Oregon Water Supply Availability Committee

May 15, 2018

H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA Natural Resources Conservation Service
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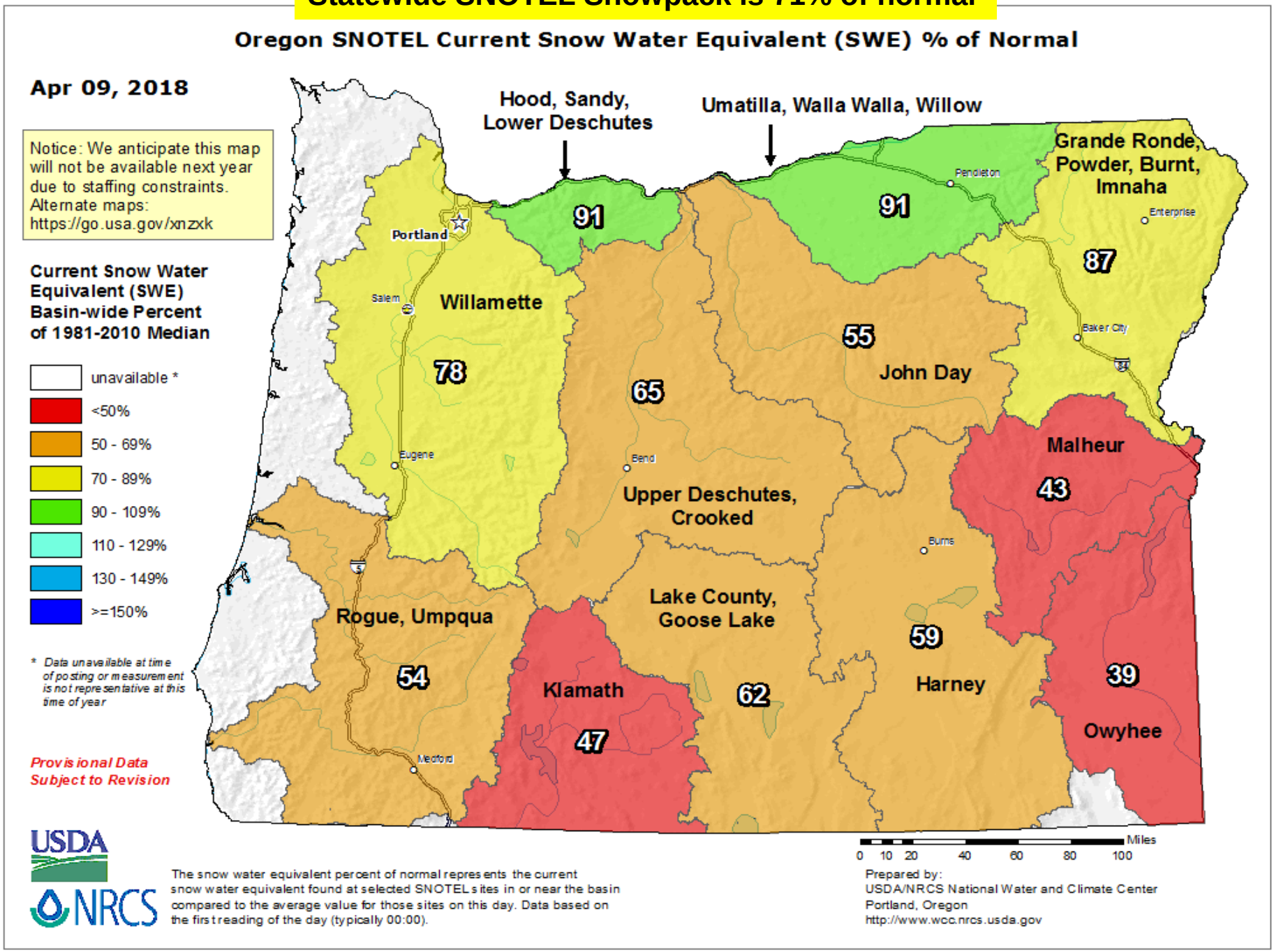
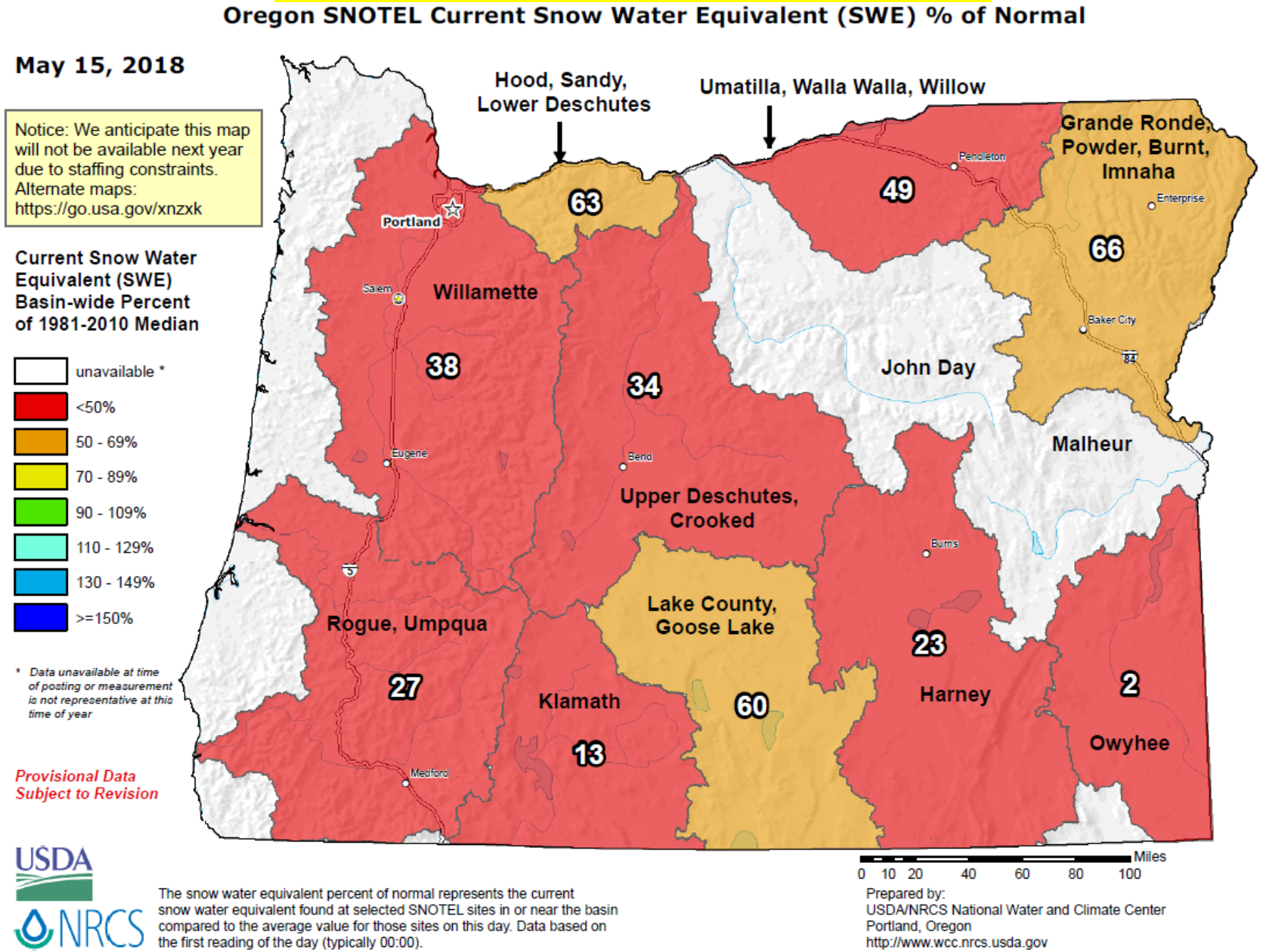
503-414-3271
http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/

Statewide SNOTEL Snowpack is 71% of normal



Statewide SNOTEL Snowpack is 41% of normal

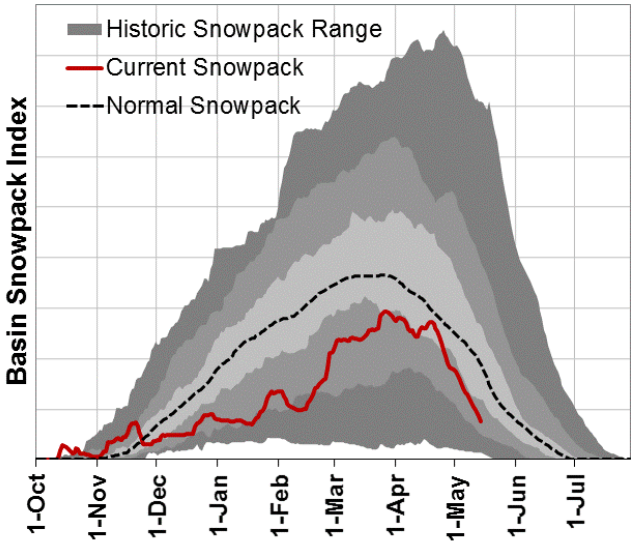


Basin SWE Summary – May 14, 2018 – Statewide SWE % of Normal = 46%

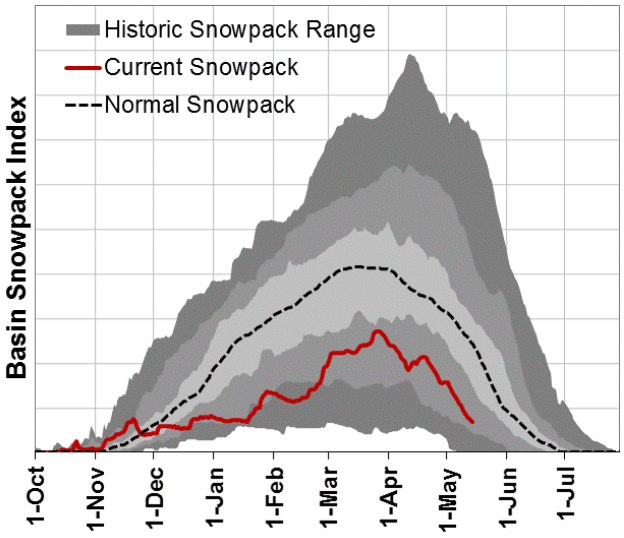
Willamette	7/23 SNOTEL sites with measurable SWE (0 site with SWE below 4000')
Rogue, Umpqua	3/12 SNOTEL sites with measurable SWE (0 sites with SWE below 5000')
Hood, Sandy, Lower Deschutes	5/8 SNOTEL sites with measurable SWE
Upper Deschutes, Crooked	4/14 SNOTEL sites with measurable SWE (1 site with SWE below 5000')
Klamath	1/18 SNOTEL sites with measurable SWE (Annie Springs, Crater Lake, 6010')
Lake County, Goose Lake	1/9 SNOTEL sites with measurable SWE
Umatilla, Walla Walla, Willow	3/8 SNOTEL sites with measurable SWE (All sites with SWE above 4920')
John Day	0/13 SNOTEL sites with measurable SWE
Harney	0/9 SNOTEL sites with measurable SWE
Grande Ronde, Powder, Burnt, Imnaha	6/17 SNOTEL sites with measurable SWE (All sites with SWE above 4920')
Malheur	0/3 SNOTEL sites with measurable SWE
Owyhee	0/8 SNOTEL sites with measurable SWE

Water Year 2018 – May 14th

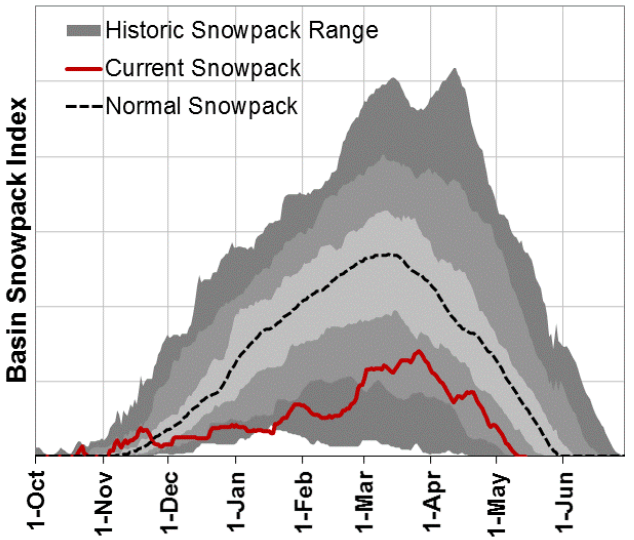
Willamette



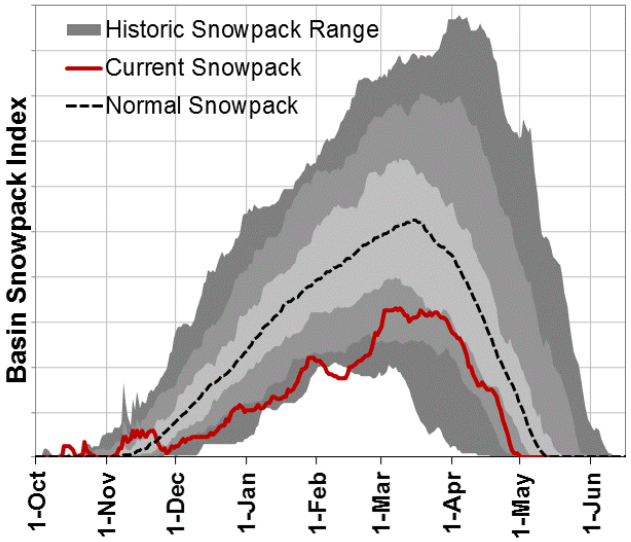
Rogue/Umpqua



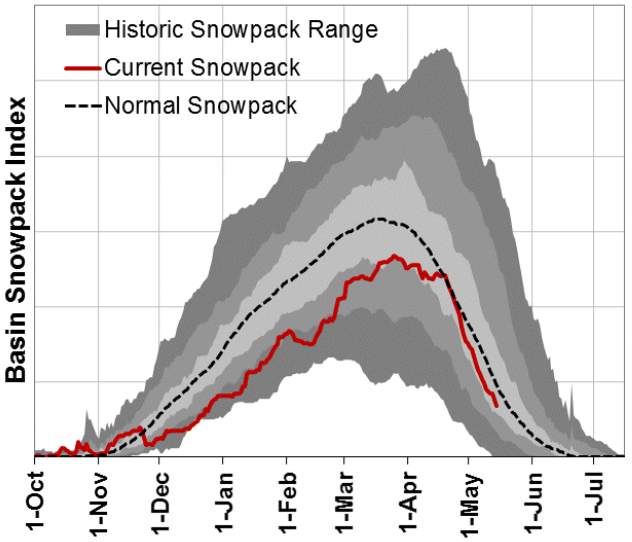
Klamath



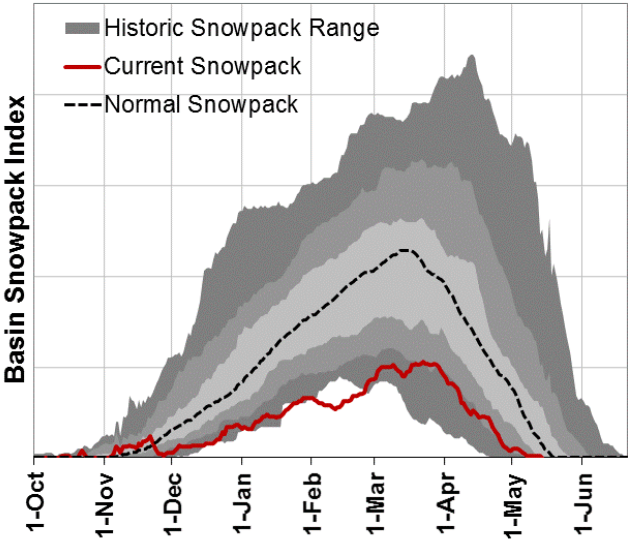
John Day



Grande Ronde/Powder/Burnt



Owyhee/Malheur



Statewide SNOTEL Precipitation is 91% of normal on May 14, 2018

Oregon SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

May 15, 2018

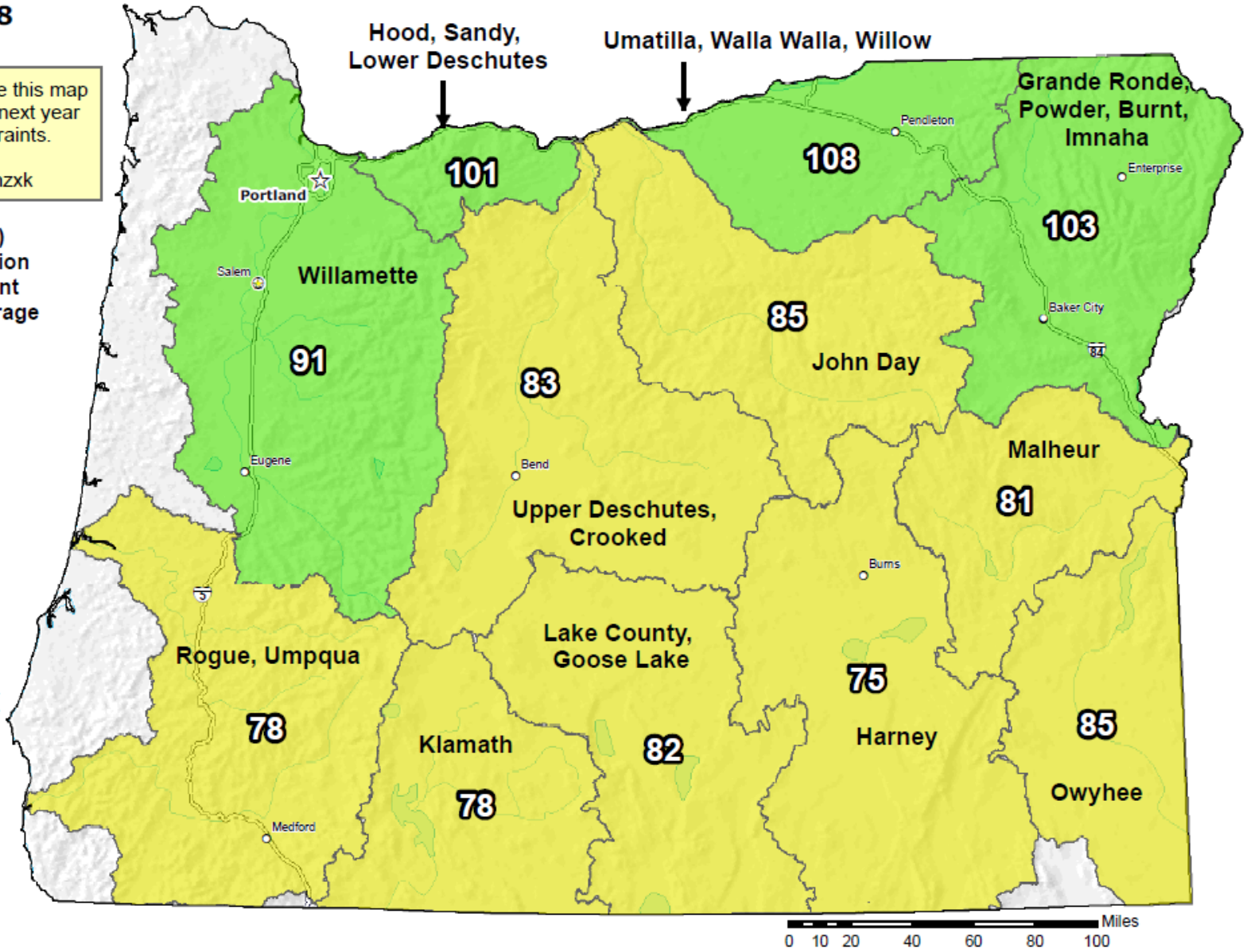
Notice: We anticipate this map will not be available next year due to staffing constraints. Alternate maps: https://go.usa.gov/xnzxk

Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average

- unavailable *
- <50%
- 50 - 69%
- 70 - 89%
- 90 - 109%
- 110 - 129%
- 130 - 149%
- >=150%

* *Data unavailable at time of posting or measurement is not representative at this time of year*

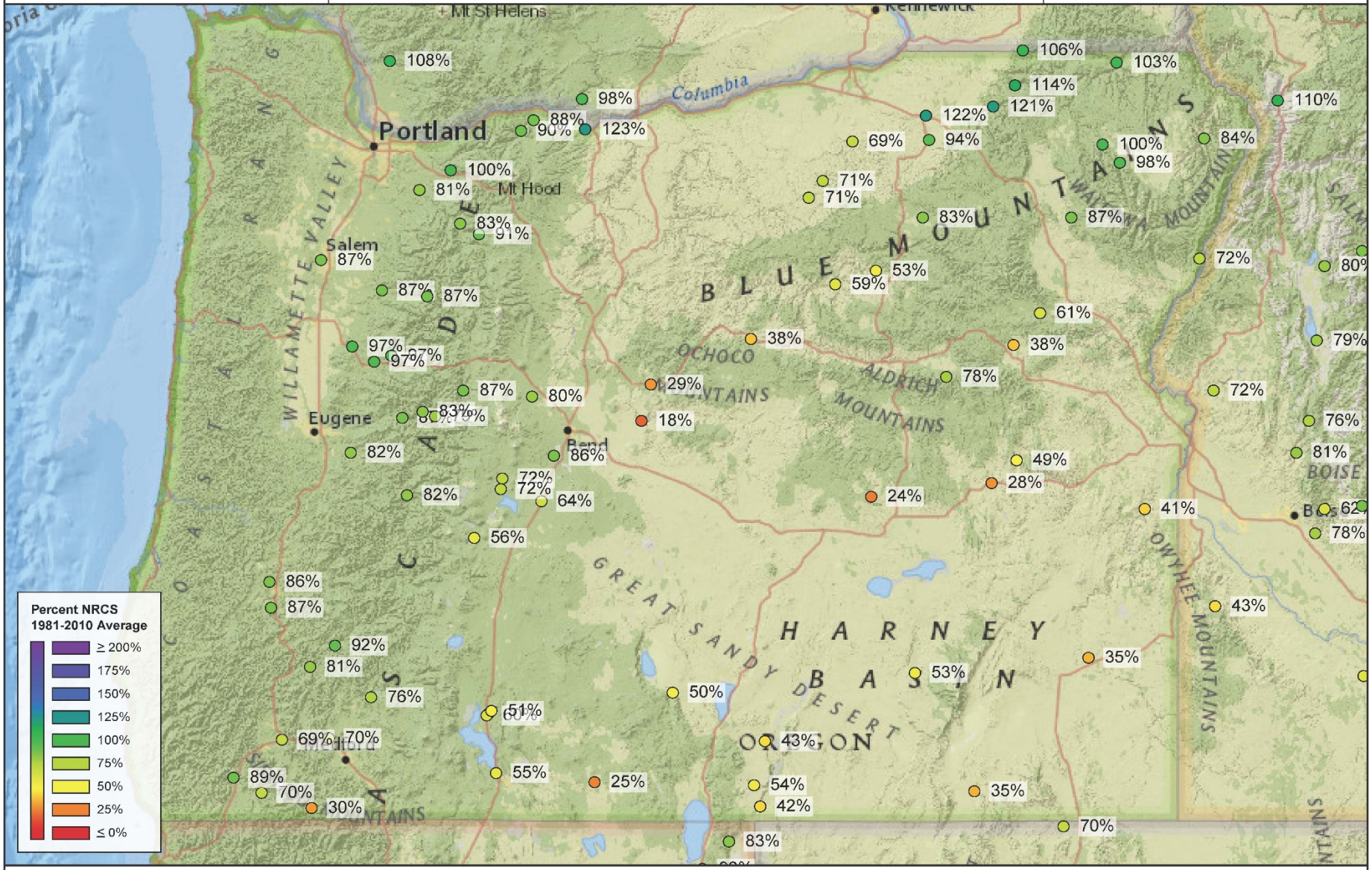
Provisional Data Subject to Revision



The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Forecast Volume, 50% Exceedance Probability	Percent NRCS 1981-2010 Average	Primary Period, May 1, 2018

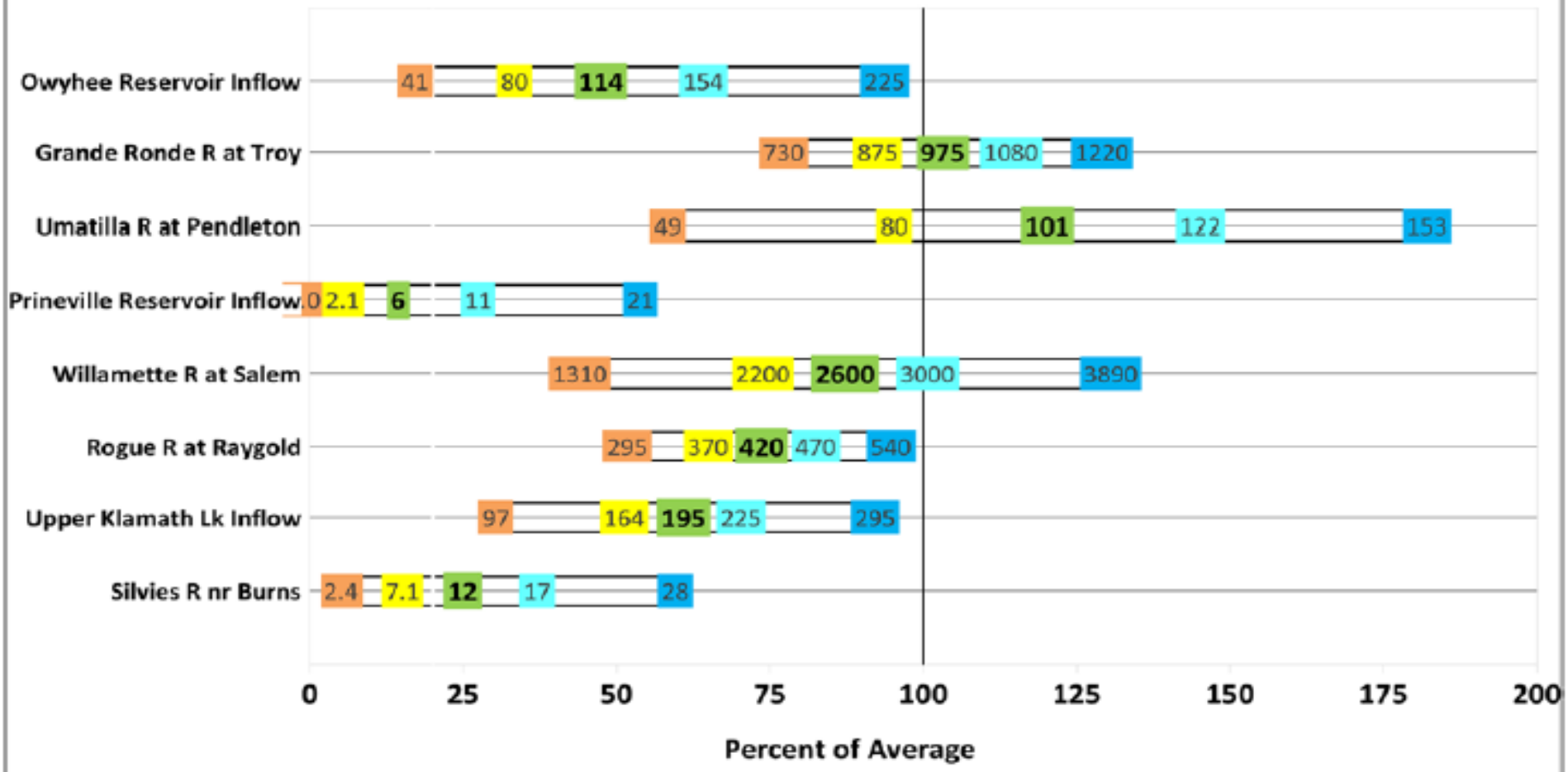


May 1, 2017

Summary of Streamflow Forecasts across Oregon

May 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!

Oregon Water Supply Availability Committee

May 15, 2018

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USGS
science for a changing world

Oregon Water Supply Availability

May 2018

USGS Update on Surface Water Conditions

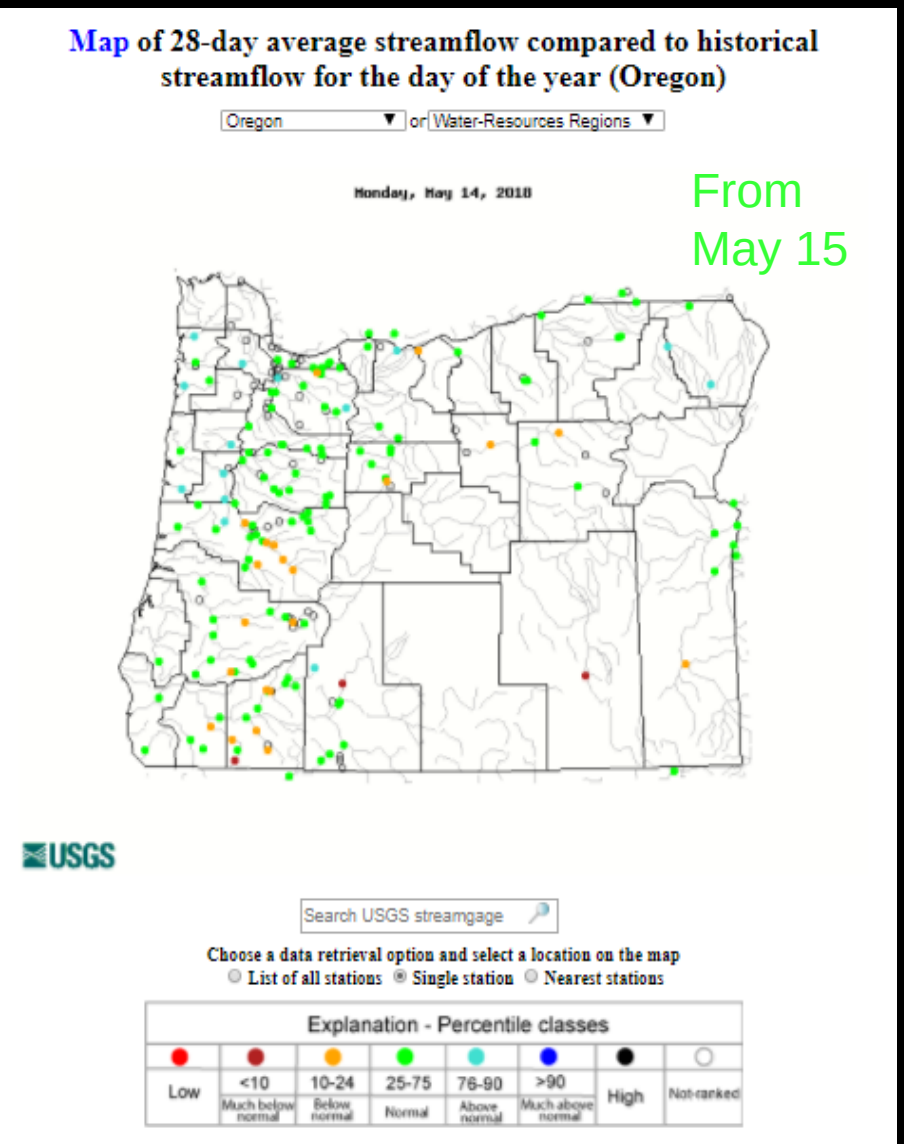
Marc Stewart & Carrie Boudreau

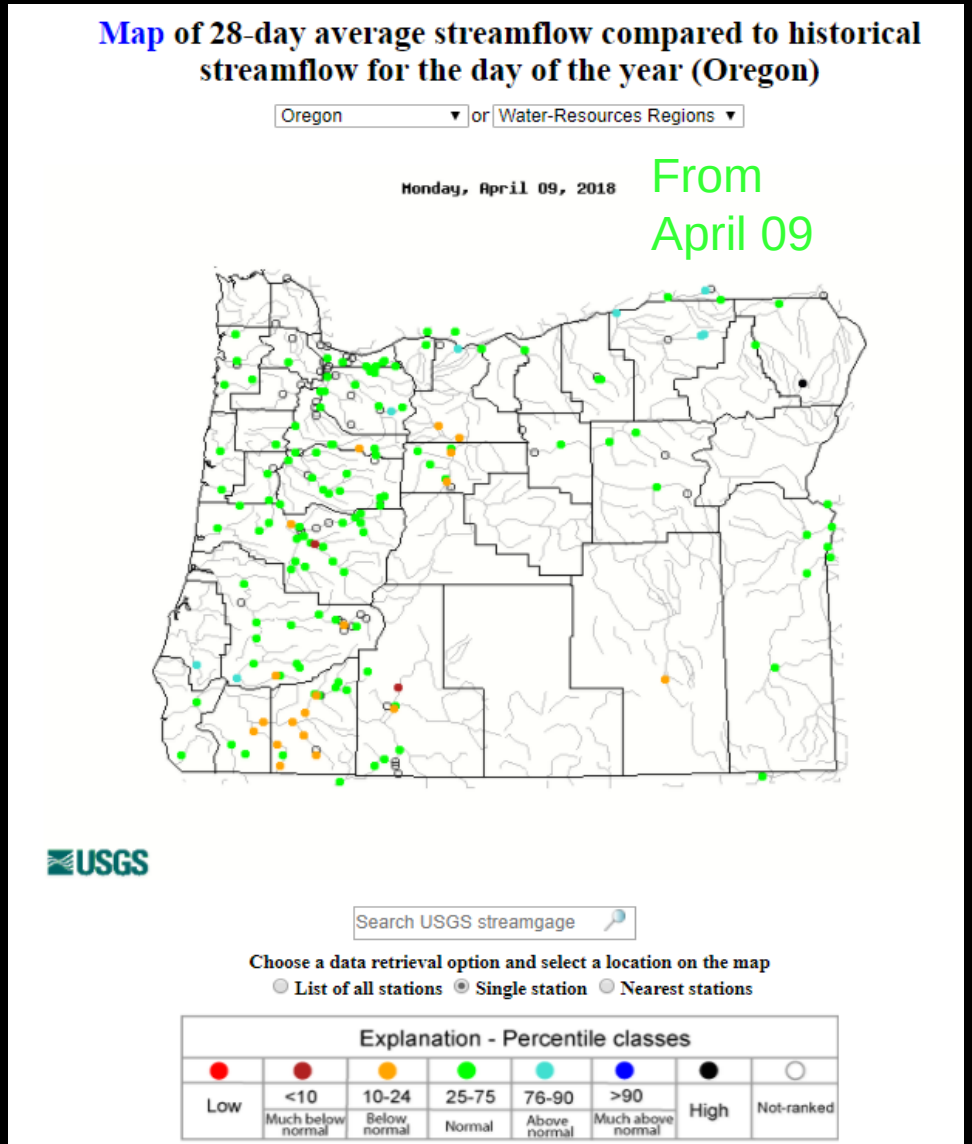
USGS ORWSC

Provisional Data Statement
Data are provisional and subject to revision until they have been thoroughly reviewed and received final approval.

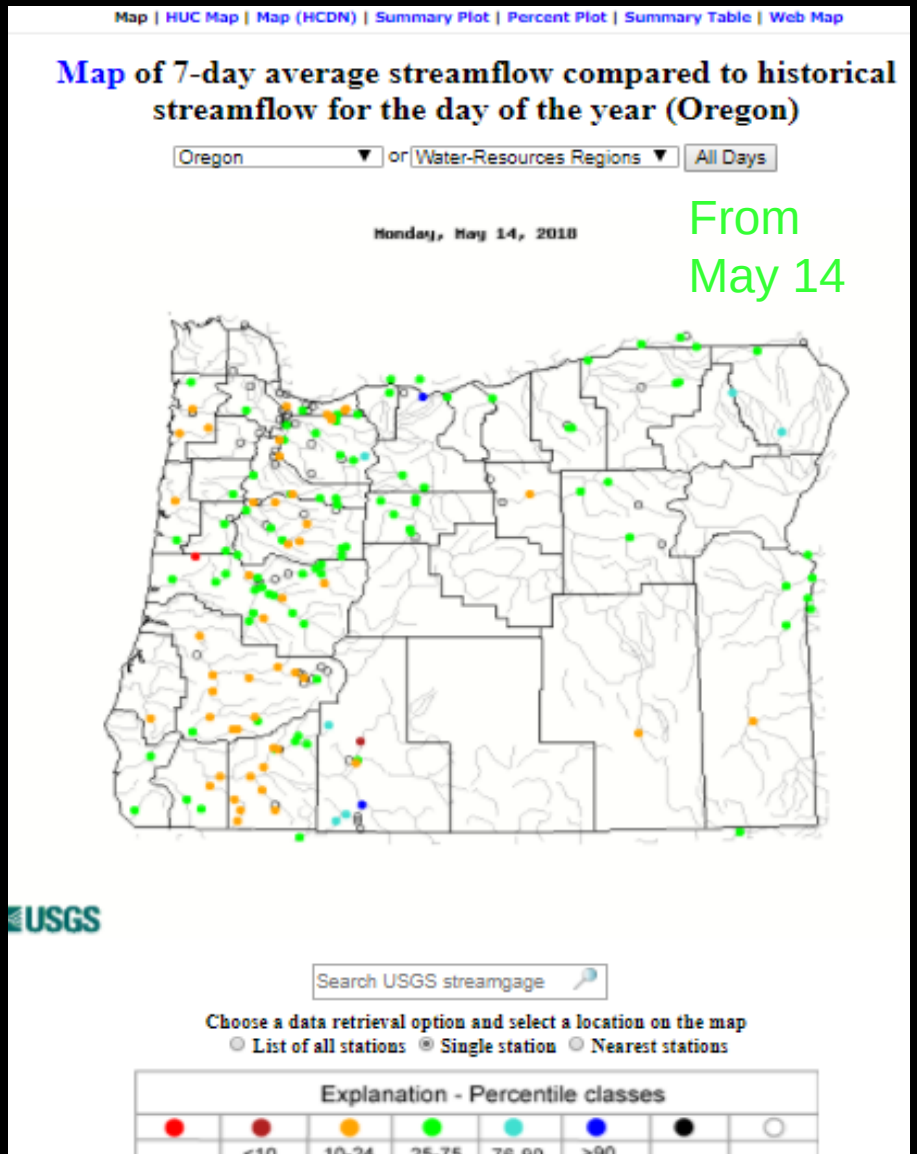
U.S. Department of the Interior
U.S. Geological Survey

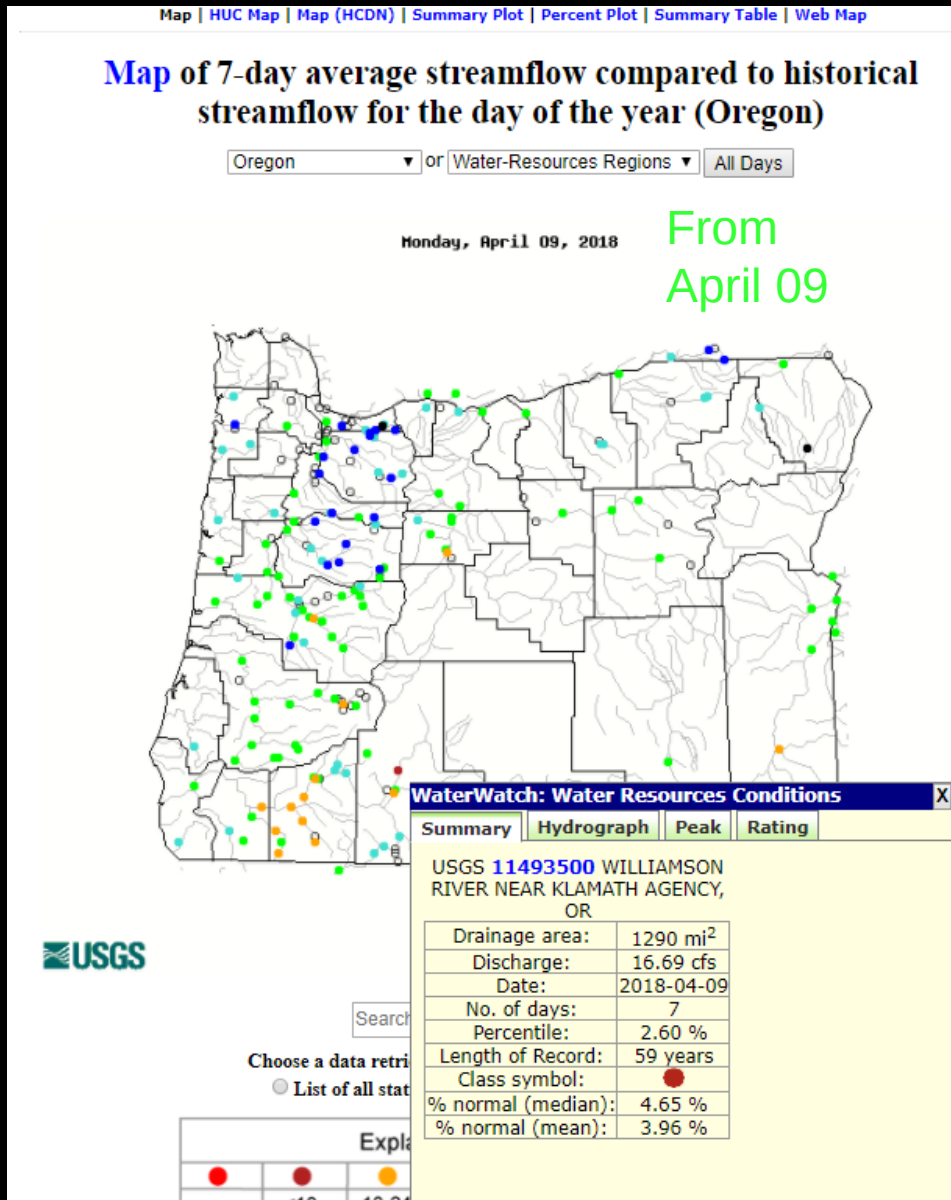
Oregon Map of 28-day average streamflow compared to historical streamflow for the day of the year



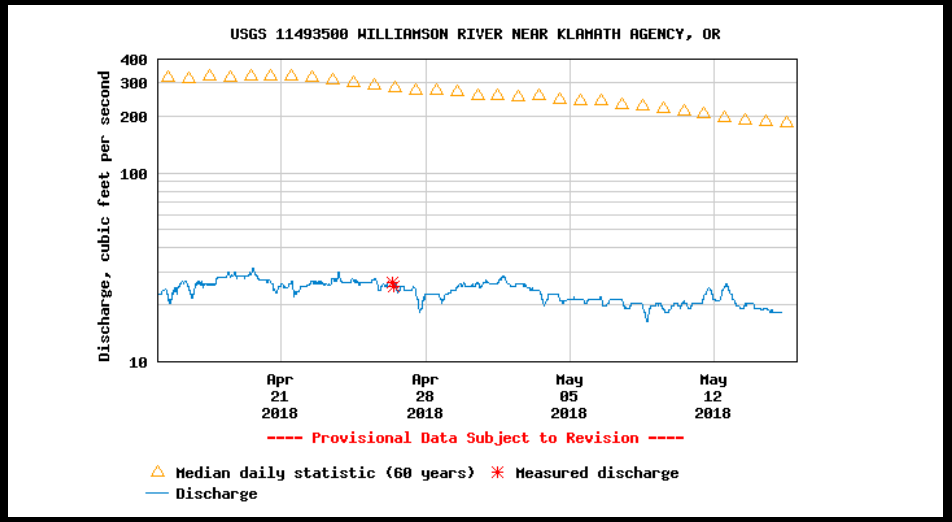


Oregon Map of 7-day average streamflow compared to historical streamflow for the day of the year





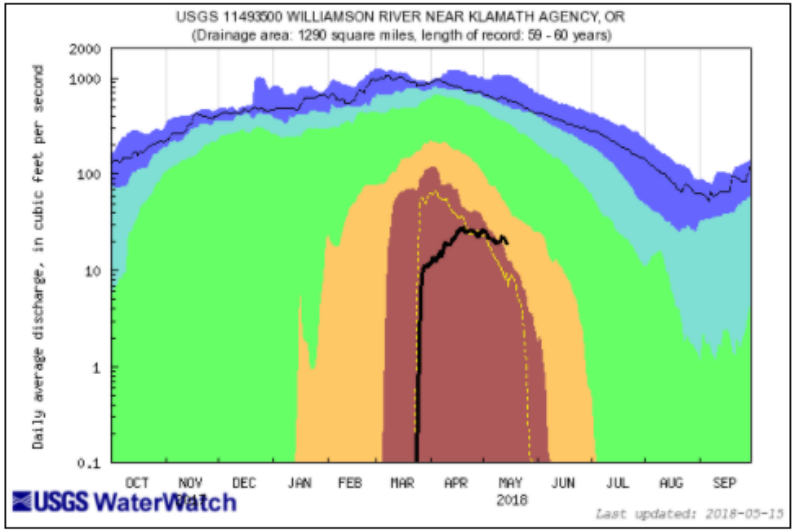
KLAMATH BASIN 11493500 WILLIAMSON RIVER NEAR KLAMATH AGENCY, OR

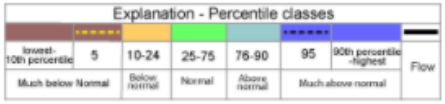


USGS Streamflow Duration Hydrograph Builder

Site Number 11493500 | Year: 2018 | No. of years: 1 | Flow: Daily cfs | GO
5th and 95th percentiles: Line Overlay | Year Type: Water Year | Output: Hydrograph

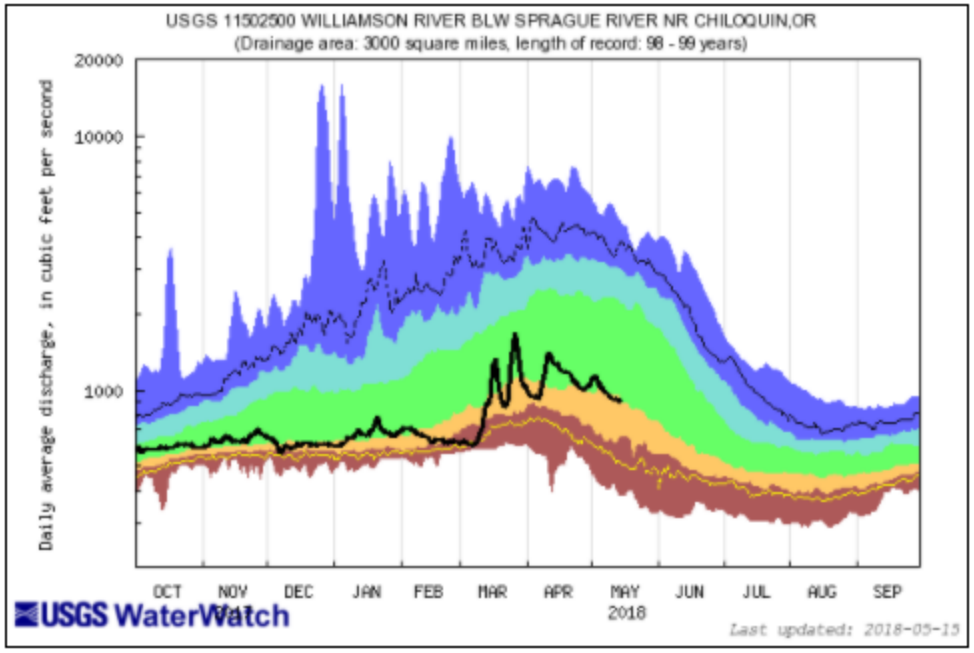
For some streams, flow statistics may have been computed from mixed regulated and unregulated flows; this can affect depictions of flow conditions.





USGS

KLAMATH BASIN

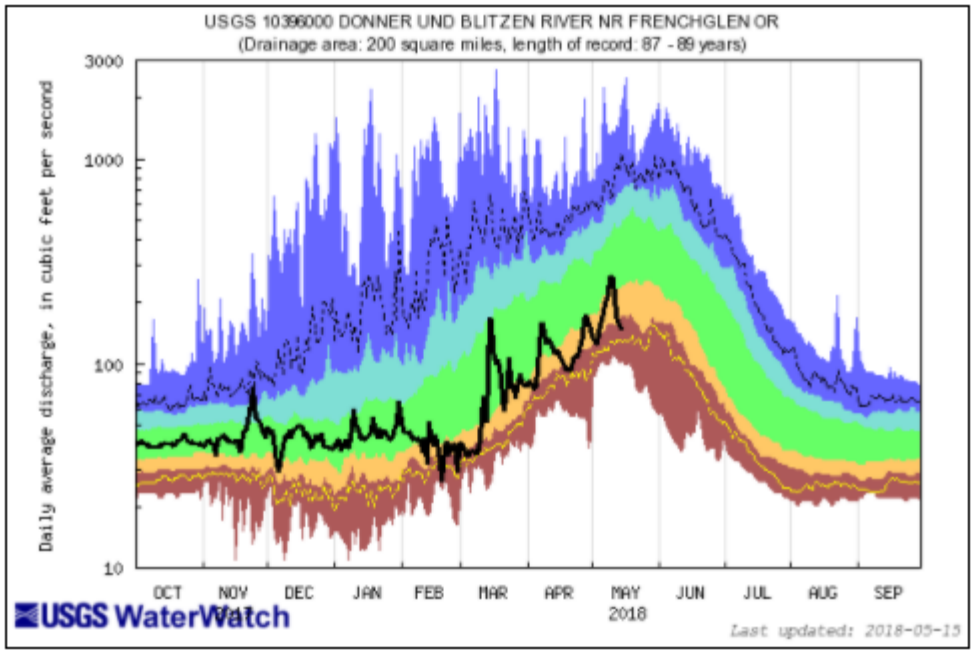


Monthly Avg. 1,111 cfs
61% of Avg. for April (1981-2010)

* March 55% Avg.

USGS

DONNER BLITZEN & HARNEY BASIN

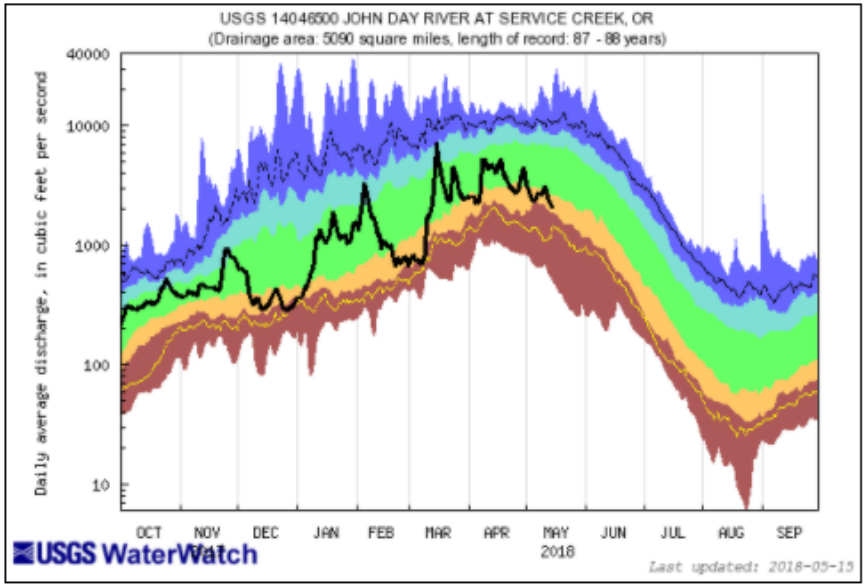


Monthly Avg. 116 cfs
52% of Avg. for April
(1981-2010)

*45% Avg. Feb.
42% of Avg. March

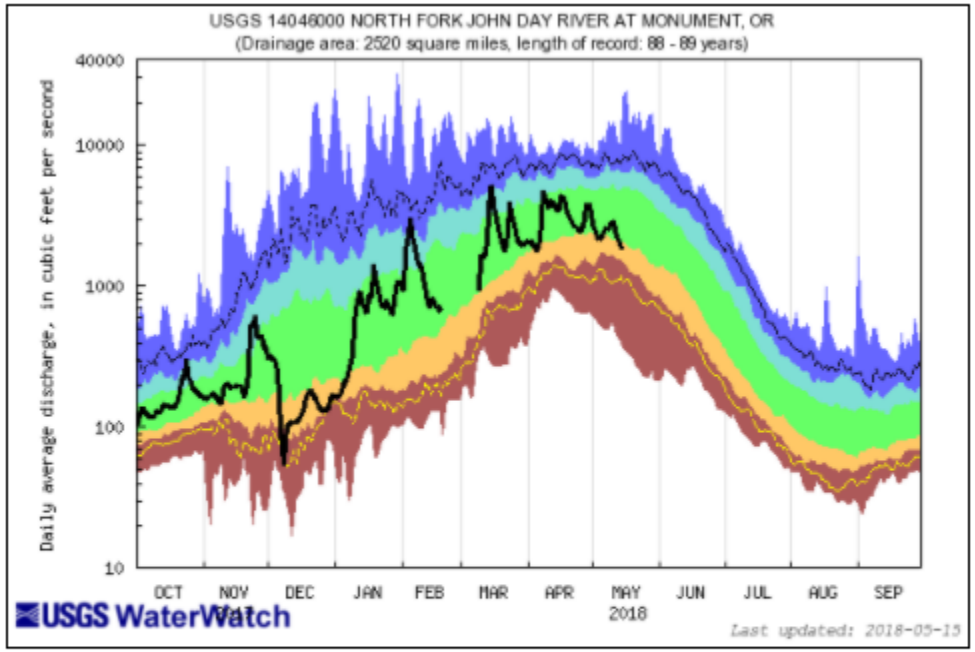
USGS

UPPER JOHN DAY

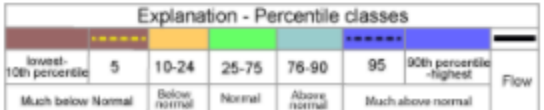


Monthly Avg. 3658 cfs
69% of Average for April
(1981-2010)

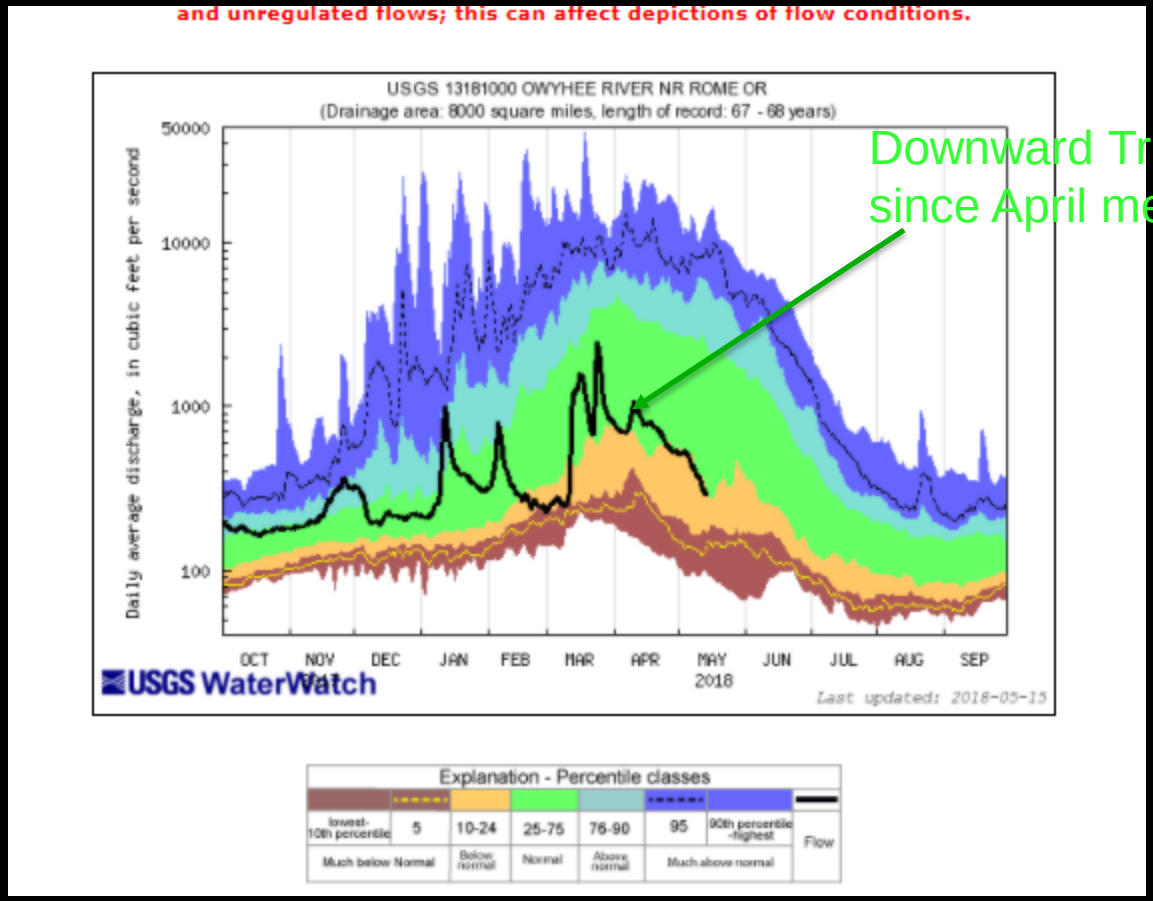
*56% Avg. in Feb. & 57% in March



Although a bump up in % of Average of flow
for April flow is trending towards Below normal & Much below normal



OWYEE BASIN



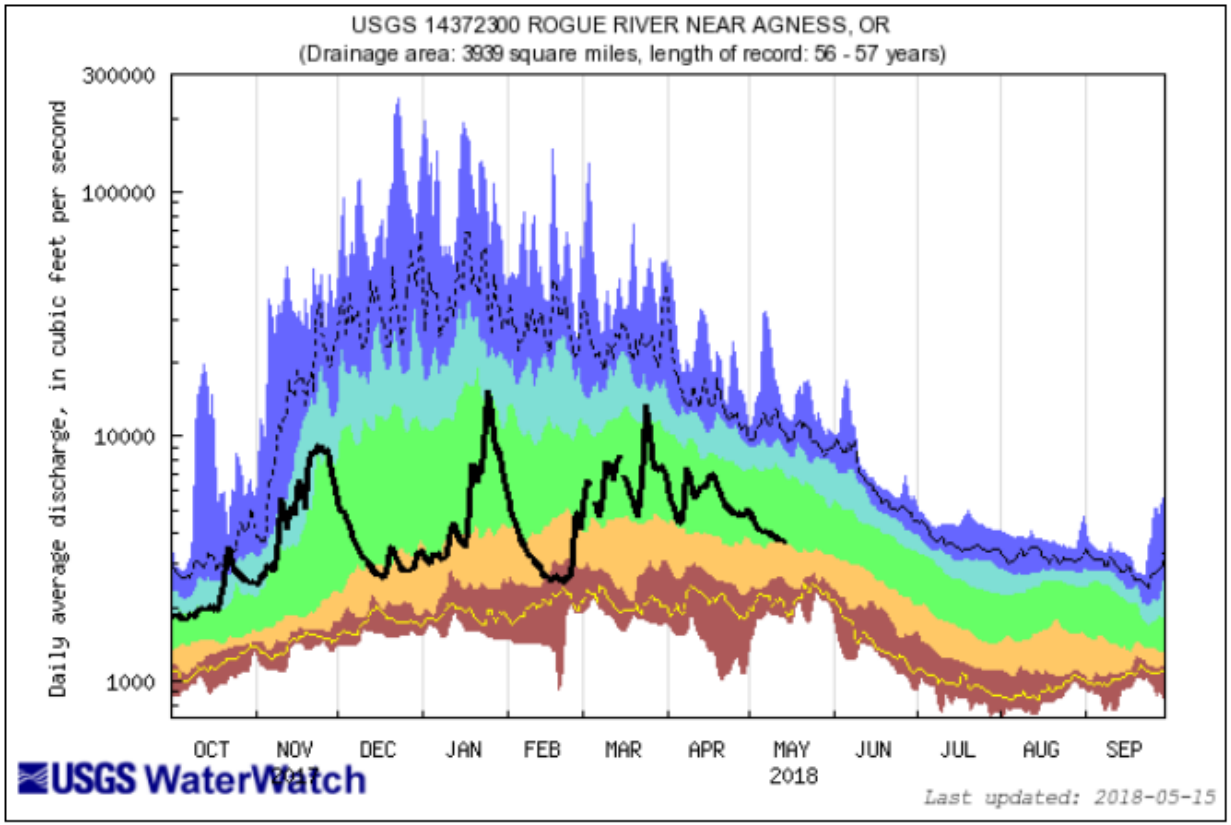
Downward Trend since April meeting

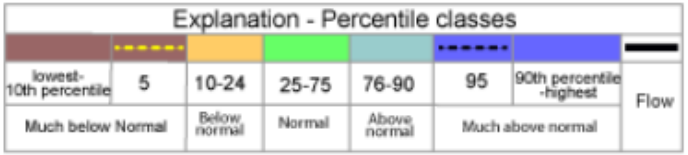
Monthly Avg. 736 cfs
27% of Average for (1981-2010)

*Feb 2018 was 29% Avg.
32% of Average for March

USGS

ROGUE/UMPQUA BASIN

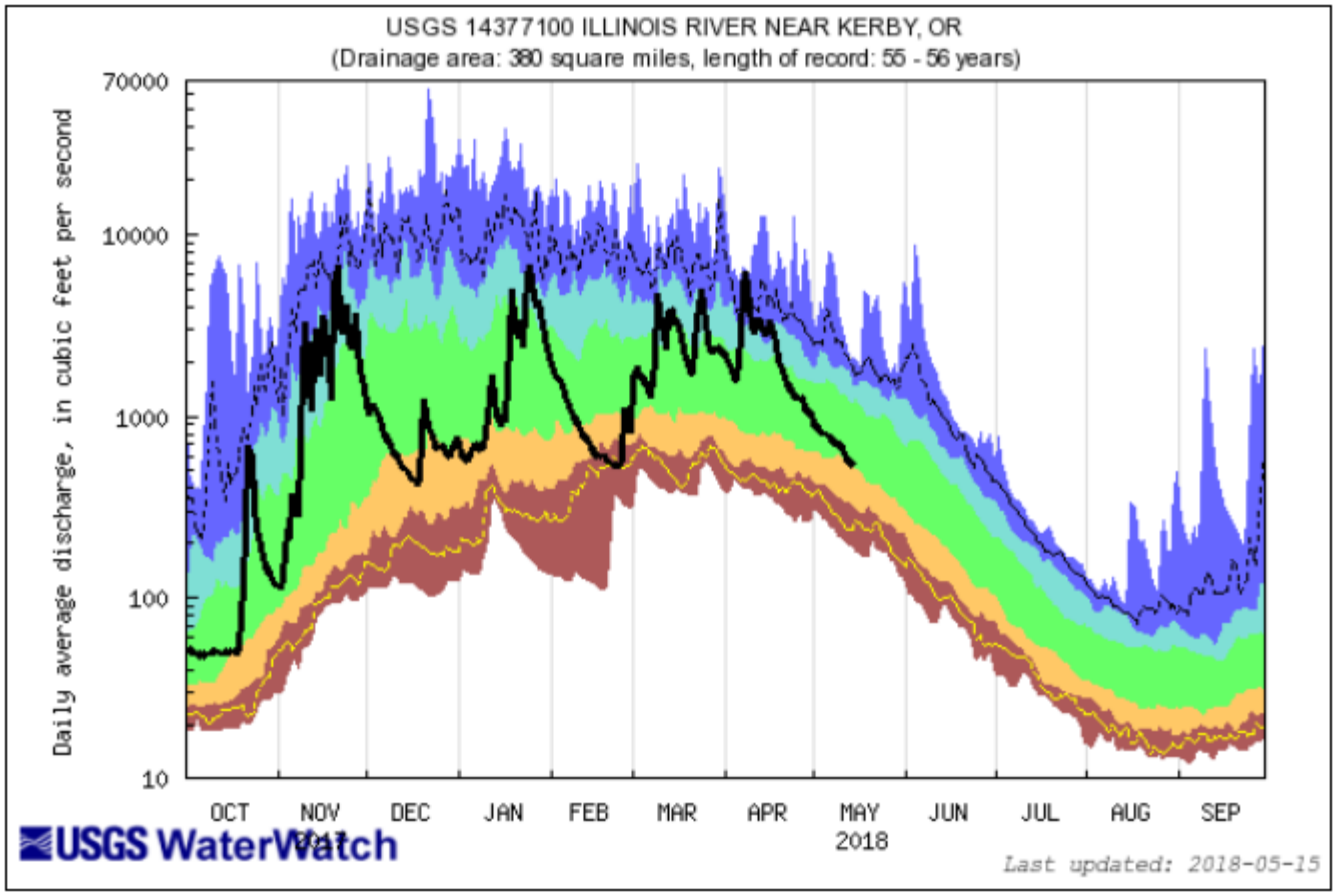




Monthly Avg. 9424 cfs
88% of Average for April (1981-2010)

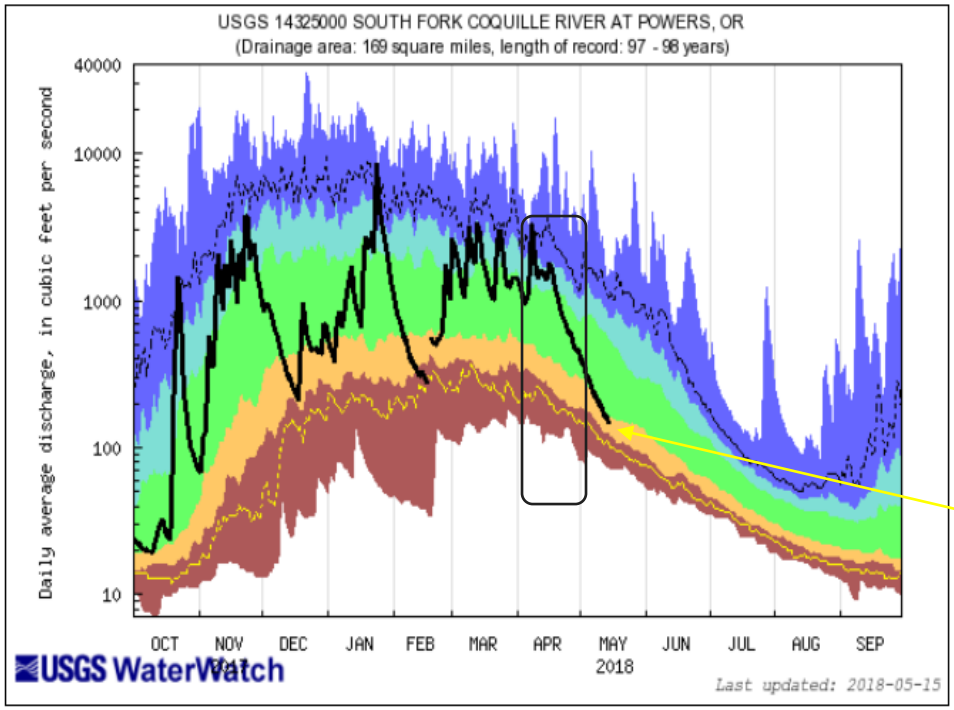
* Feb 2018 was 36% Avg. & 86% for March

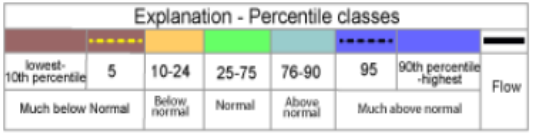
ROGUE/UMPQUA BASIN



Non Regulated site with flows Approaching "Below normal"

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





SOUTH COAST

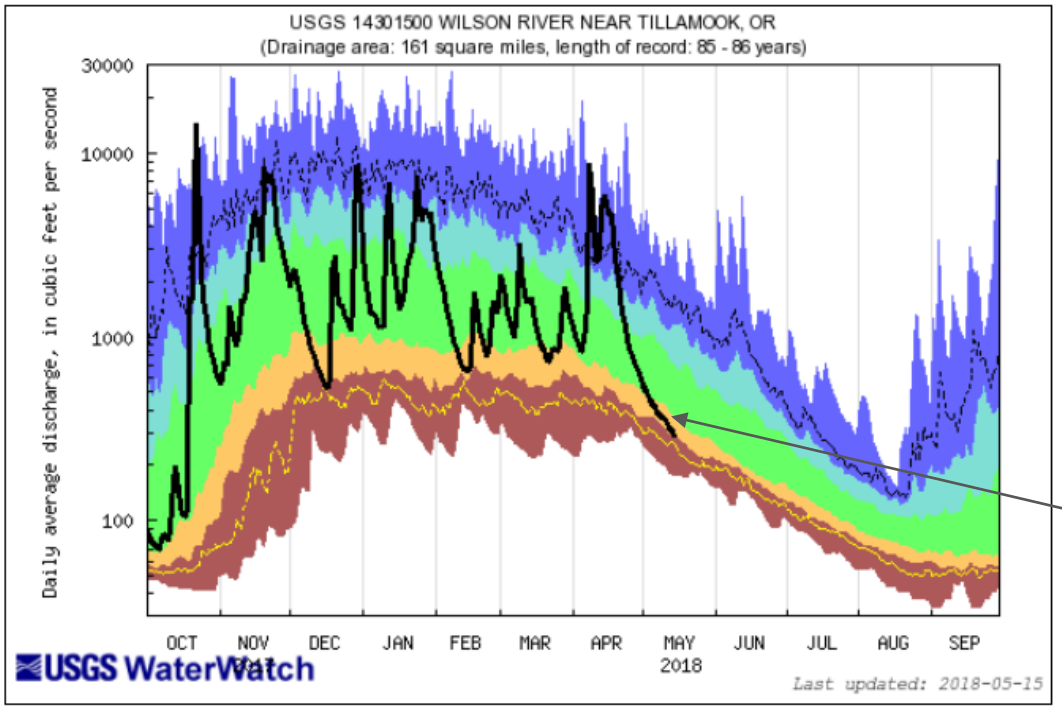
Monthly Avg. 1,206 cfs
130% of Avg. for April
(1981-2010)

Feb 40% of Avg. & 147 % in Marc

* May flows lower.

USGS

North COAST

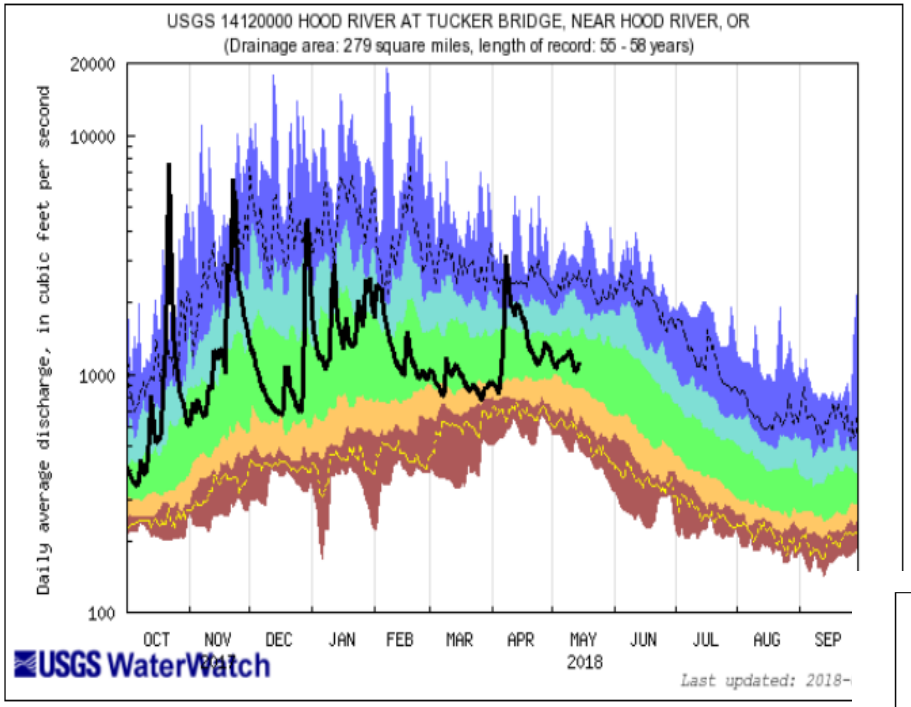


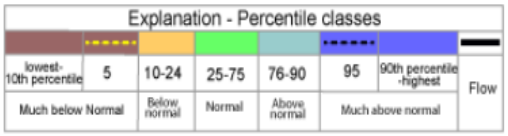
Monthly Avg. 2469 cfs
208% of Avg. for April
(1981-2010)

May?

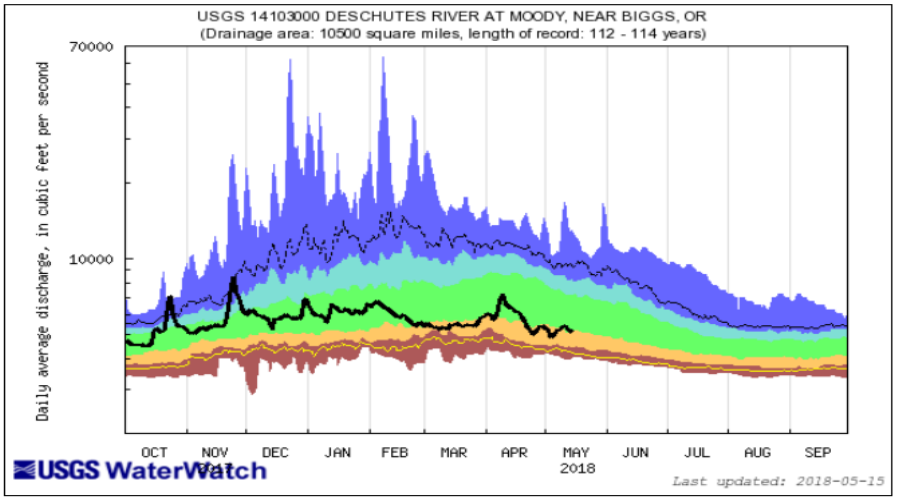
USGS

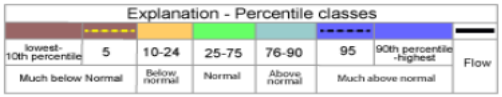
LOWER DESCHUTES / MT HOOD





Monthly Avg. 2570 cfs
118% of Avg. for April
(1981-2010)





USGS

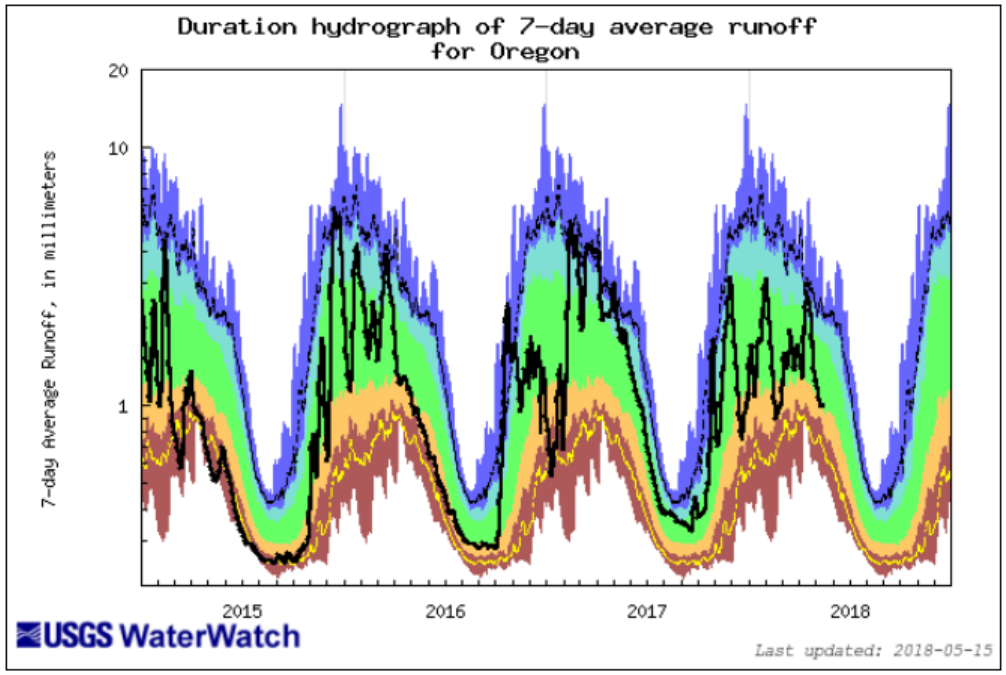
Other SWSI Basins

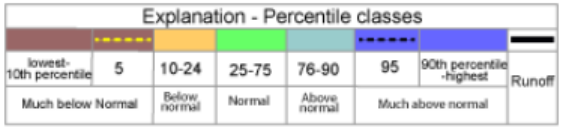
	SWSI Basin	cfs	% Avg. March		
Willamette River at Salem	Willamette	29,594	126	34	91
Wilson River near Tillamook	North Coast	2,469	208	82	119
Umpqua River near Elkton	Rogue/Umpqua	9,424	102	-16	71
(*)Deep Creek above Adel	Lake County	277	75	133	65
(*)Chewaucan River near Paisley	Lake County	301	84	171	74

USGS

https://or.water.usgs.gov/data_dir/war_dir/

https://waterwatch.usgs.gov/index.php?id=ww_annual_summary





Power Point “USGS Update on Surface Water Conditions”

By: Marc Stewart & Carrie Boudreau USGS ORWSC

Water Availability Report By: Tiffany Rae Jacklin USGS ORWSC

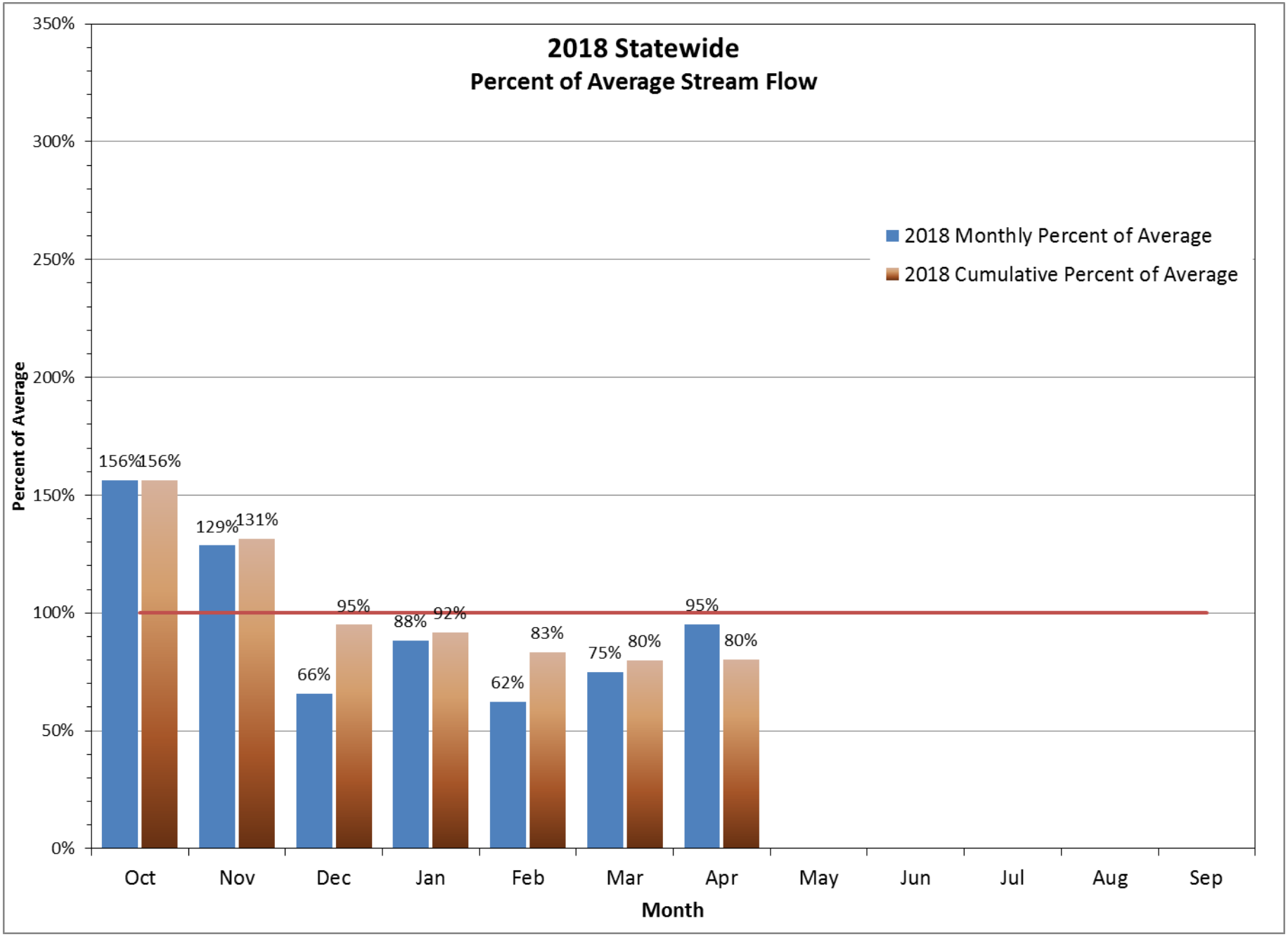
USGS

Surface Water Conditions Report

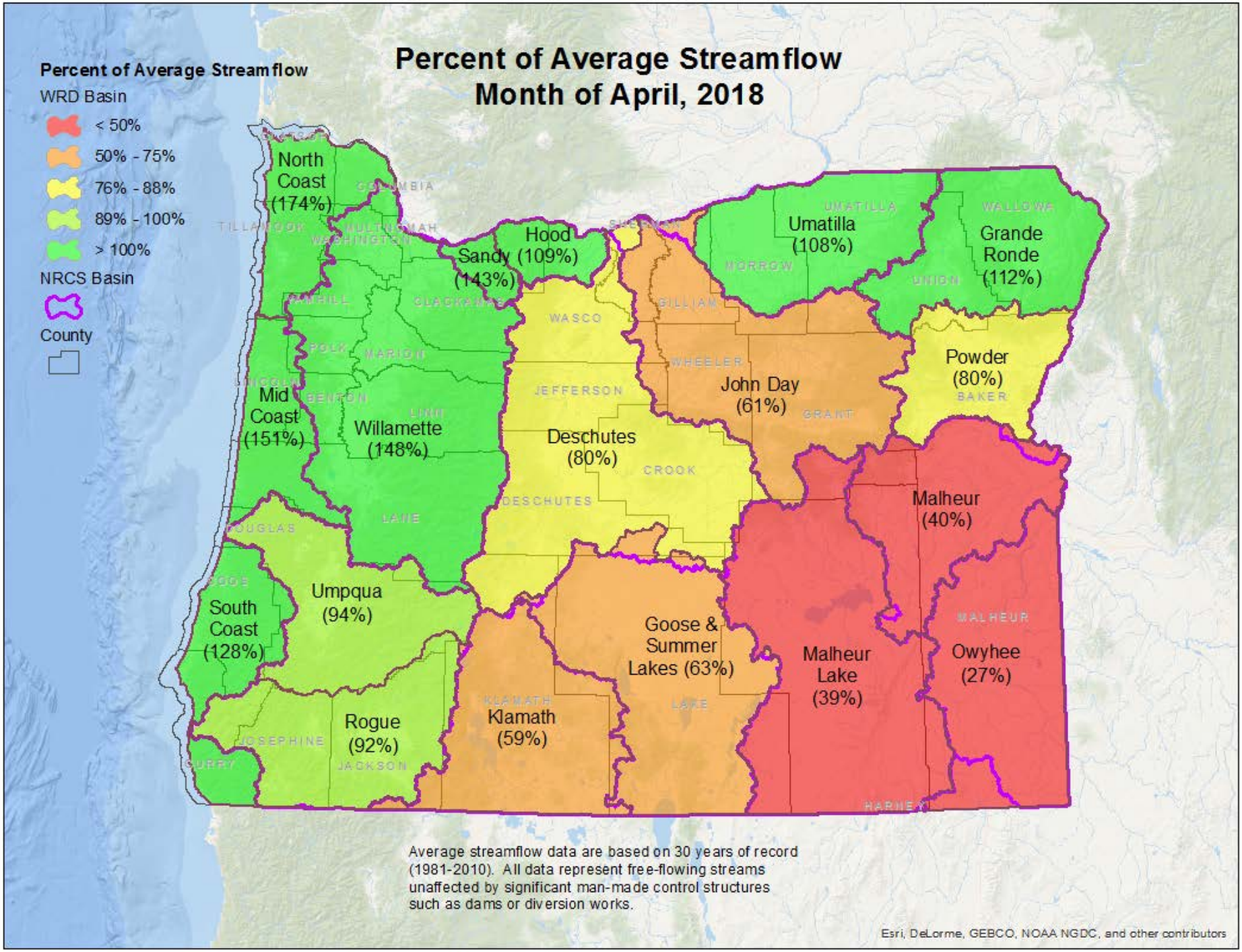
Water Supply Availability Committee

Ken Stahr
Oregon Water Resources Department

May 15, 2018

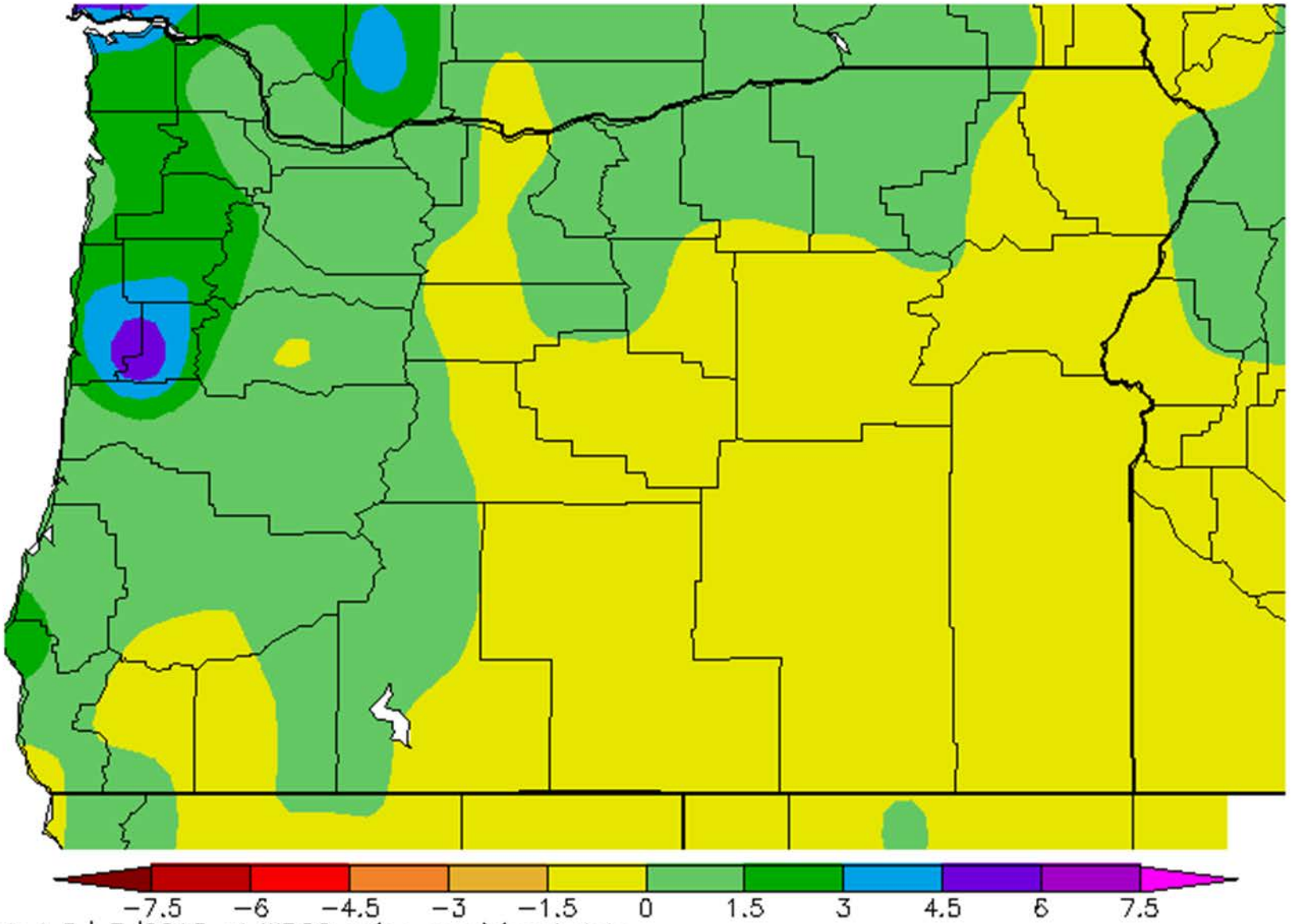

2018 Statewide
Percent of Average Stream Flow
2018 Monthly Percent of Average
2018 Cumulative Percent of Average
Percent of Average
350%
300%
250%
200%
150%
100%
50%
0%
156%
156%
129%
131%
66%
95%
88%
92%
62%
83%
75%
80%
95%
80%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Month

Percent of Average Streamflow
Month of April, 2018

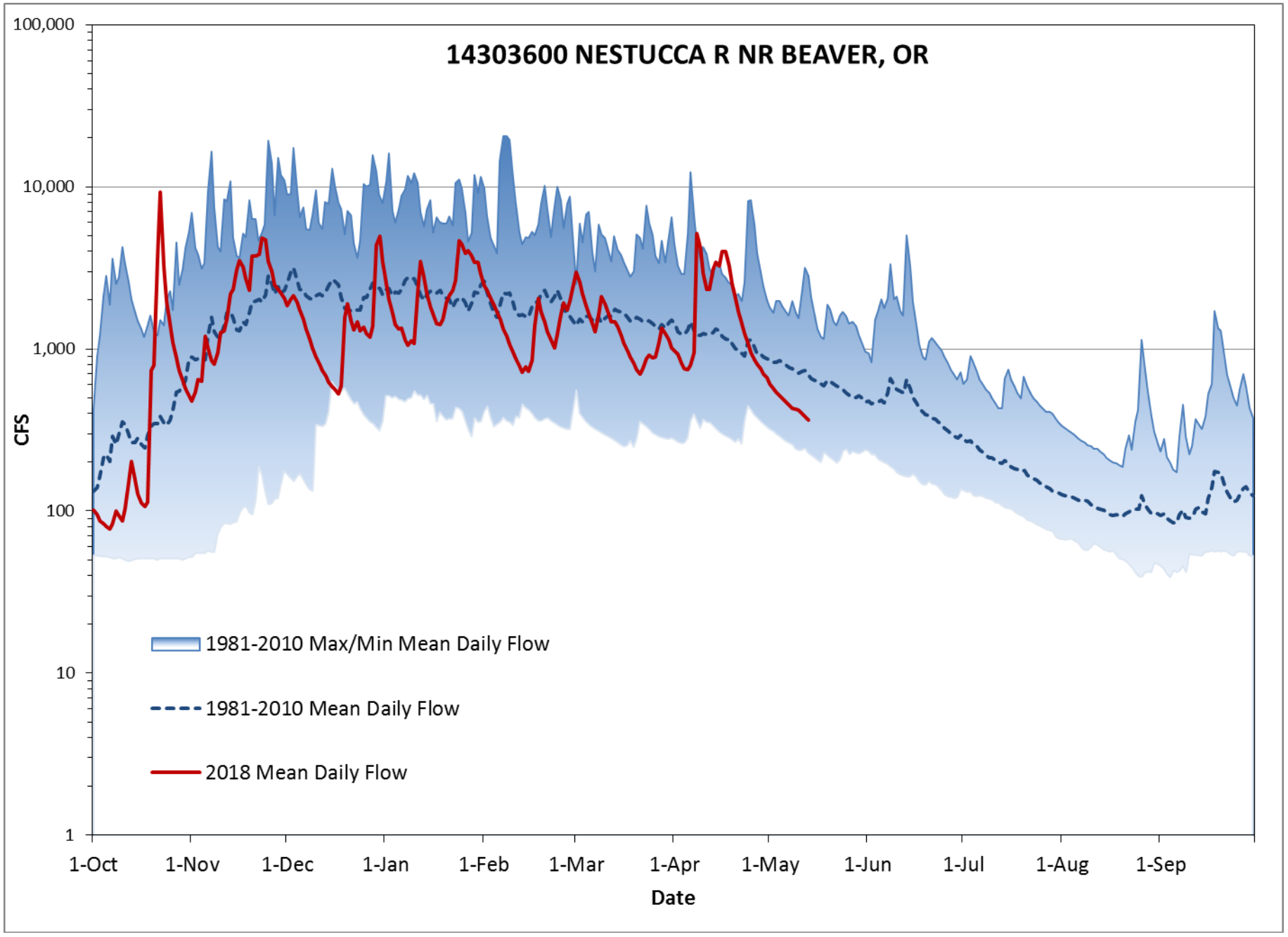


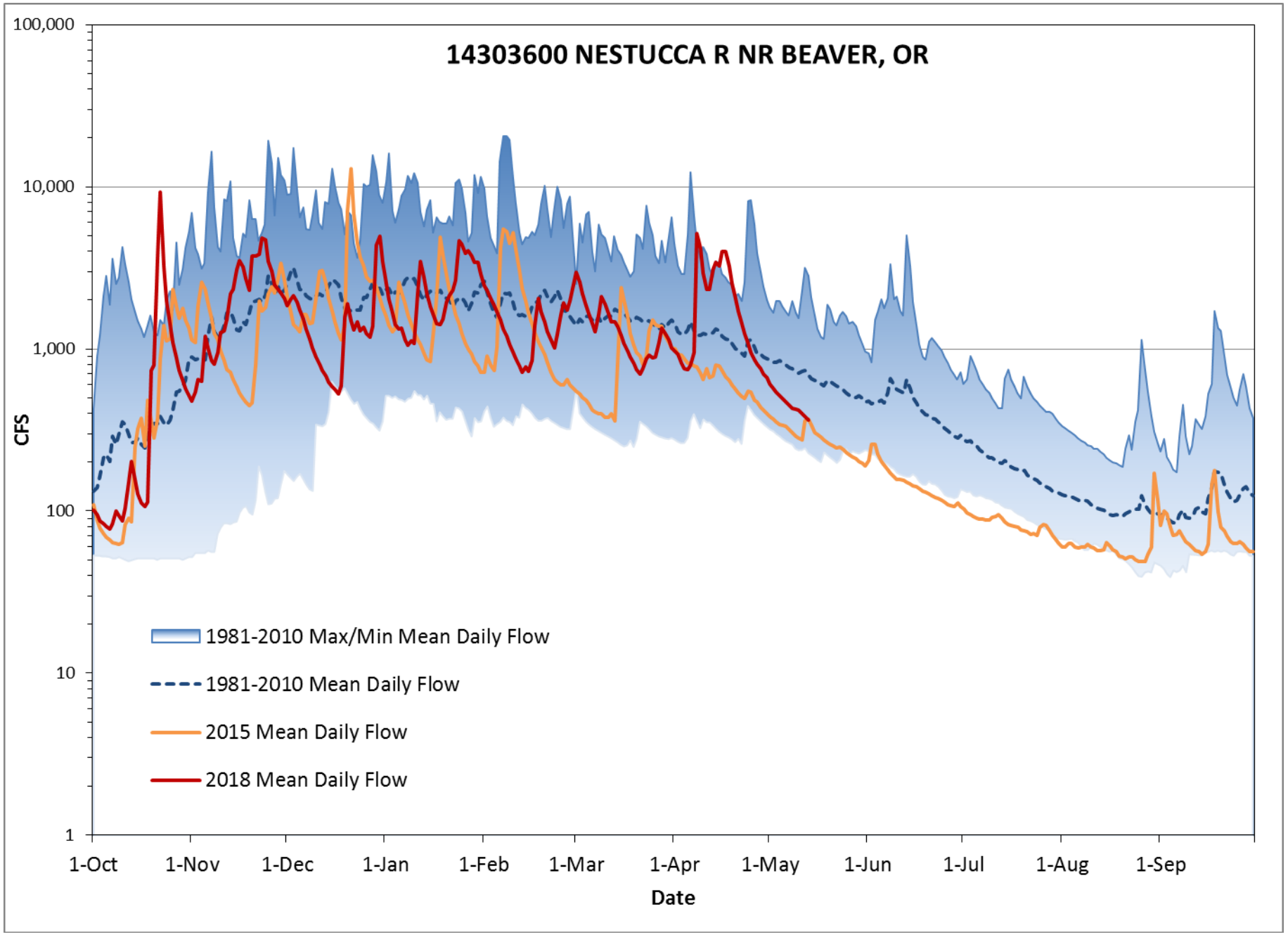
Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.

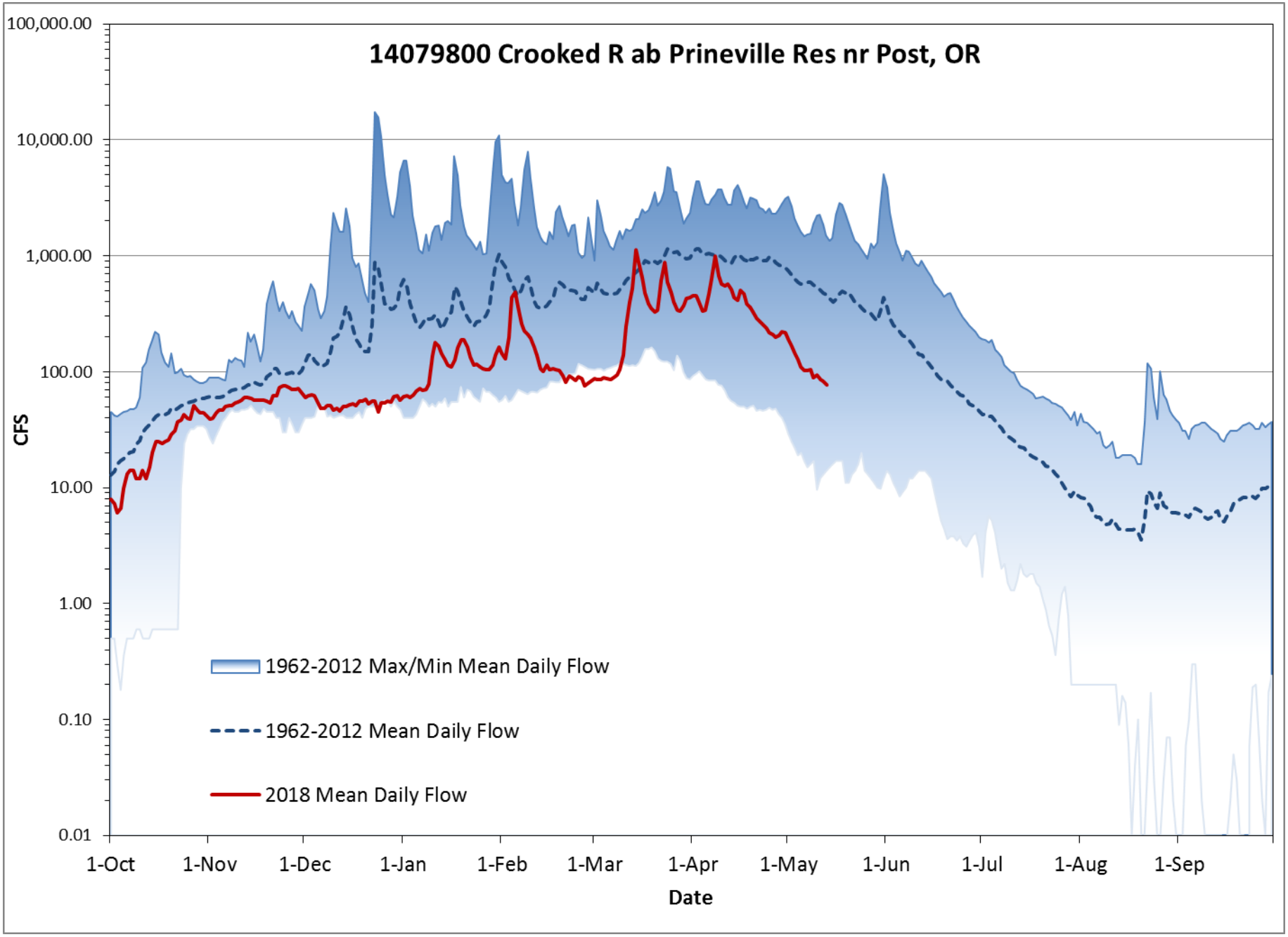
Precipitation Departure from Average (in.)
4/7/2018 – 5/6/2018

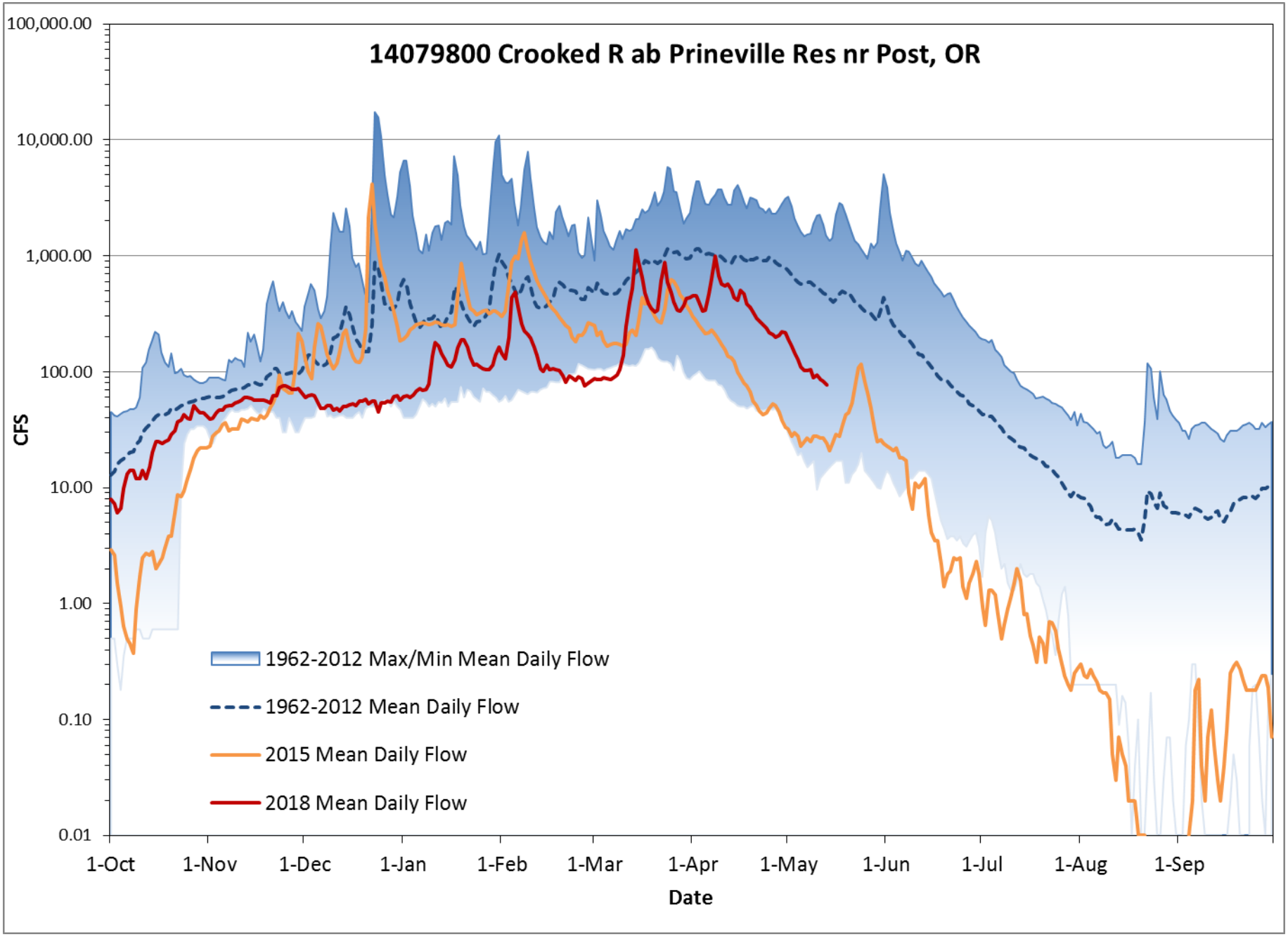


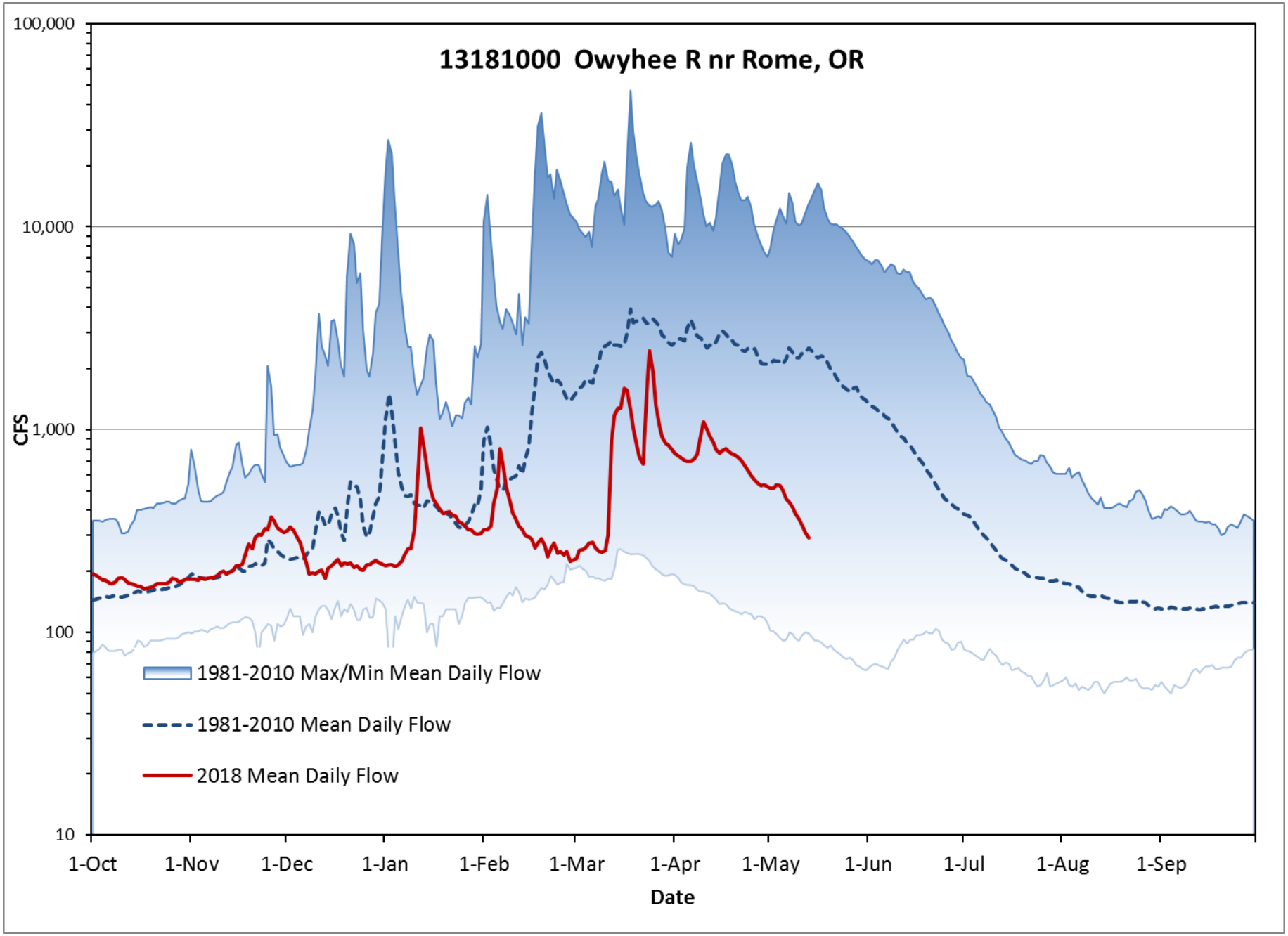
Generated 5/ 7/2018 at WRCC using provisional data.
NOAA Regional Climate Centers

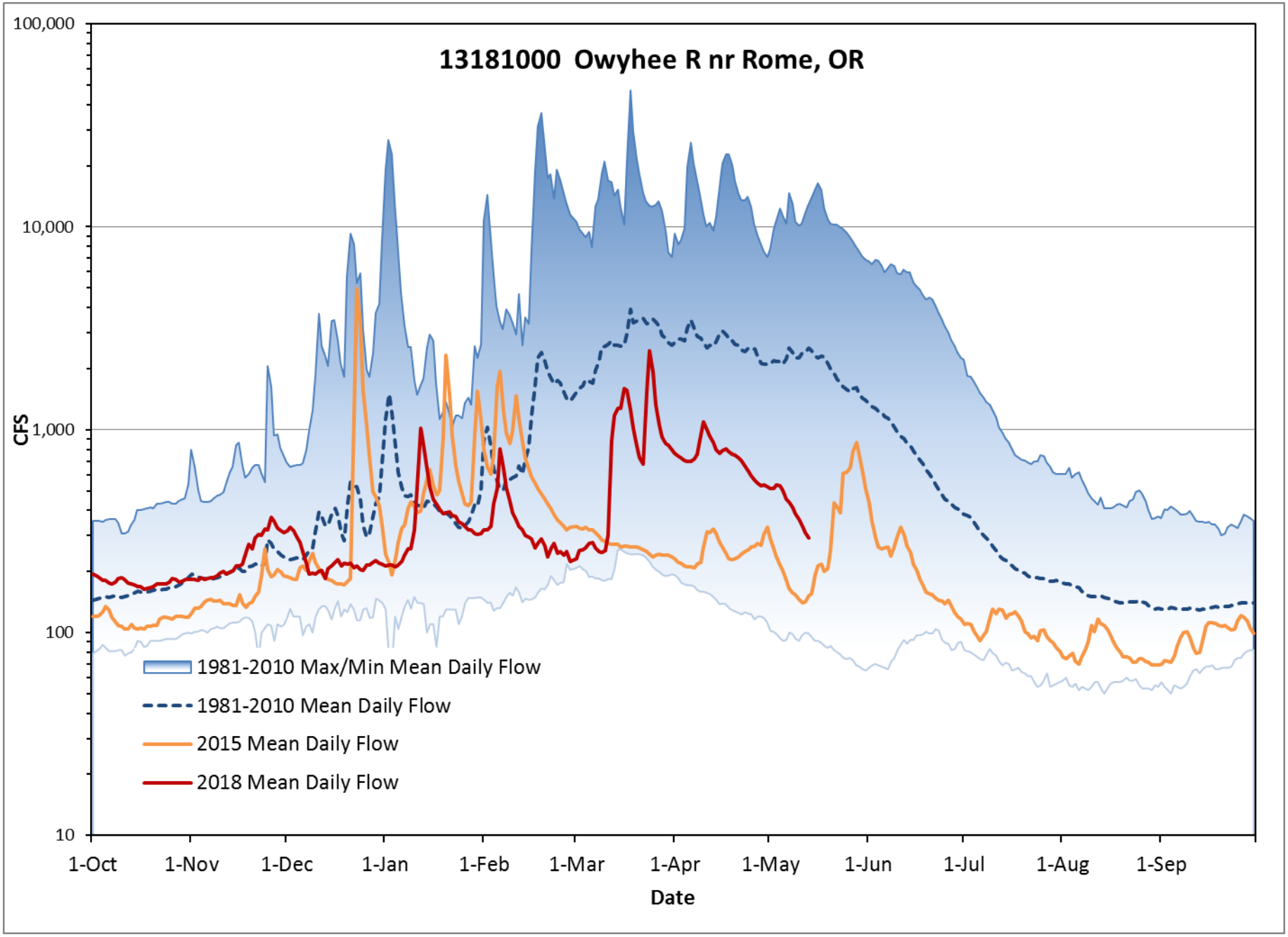

14303600 NESTUCCA R NR BEAVER, OR
100,000
10,000
1,000
100
10
1
CFS
1981-2010 Max/Min Mean Daily Flow
1981-2010 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


14303600 NESTUCCA R NR BEAVER, OR
100,000
10,000
1,000
100
10
1
CFS
1981-2010 Max/Min Mean Daily Flow
1981-2010 Mean Daily Flow
2015 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


14079800 Crooked R ab Prineville Res nr Post, OR
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
CFS
1962-2012 Max/Min Mean Daily Flow
1962-2012 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


14079800 Crooked R ab Prineville Res nr Post, OR
100,000.00
10,000.00
1,000.00
100.00
10.00
1.00
0.10
0.01
CFS
1962-2012 Max/Min Mean Daily Flow
1962-2012 Mean Daily Flow
2015 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

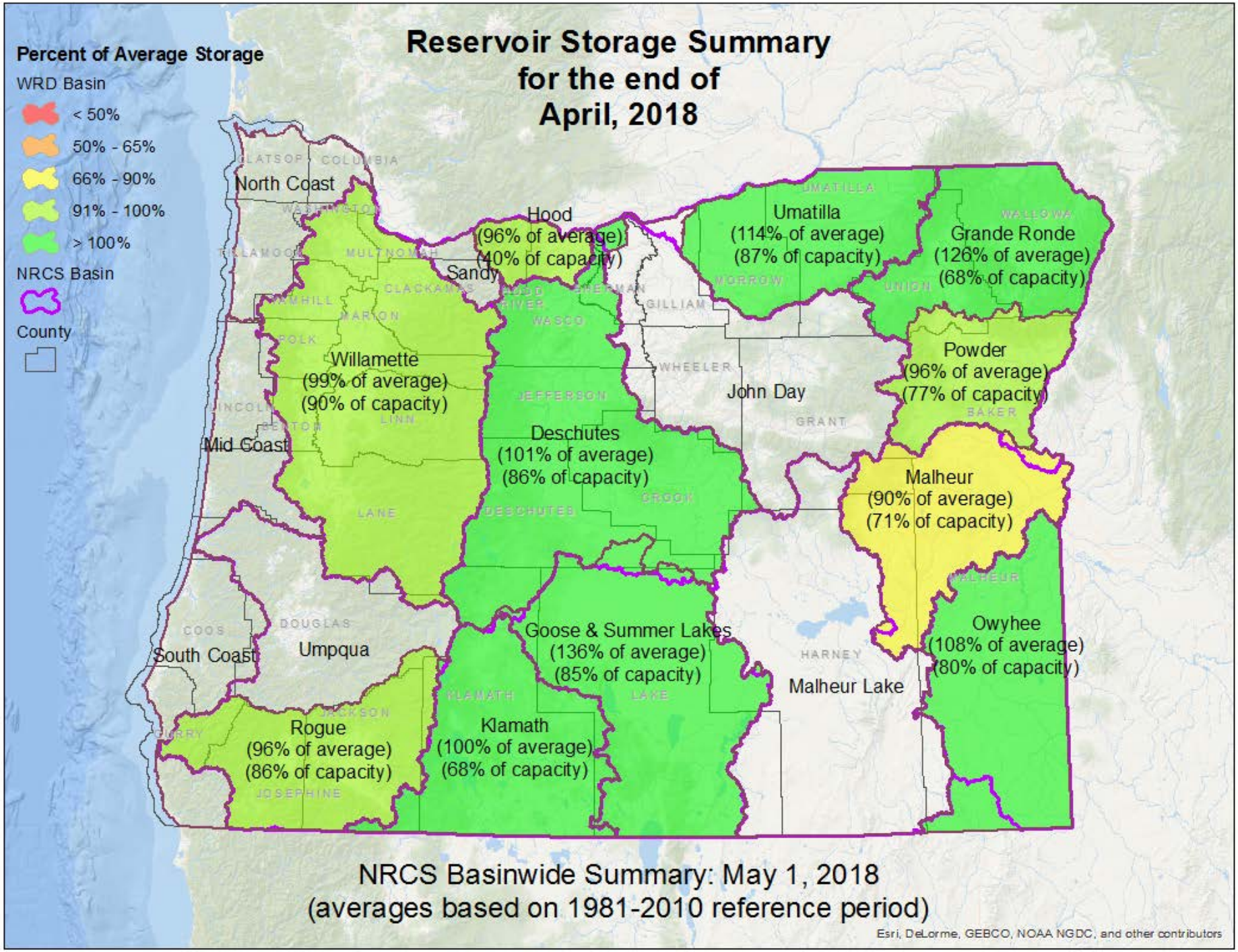

13181000 Owyhee R nr Rome, OR
100,000
10,000
1,000
100
10
CFS
1981-2010 Max/Min Mean Daily Flow
1981-2010 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


13181000 Owyhee R nr Rome, OR
100,000
10,000
1,000
100
10
CFS
1981-2010 Max/Min Mean Daily Flow
1981-2010 Mean Daily Flow
2015 Mean Daily Flow
2018 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

OREGON
WATER RESOURCES
DEPARTMENT

Thank you.

Reservoir Storage Summary for the end of April, 2018



NRCS Basinwide Summary: May 1, 2018
(averages based on 1981-2010 reference period)

Oregon Water Supply Availability

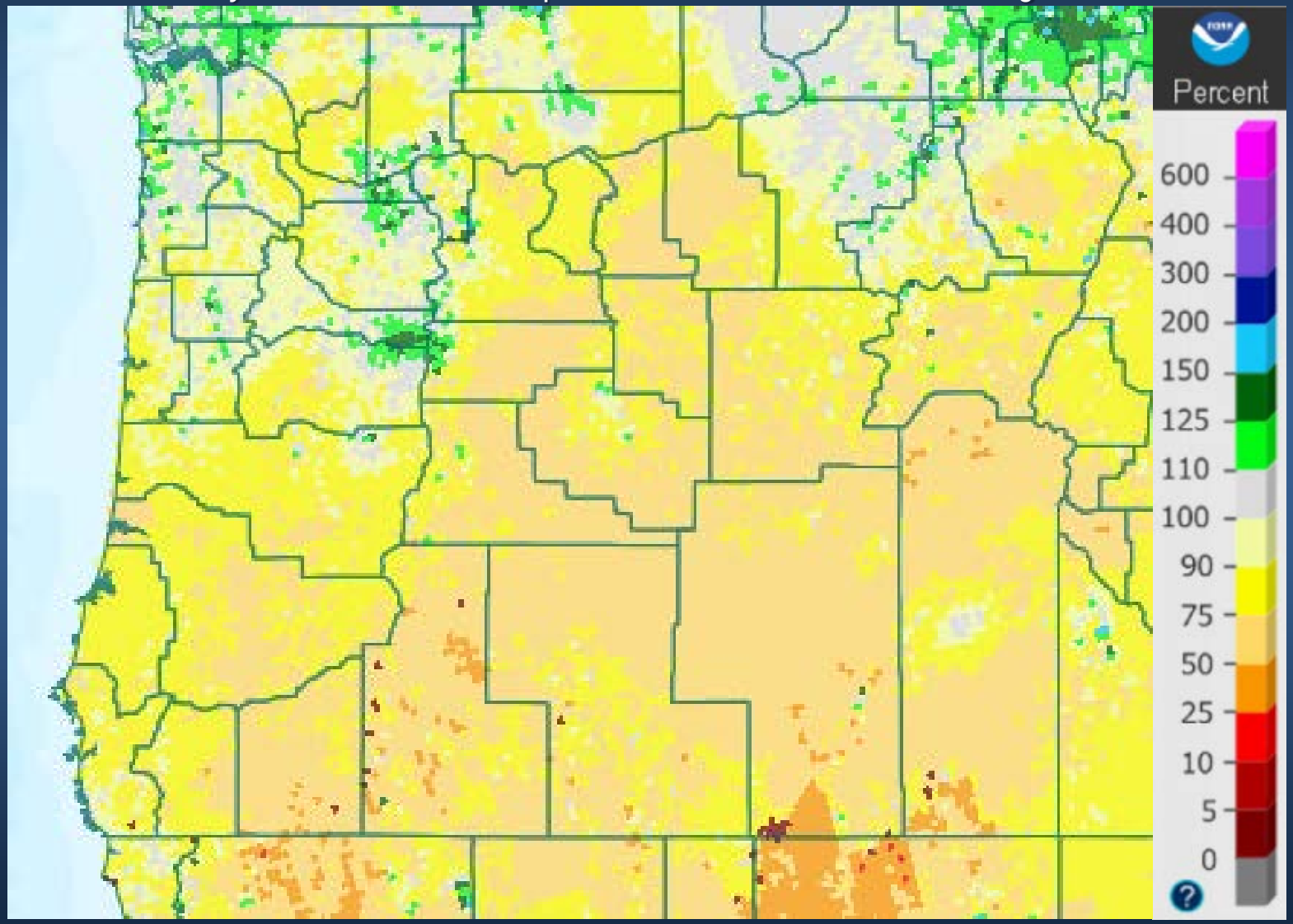
May 15, 2018 National Weather Service Update

Andy Bryant, NWS Portland

Columbia River at Portland

WY2018 Precipitation thus far

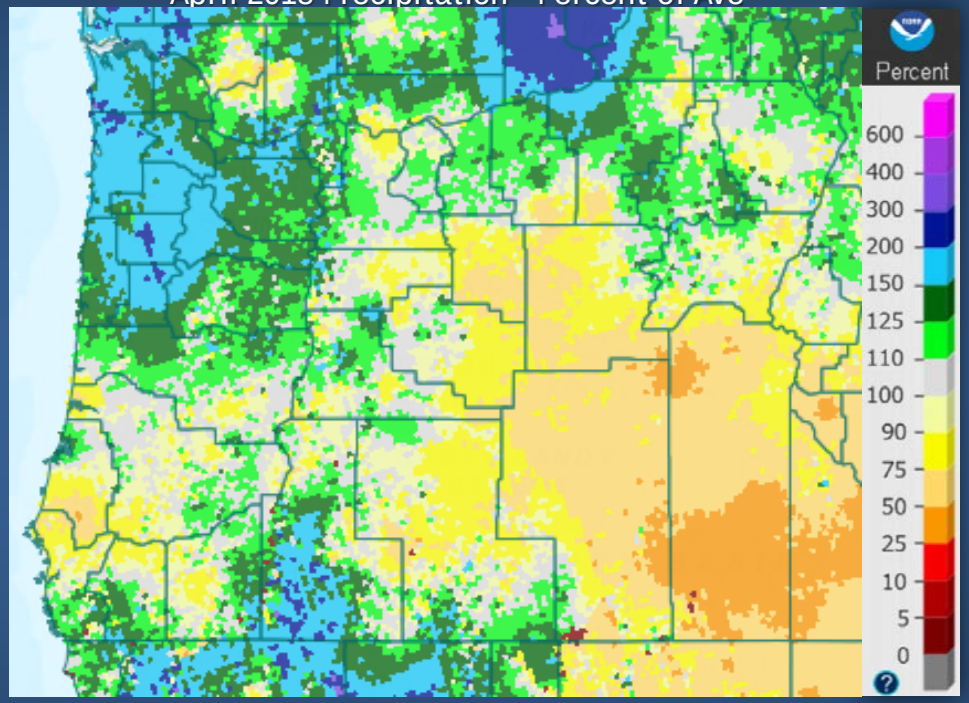
May 14th Water Year Precipitation to Date – Percent of Average



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

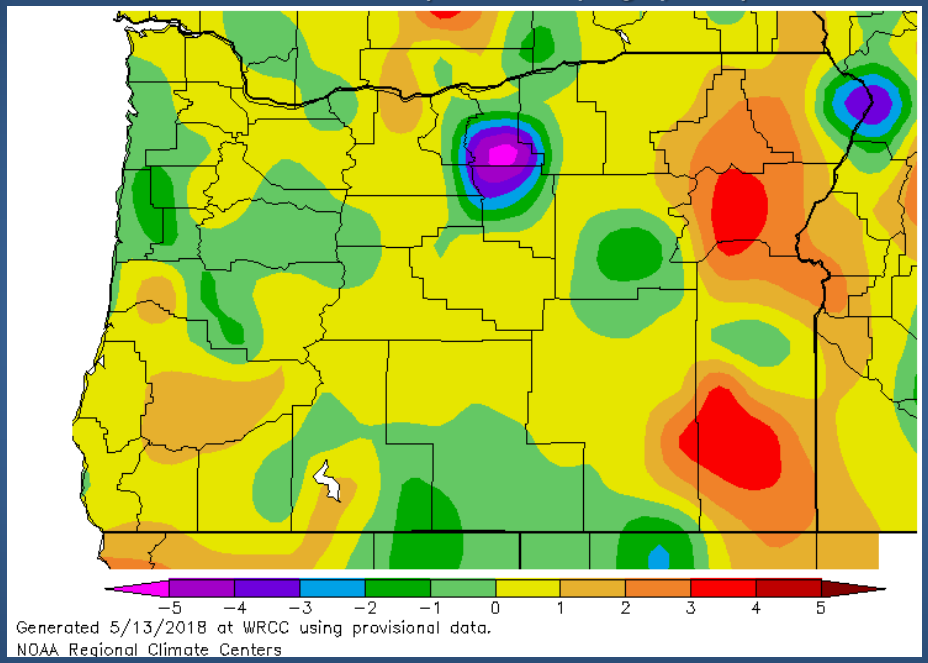
Recent Conditions
Precipitation & Temperatures

April 2018 Precipitation - Percent of Ave



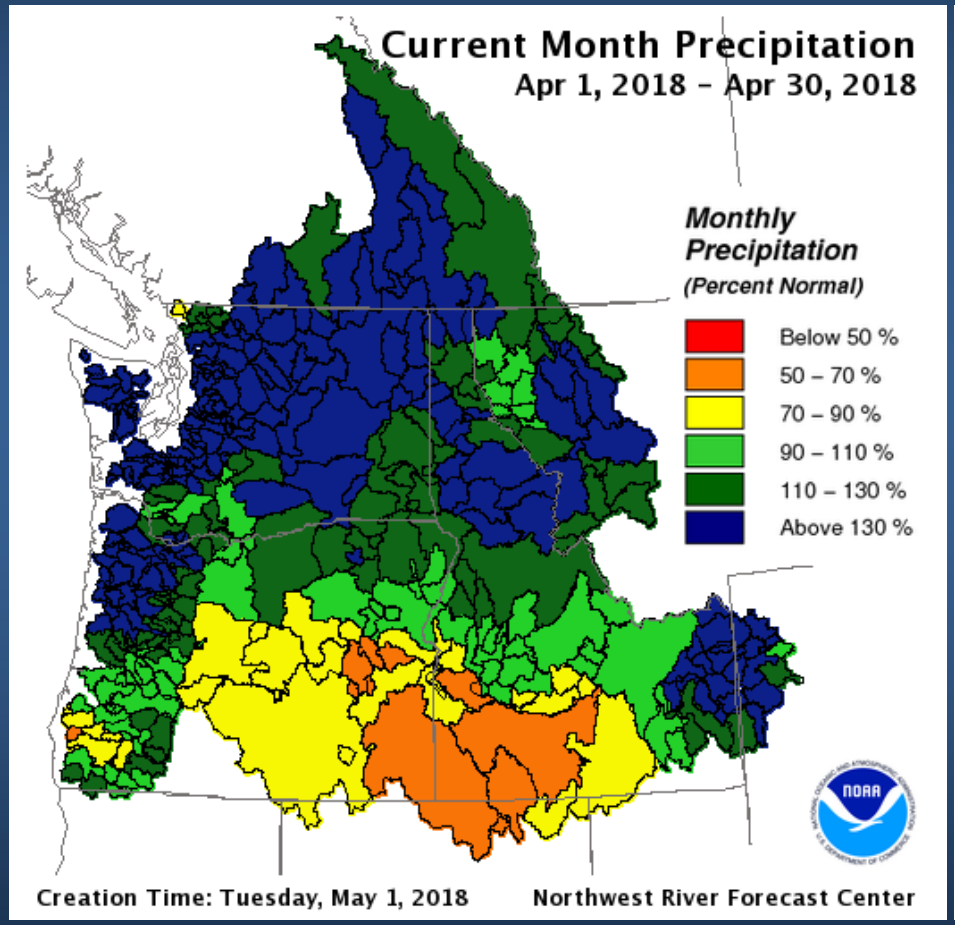
Source: water.weather.gov/precip/index.php?location_type=wfo&location_name=pqr

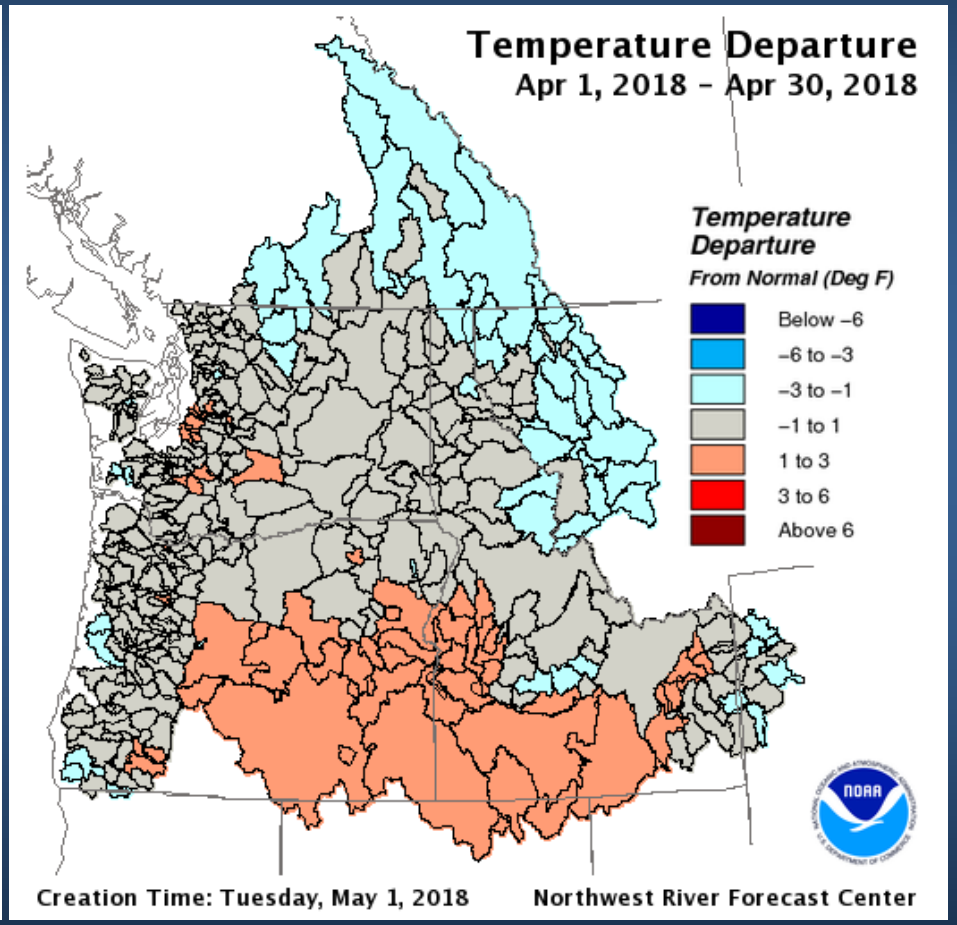
3/14/2018 – 5/12/2018 Temperatures (deg F) – Dep from Ave



Source: wrcc.dri.edu/anom/ore_anom.html

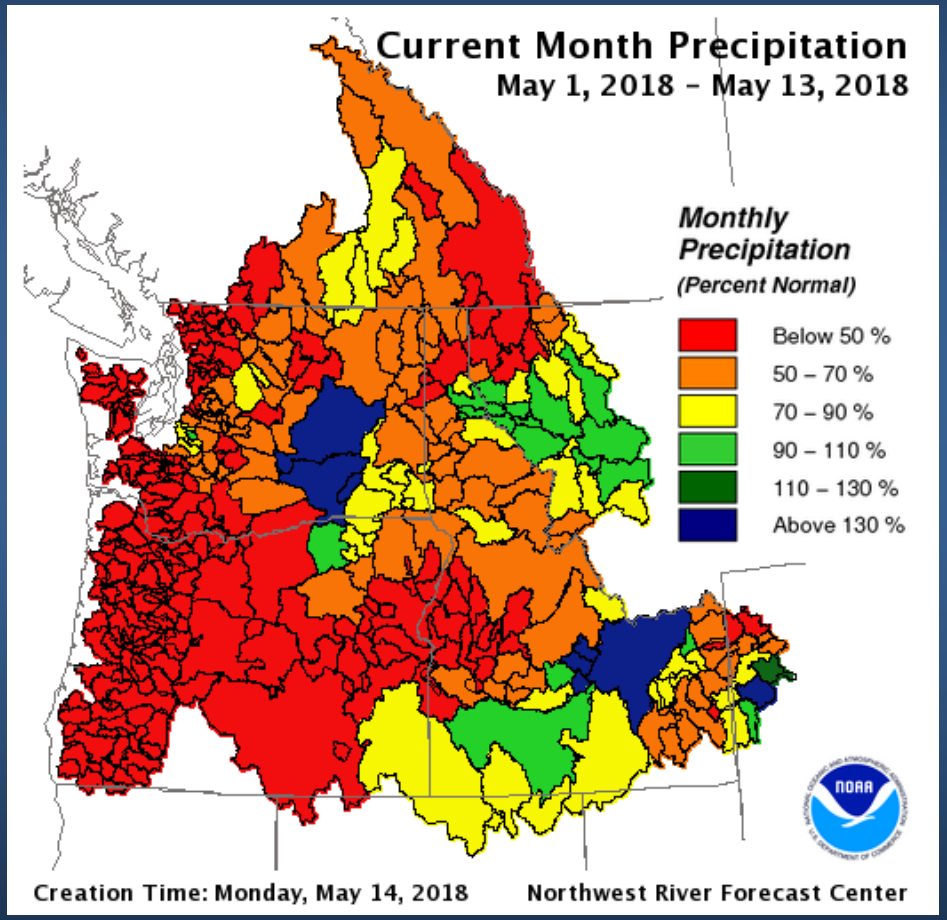
April 2018
Precipitation & Temperatures
Columbia Basin Conditions

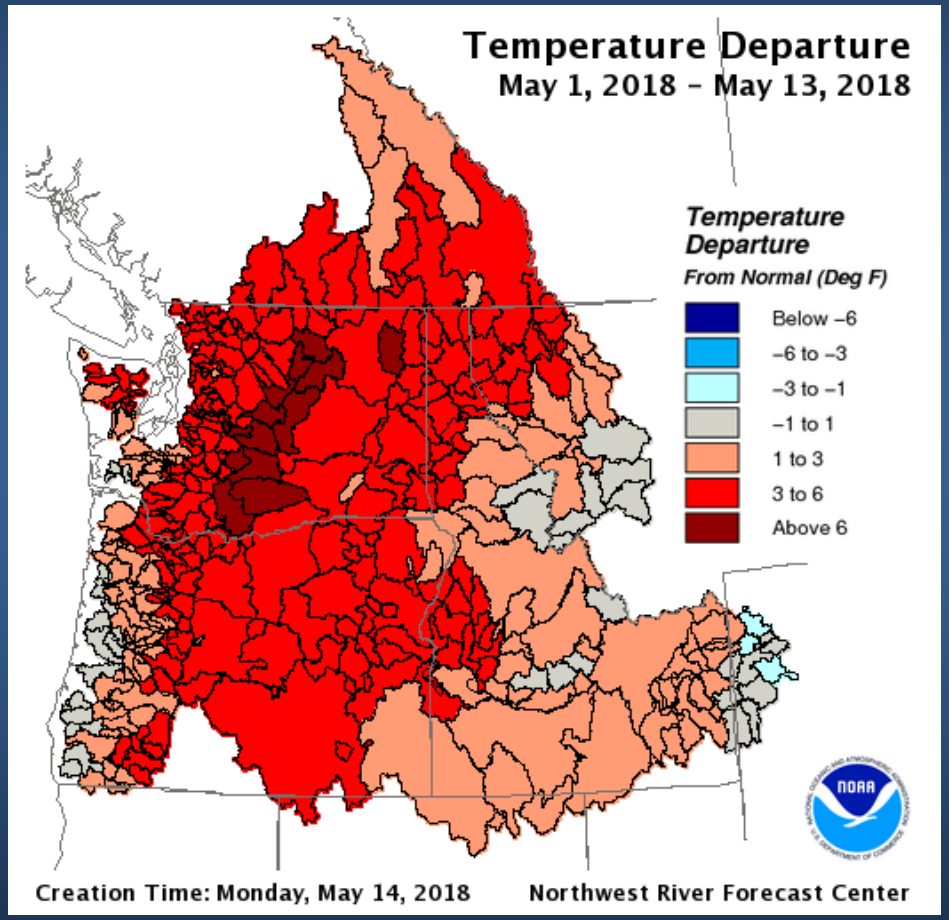




Source: www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

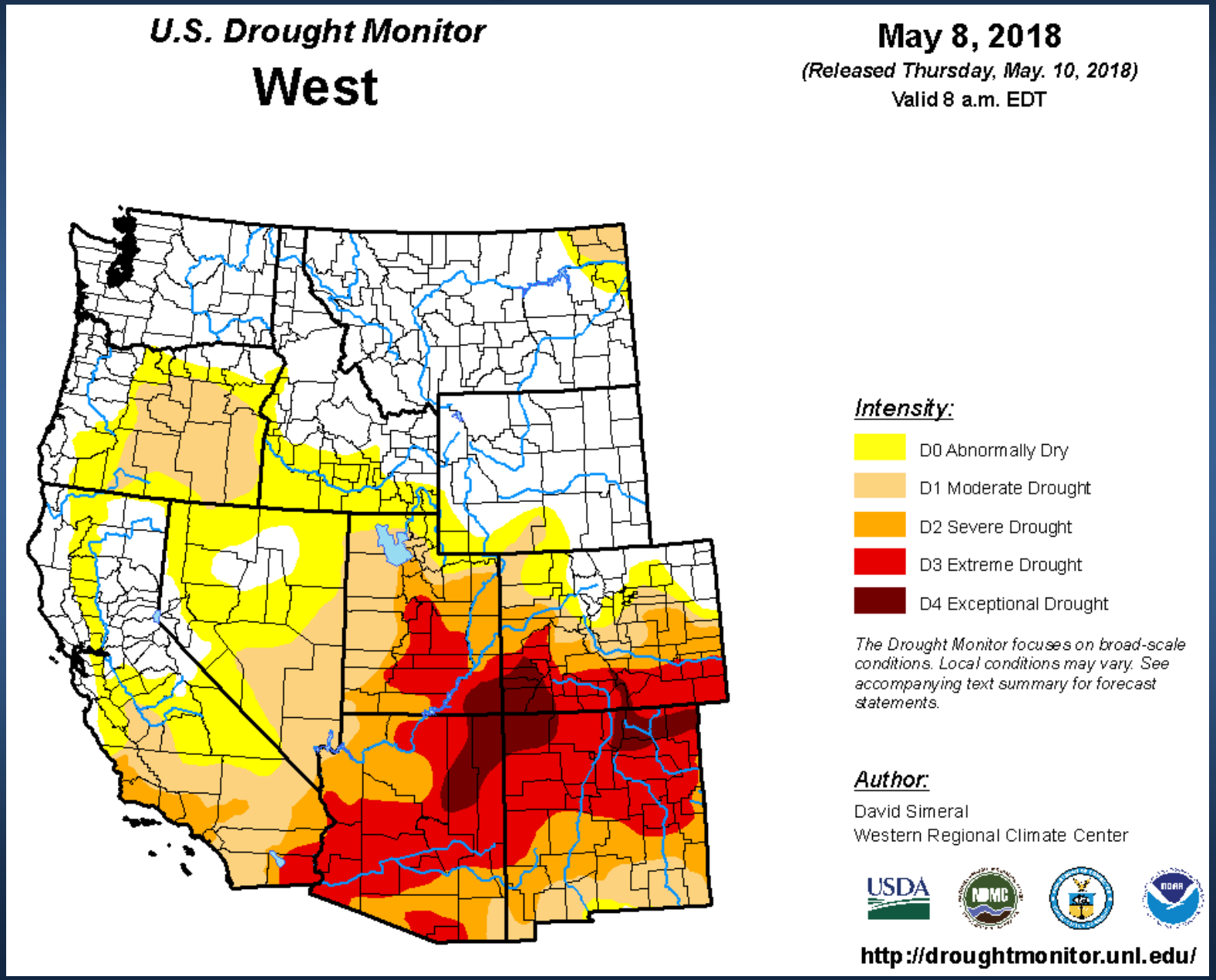
May 1 - 14, 2018
Precipitation & Temperatures
Columbia Basin Conditions





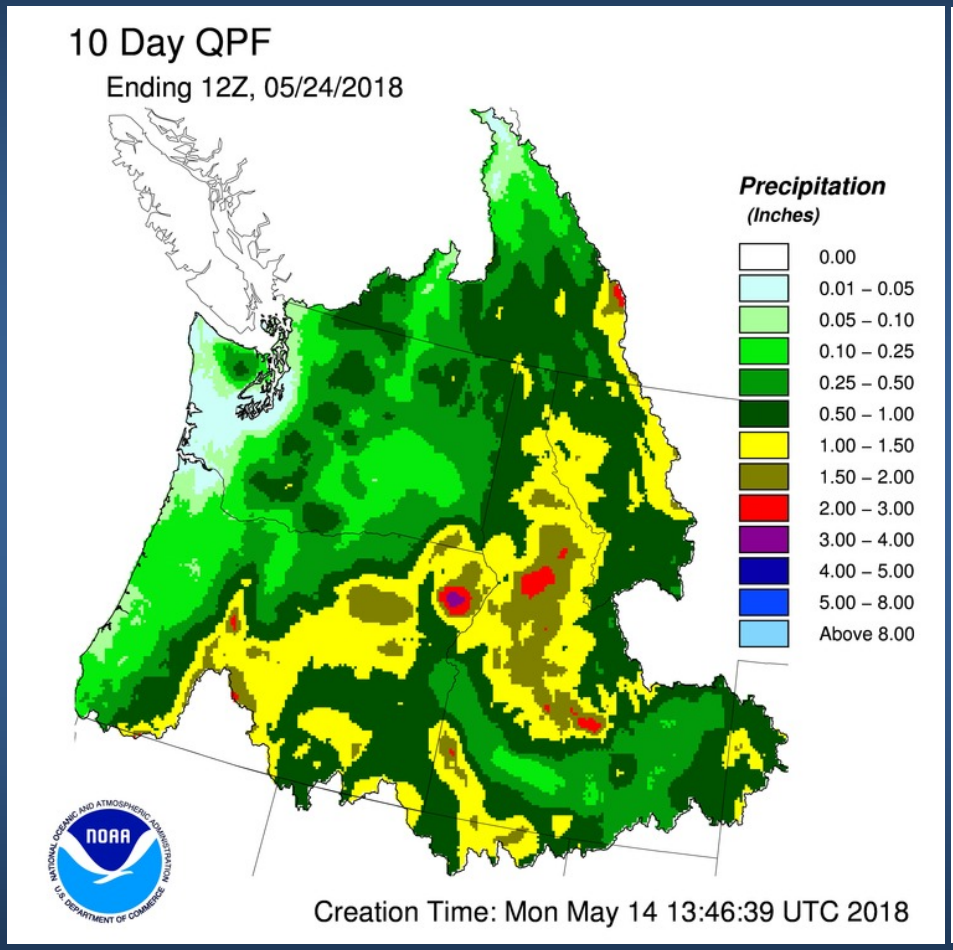
Source: www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

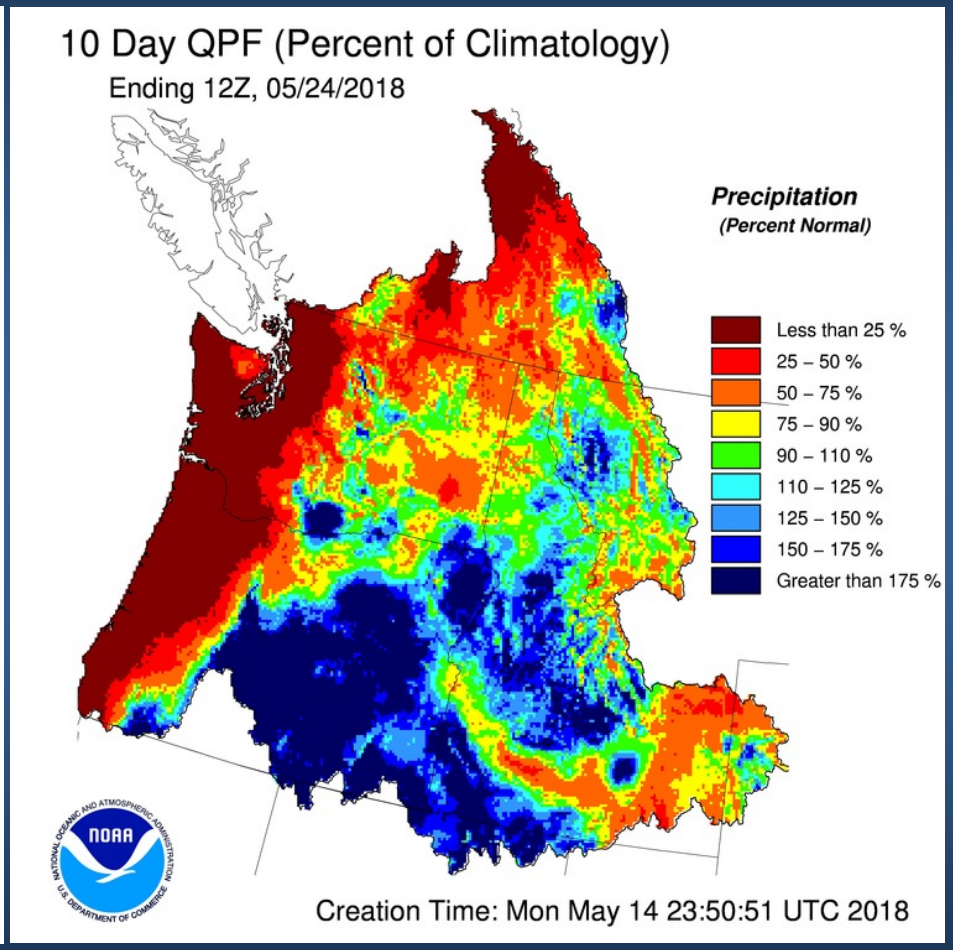
Drought Monitor



Mid-May Outlook

May 15-24, 2018 Forecast Precipitation

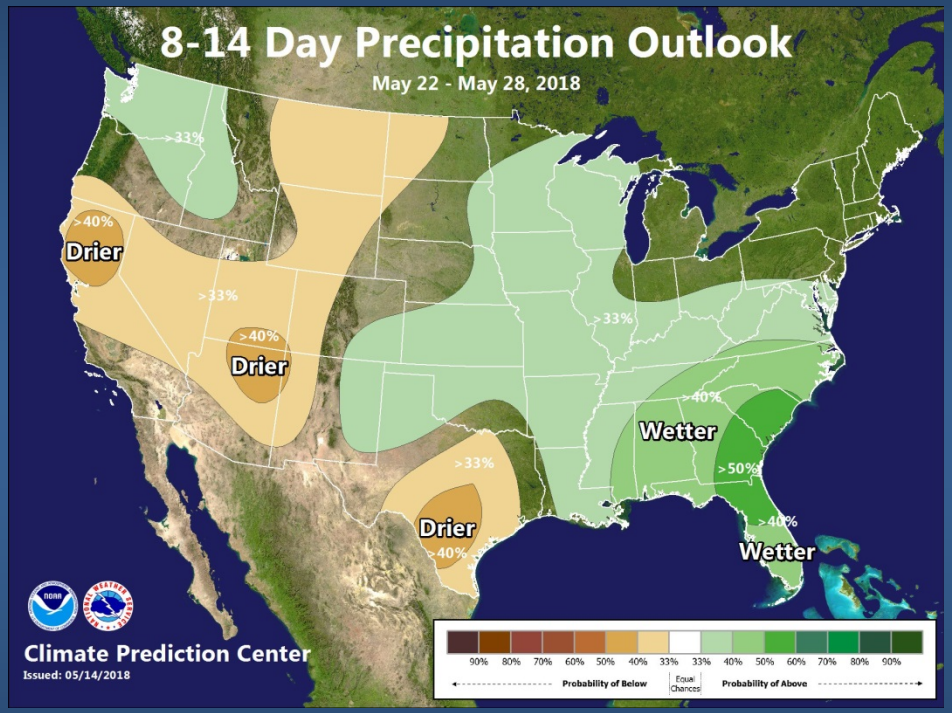




Temperatures near to above average for second half of May

Late-May Outlook

May 22-28, 2018 Precipitation & Temperature Outlook



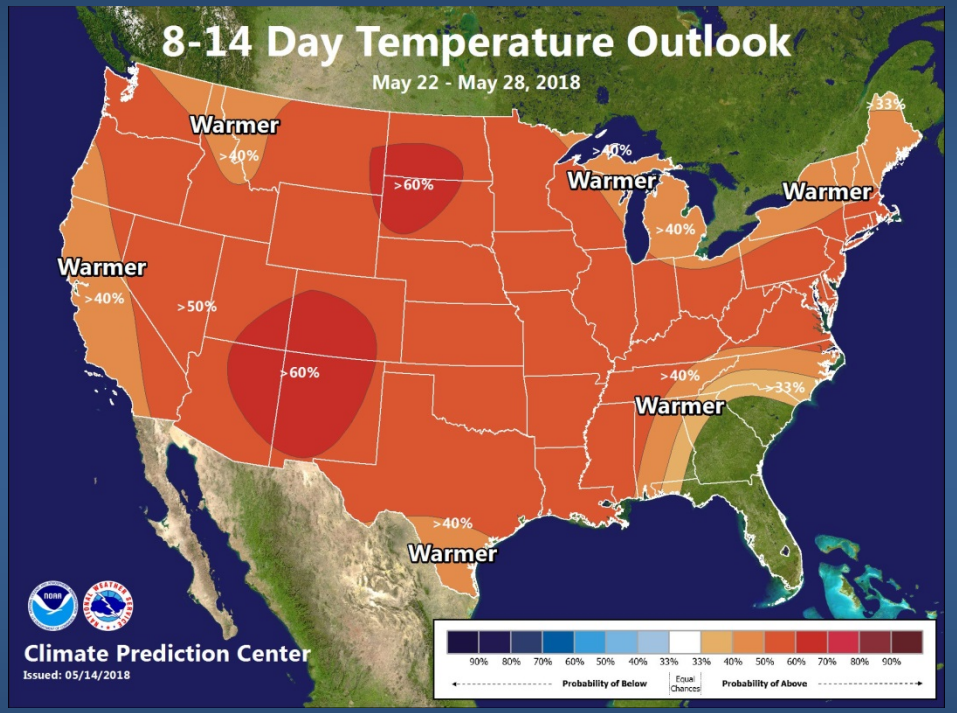
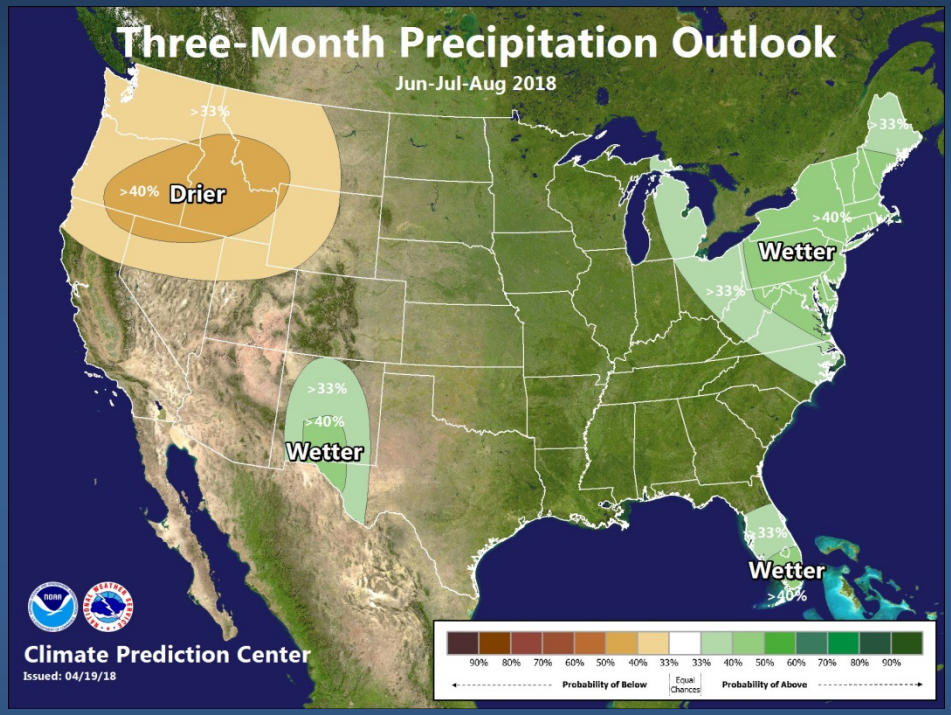


Image source: www.cpc.ncep.noaa.gov

Outlook for June-July-August 2018



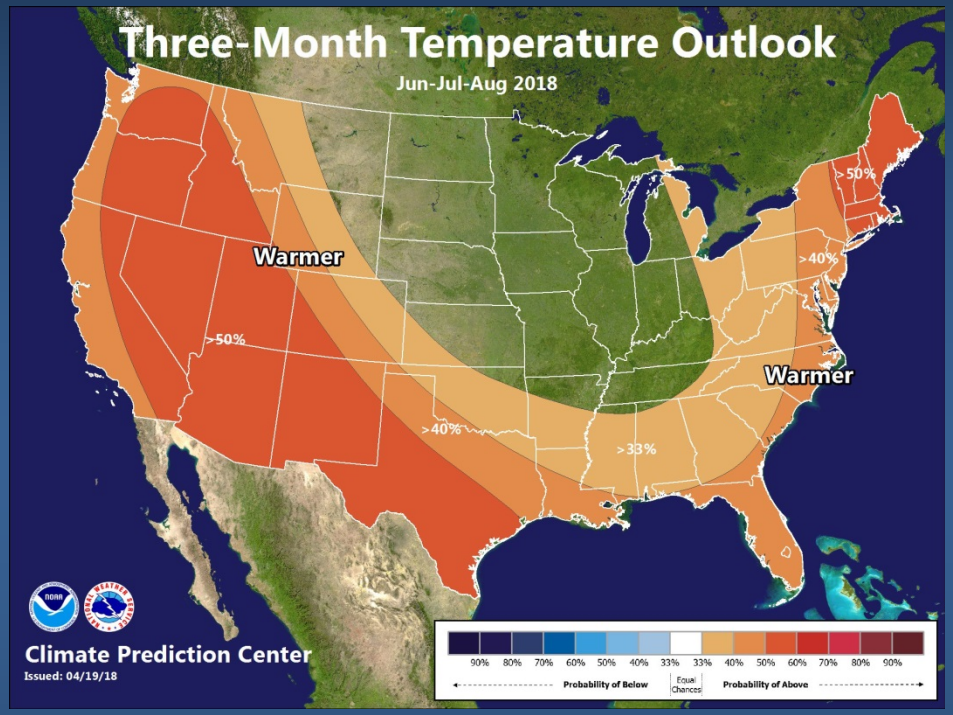
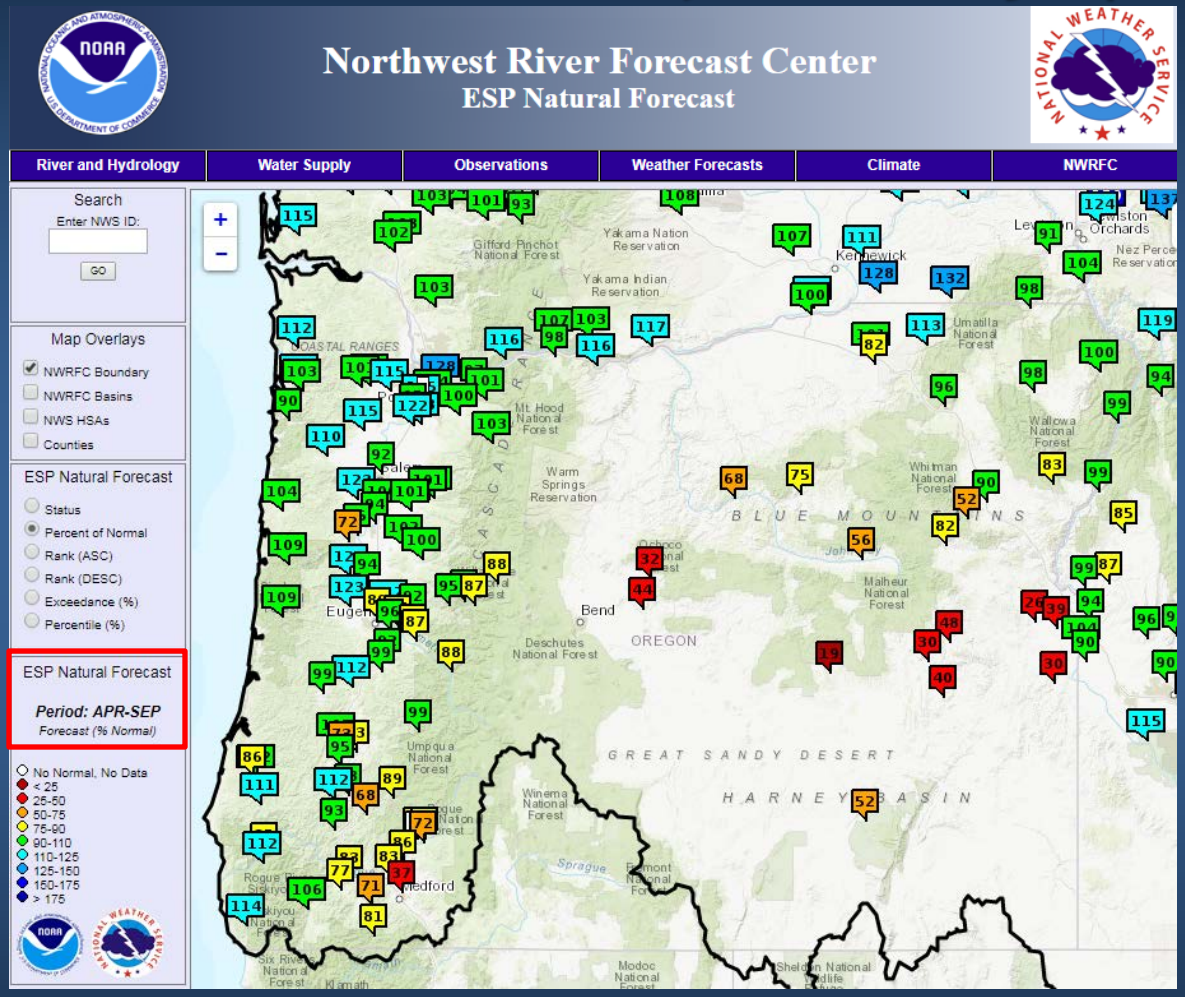
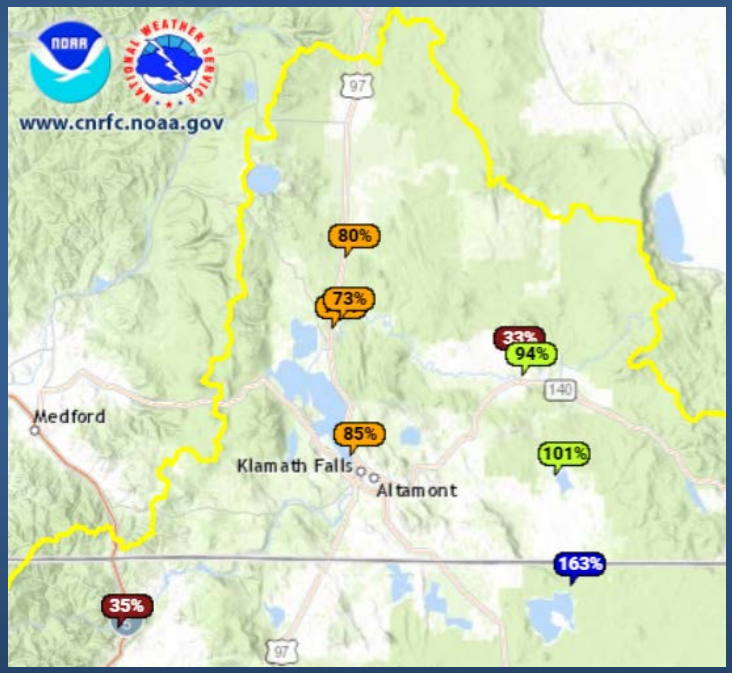


Image source: www.cpc.ncep.noaa.gov

Water Supply Forecasts

from early April

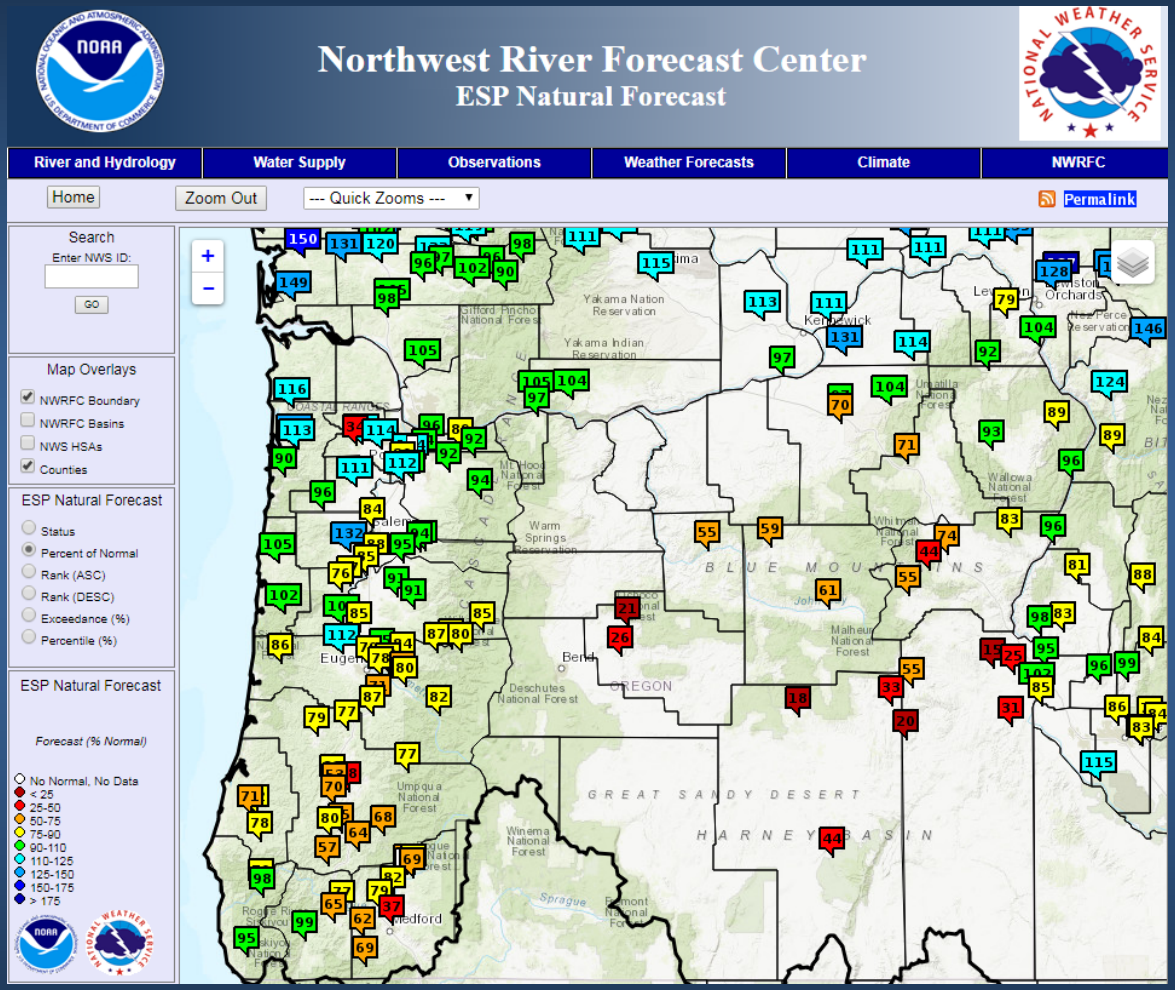


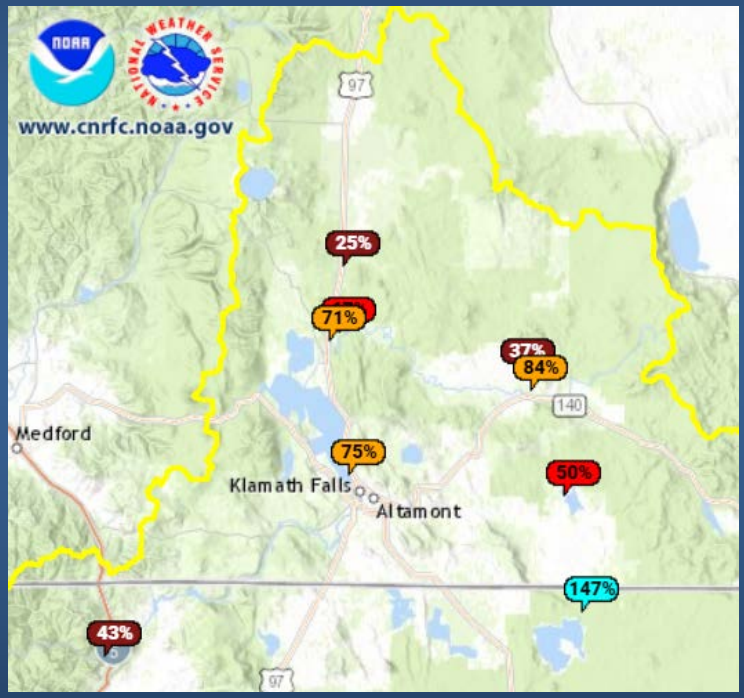


Source: www.nwrfc.noaa.gov & www.cnrfc.noaa.gov

Water Supply Forecasts

as of May 14th





Source: www.nwrfc.noaa.gov & www.cnrfc.noaa.gov

Observed Water Year Runoff

% of Average for Oct 1, 2017 – May 14, 2018