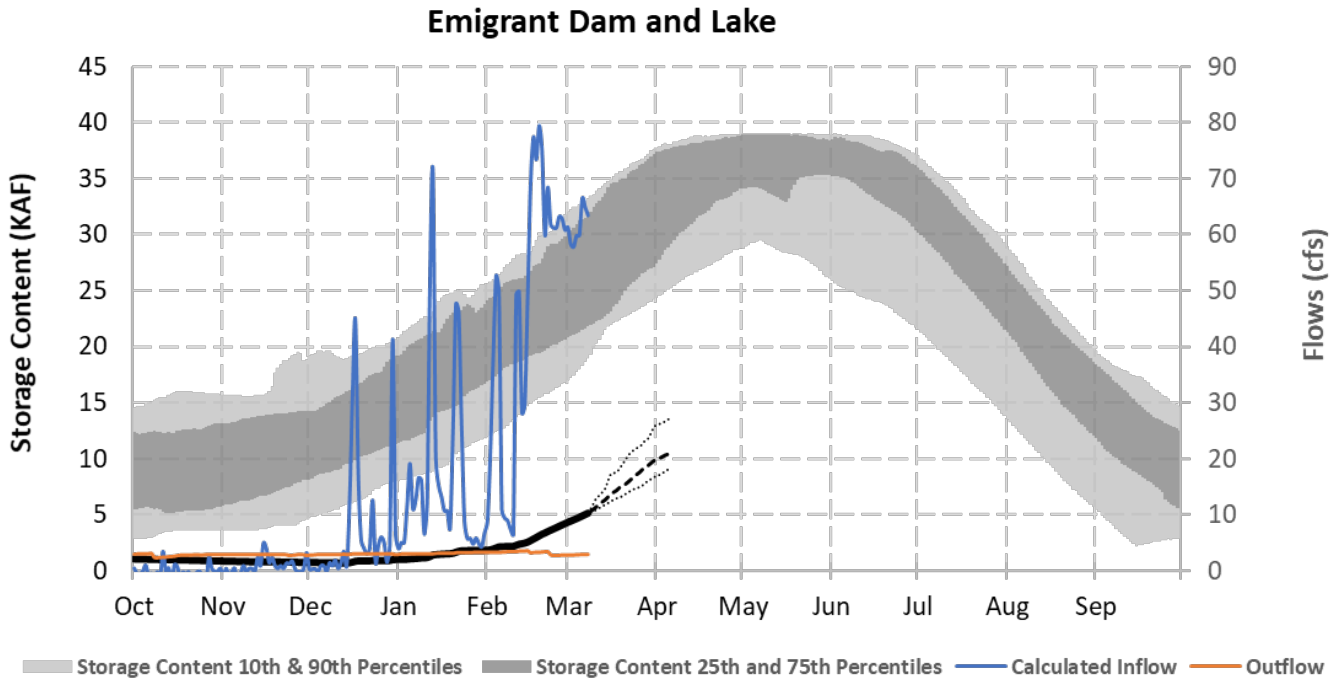


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Rogue River Basin

03/09/2021

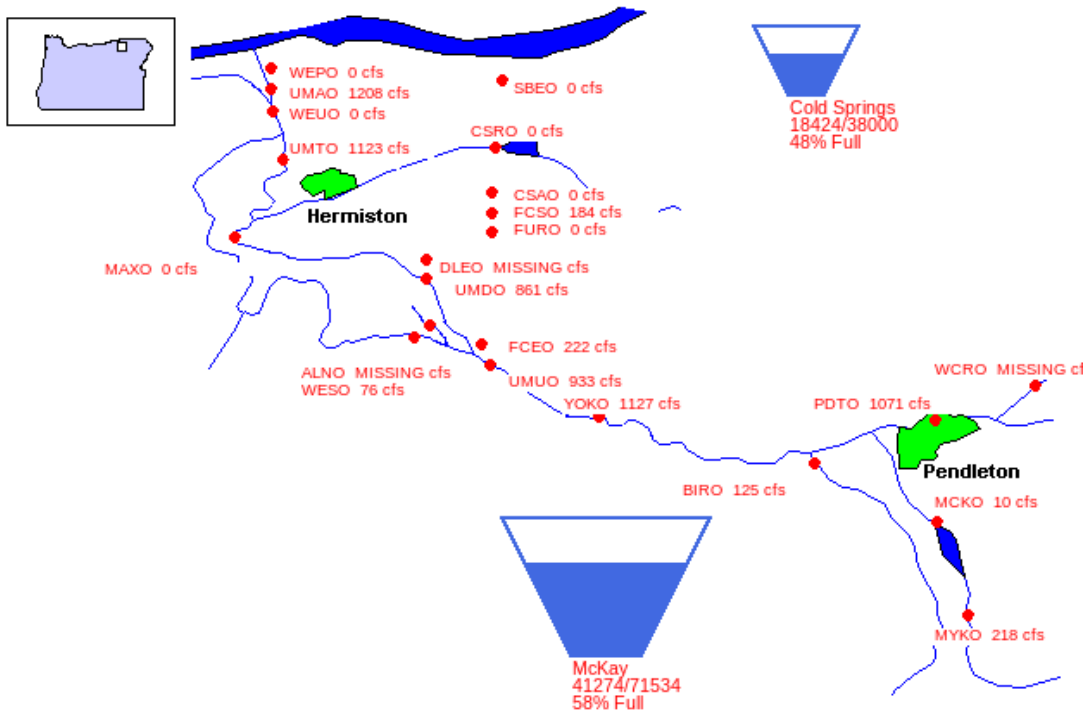


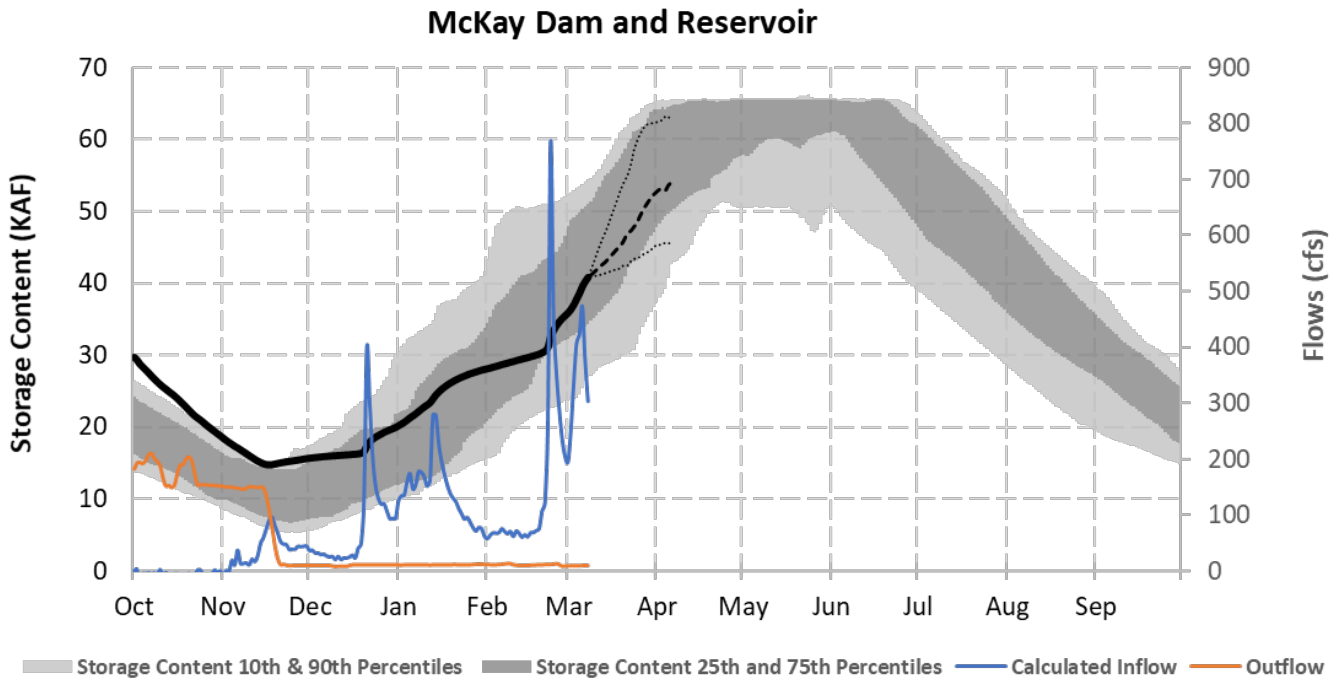


*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Umatilla River Basin

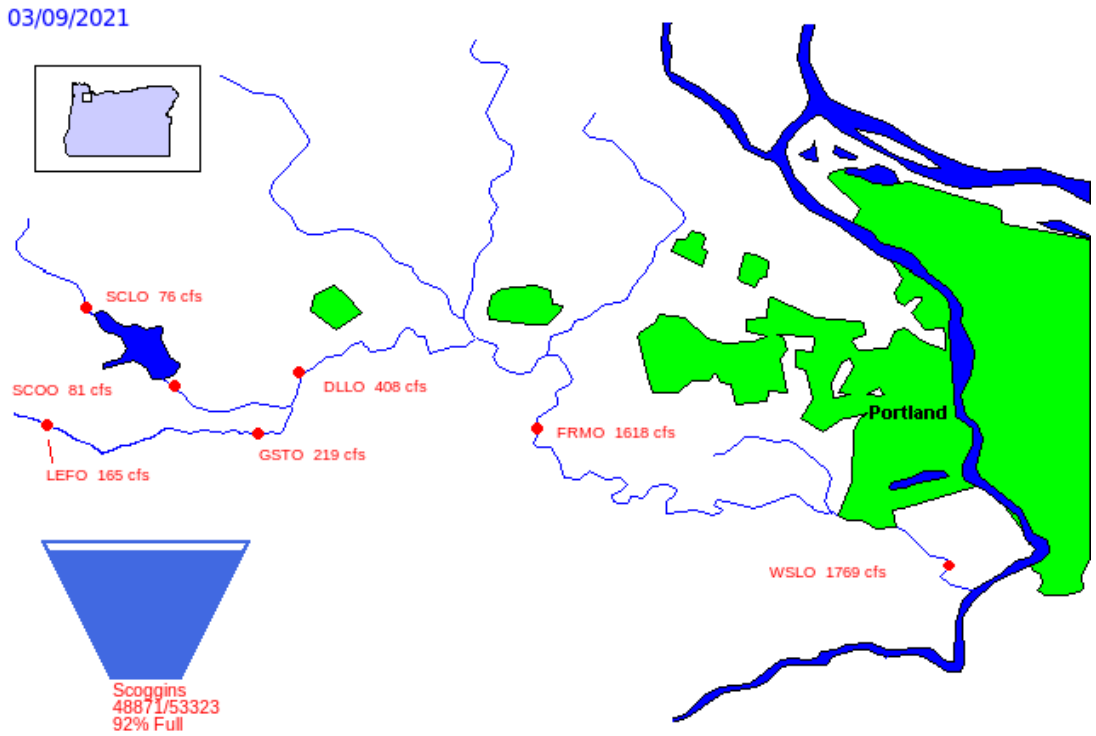
03/09/2021

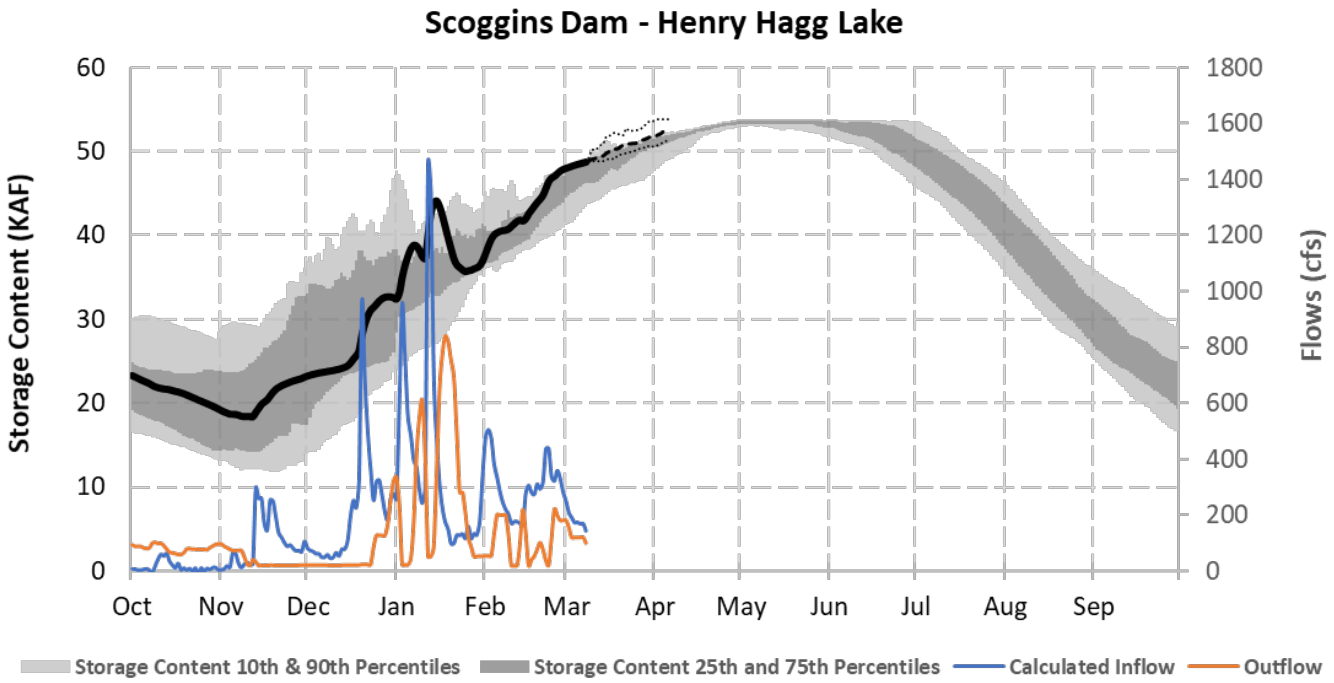




*Graphed projections are the 10th, 50th, and 90th percentile storage values based on historical inflows and outflows

Tualatin River Basin





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

Jon Rocha – Columbia Pacific Northwest Regional Office

jrocha@usbr.gov

208.378.6213

BUREAU OF RECLAMATION