Oregon Water Supply Availability Committee

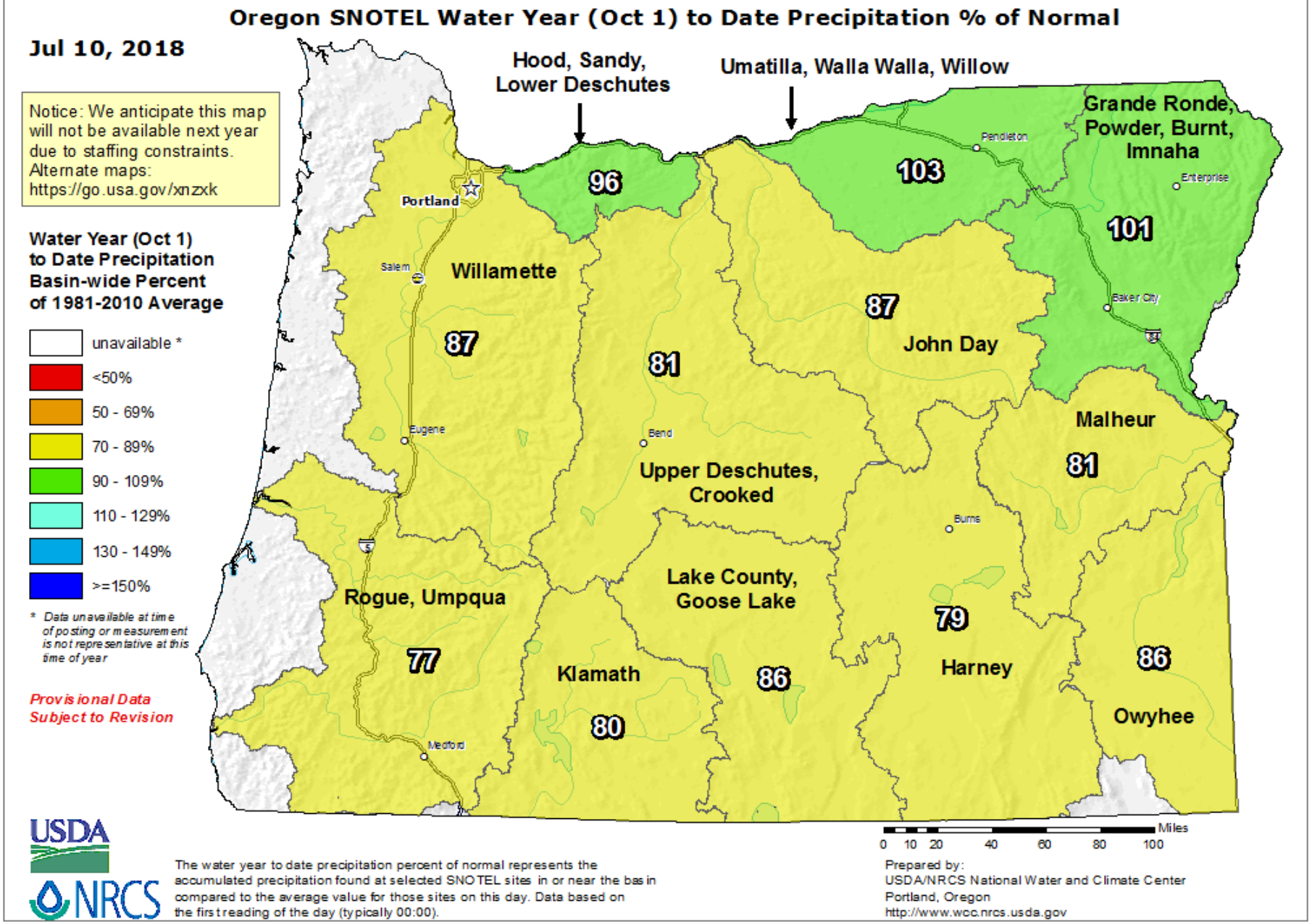
July 10, 2018

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

Water Year 2018 Seasonal Snowpack Observations

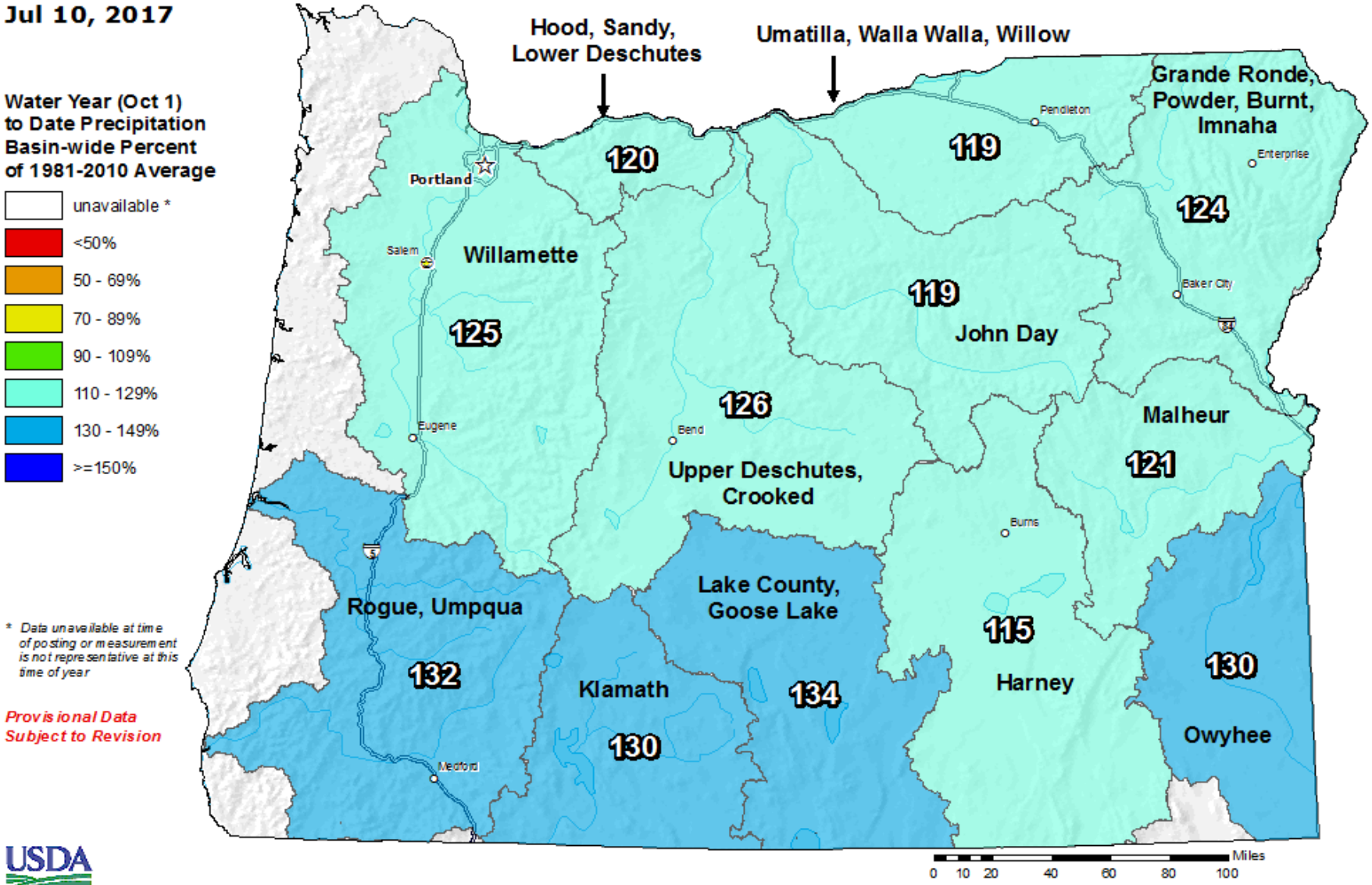
- **Warm and dry conditions through early February, resulting in low snowpack accumulation.**
- **Subsequent wetter/cooler trend was not sufficient to overcome the substantial early season deficit.**
- **At peak of the snow season, most Oregon snowpacks were less than 70% of normal.**
- **Lowest snowpacks were in southern Oregon, where the peak snow levels ranged from 30 to 60% of normal.**
- **Most sites melted out ahead of schedule - 1 to 2 weeks early.**
- **May snowmelt rates significantly higher than normal due to warm temperatures.**
- **Several higher elevation sites exhibited 150-250% of typical spring melt rates.**

Statewide SNOTEL Precipitation is 88% of normal



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

Jul 10, 2017



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

Provisional Data Subject to Revision

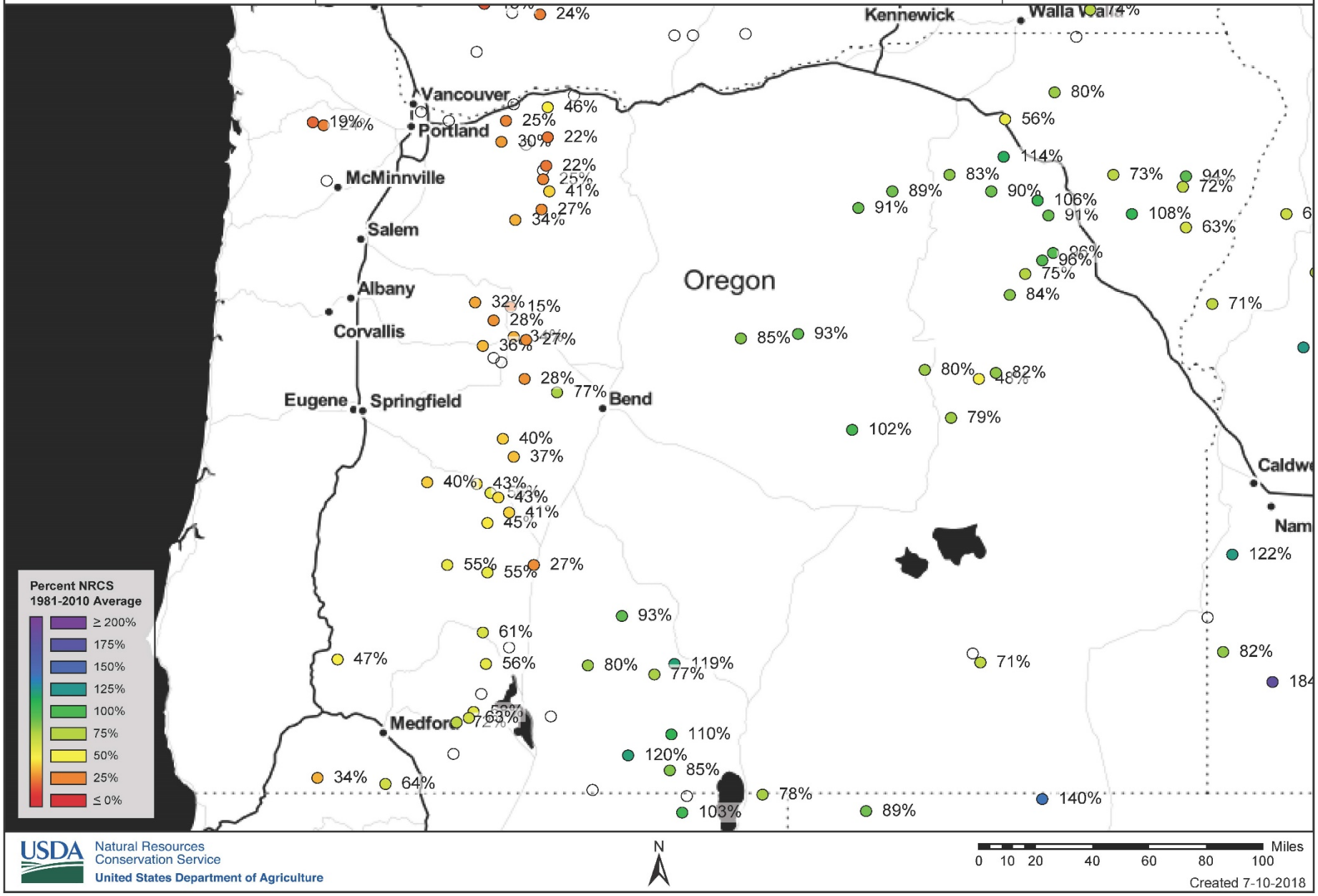
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

SNOTEL Precipitation May 1st – July 9th
Percent of Average

70 day Precipitation

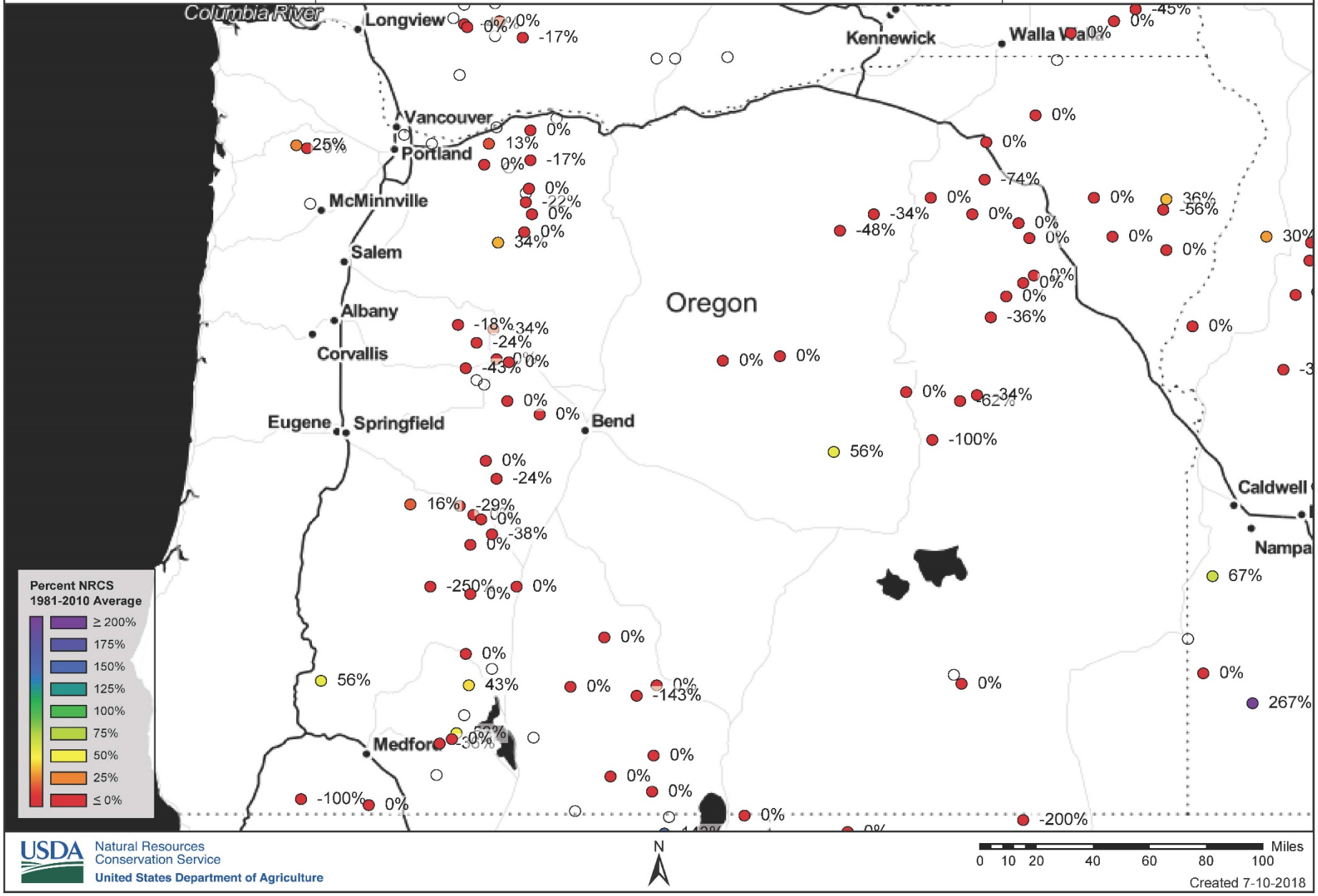
May 1, 2018 - July 9, 2018



SNOTEL Precipitation July 1st – 9th
Percent of Average

9 day Precipitation

July 1, 2018 - July 9, 2018



USDA Natural Resources Conservation Service
United States Department of Agriculture

Created 7-10-2018

Thank you

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Oregon Water Supply Availability Committee

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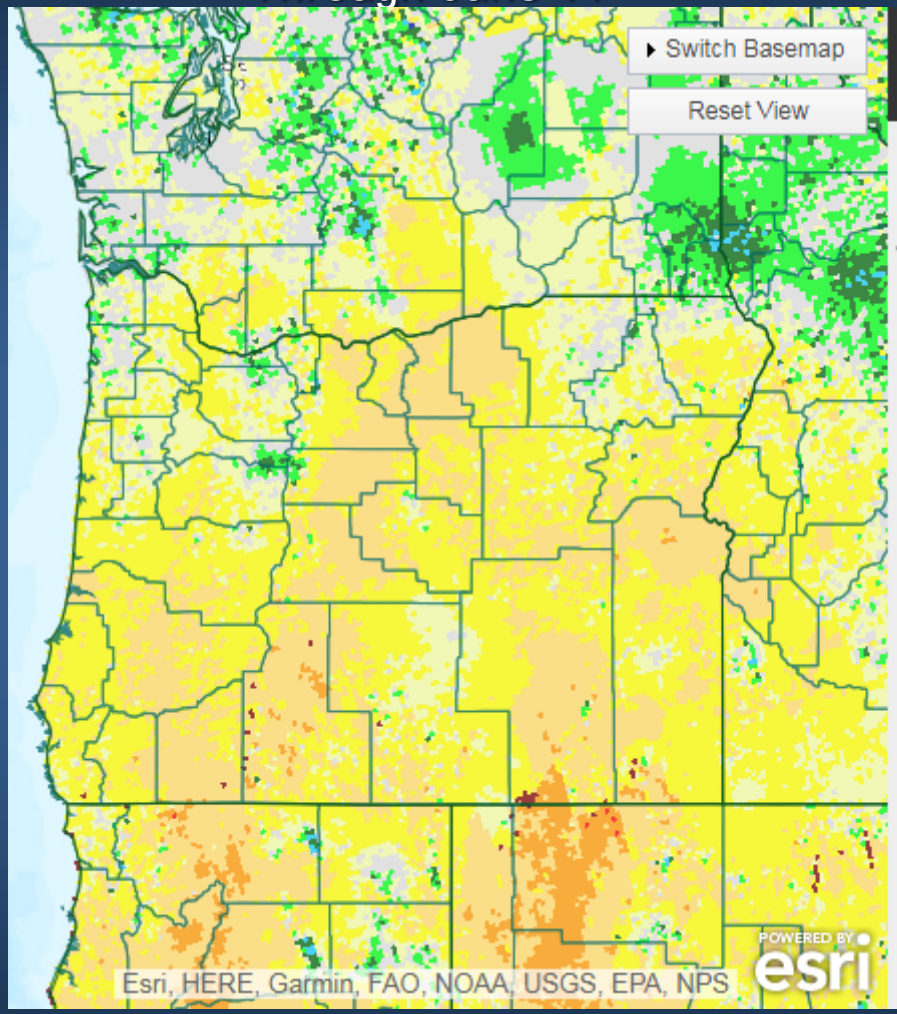
Oregon Water Supply Availability

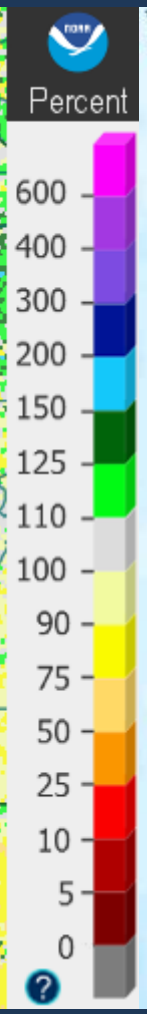
July 10, 2018 National Weather Service Update

Andy Bryant, NWS Portland

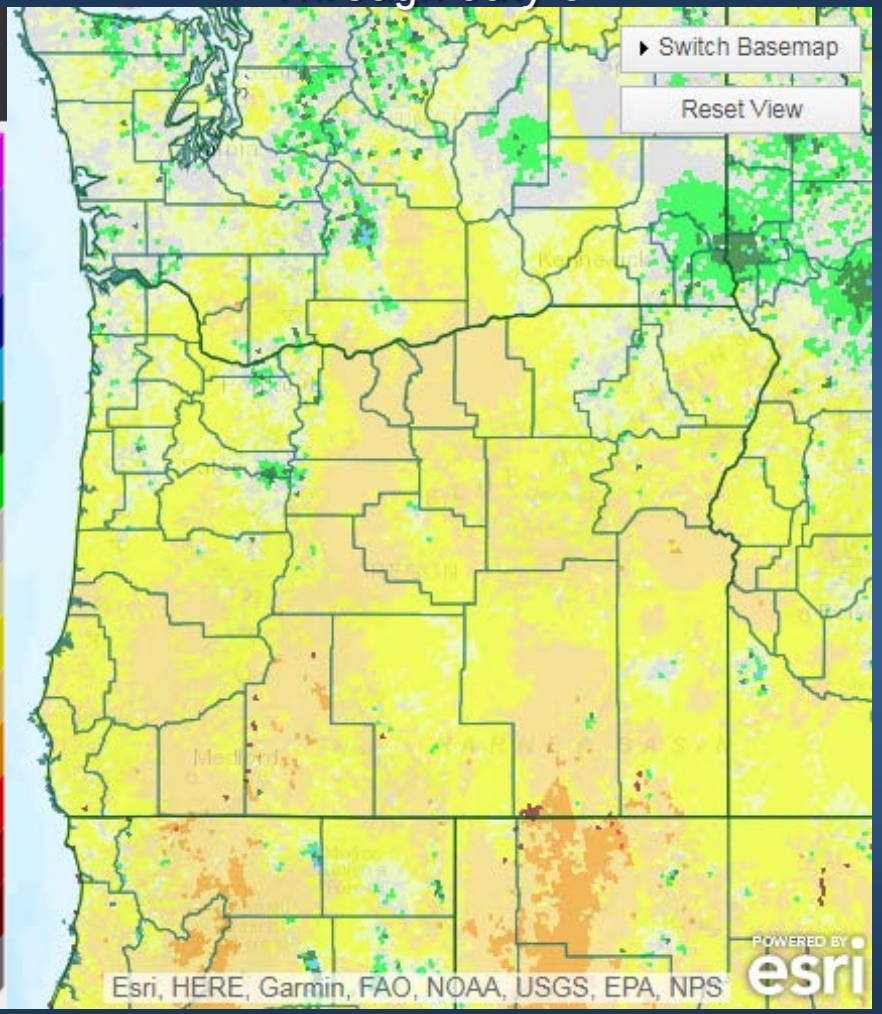
WY2018 Precipitation thus far

Through June 11th





Through July 9th

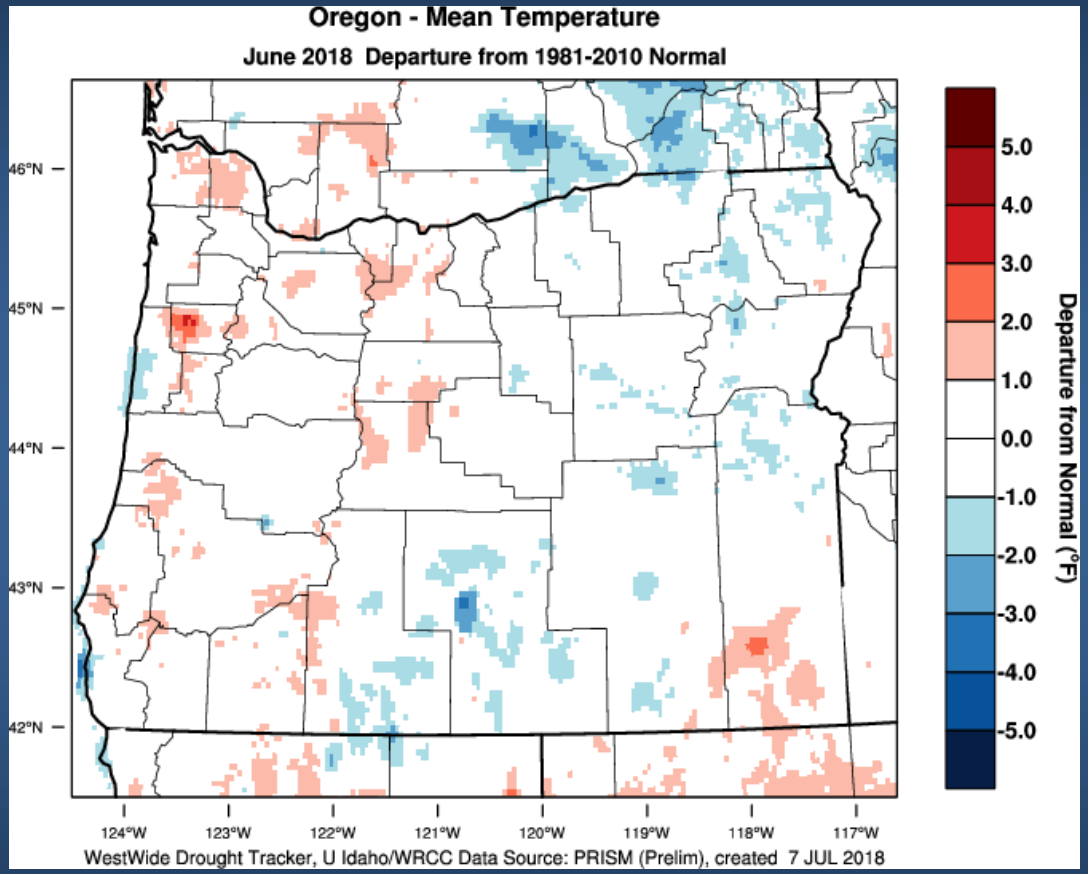


Not much change in the past month…

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

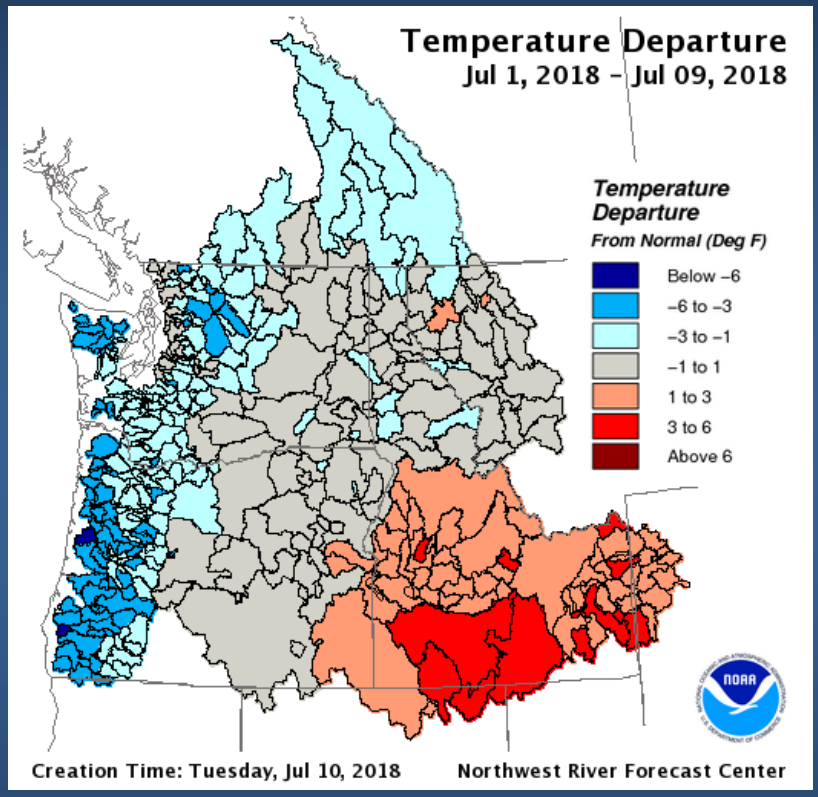
Recent Temperatures

June 2018



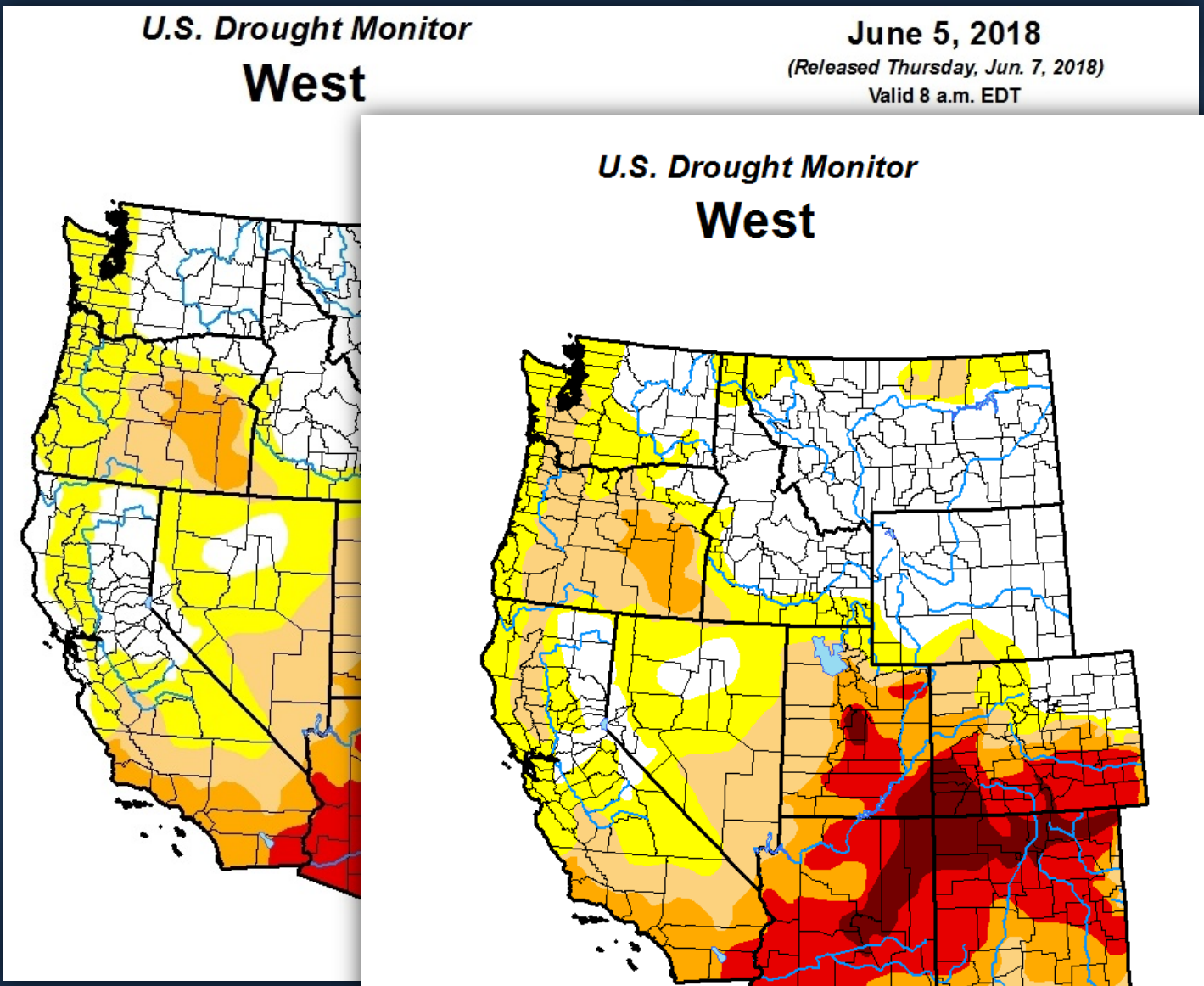
https://wrcc.dri.edu/wwdt/current.php?folder=mdn1

July 1-9, 2018

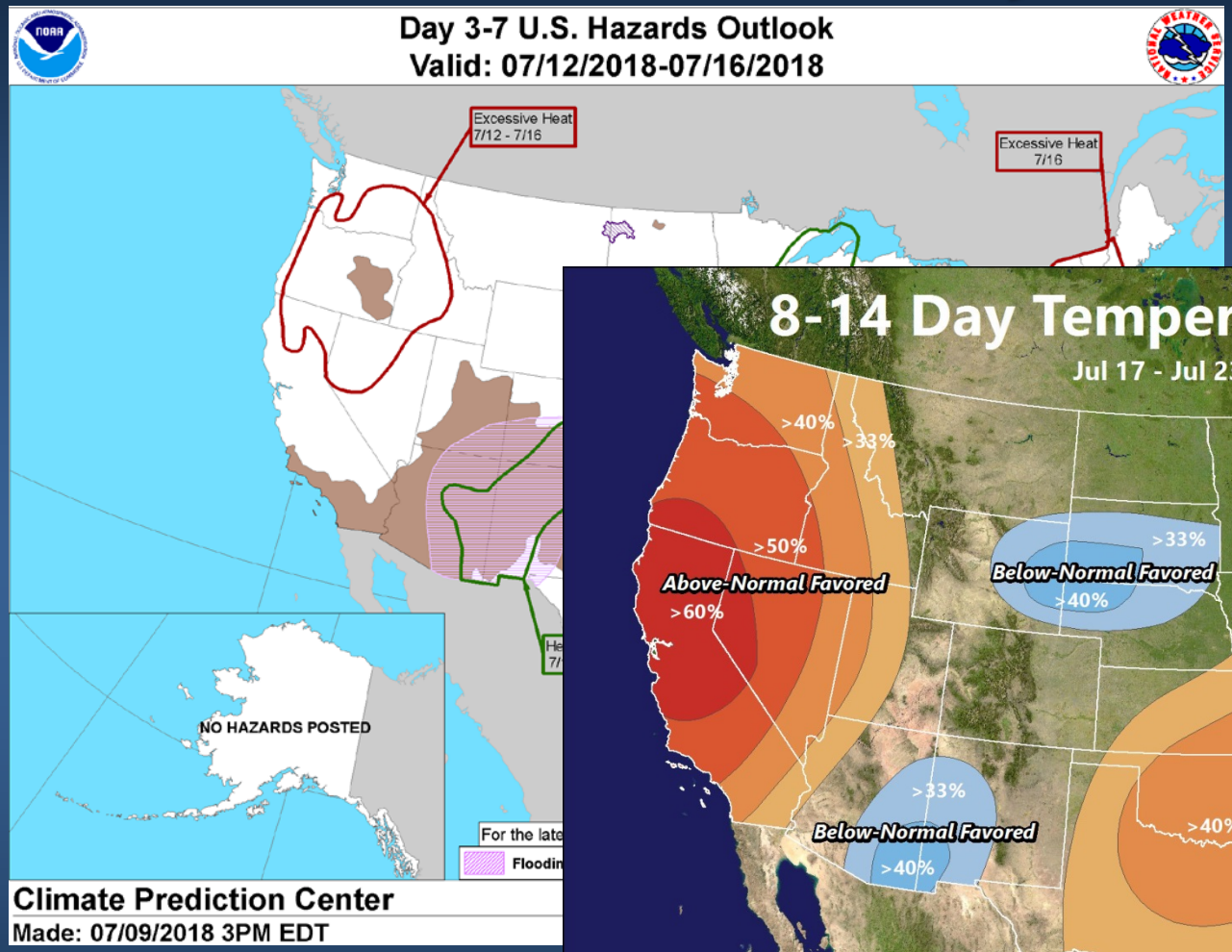


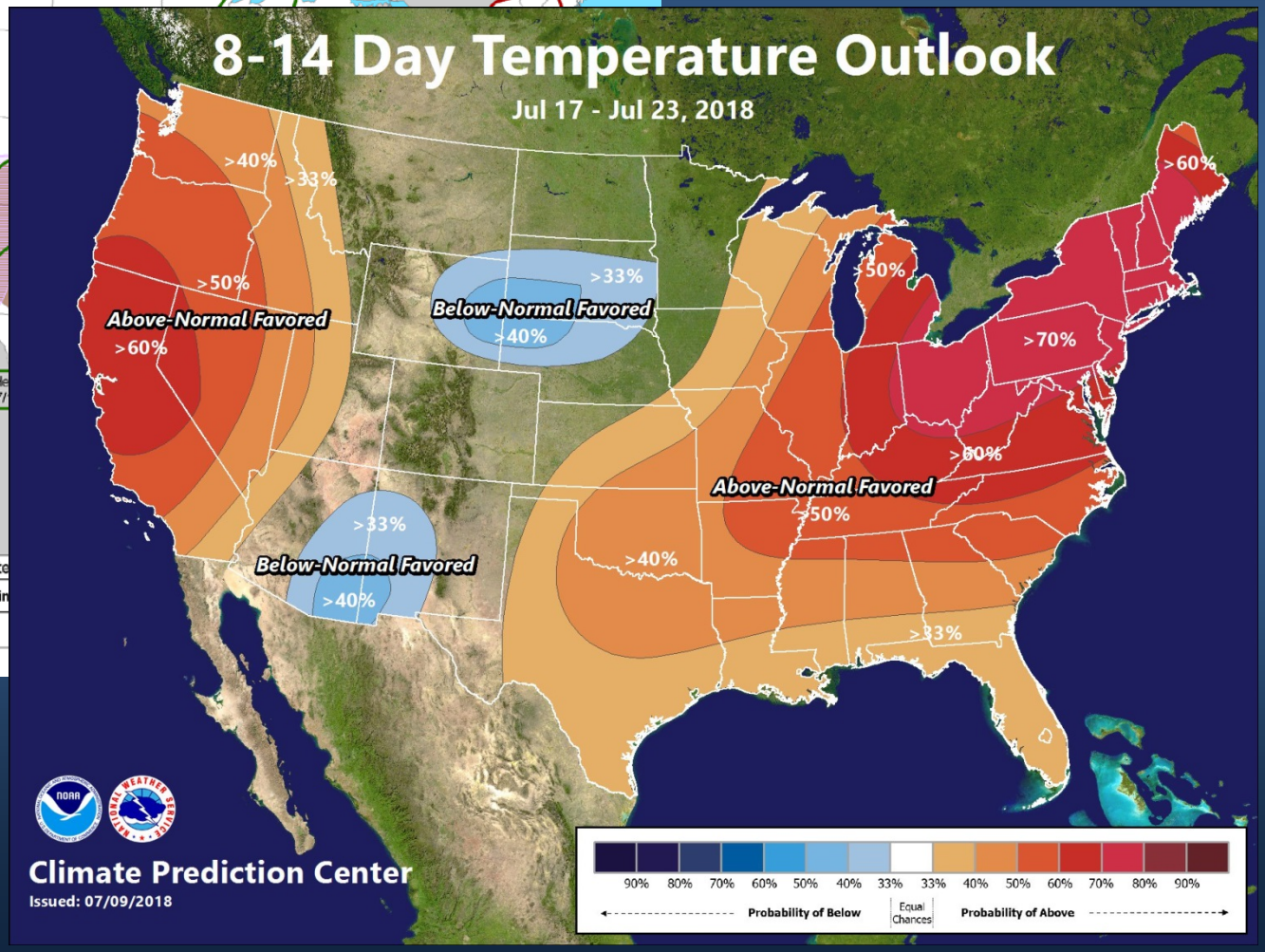
Source: www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

Drought Monitor

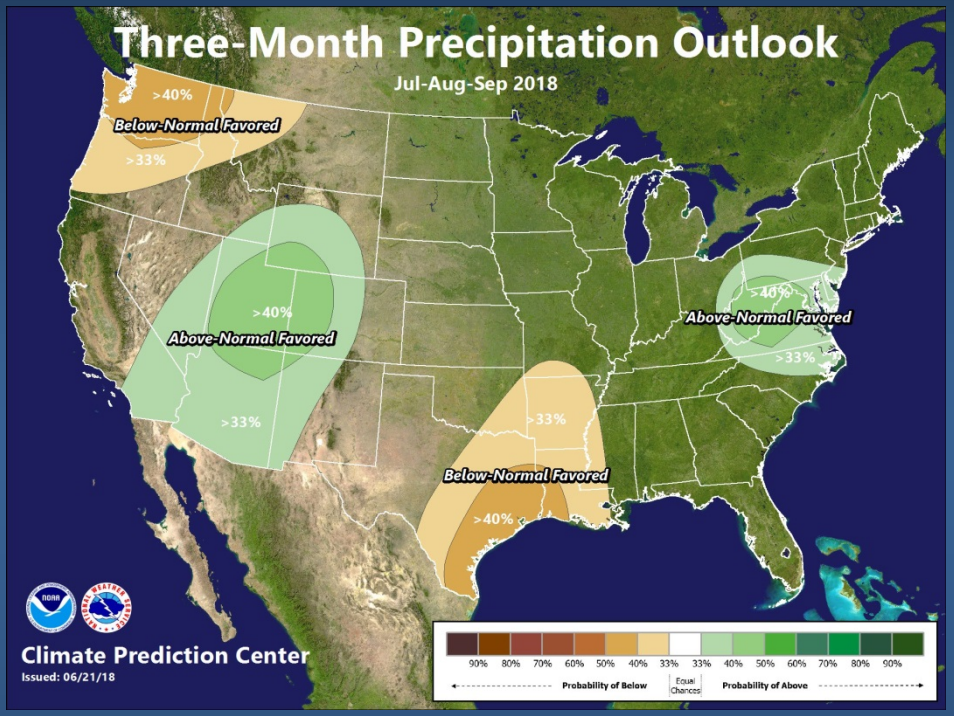


Mid/Late-July Outlook





Outlook for July-August-September 2018



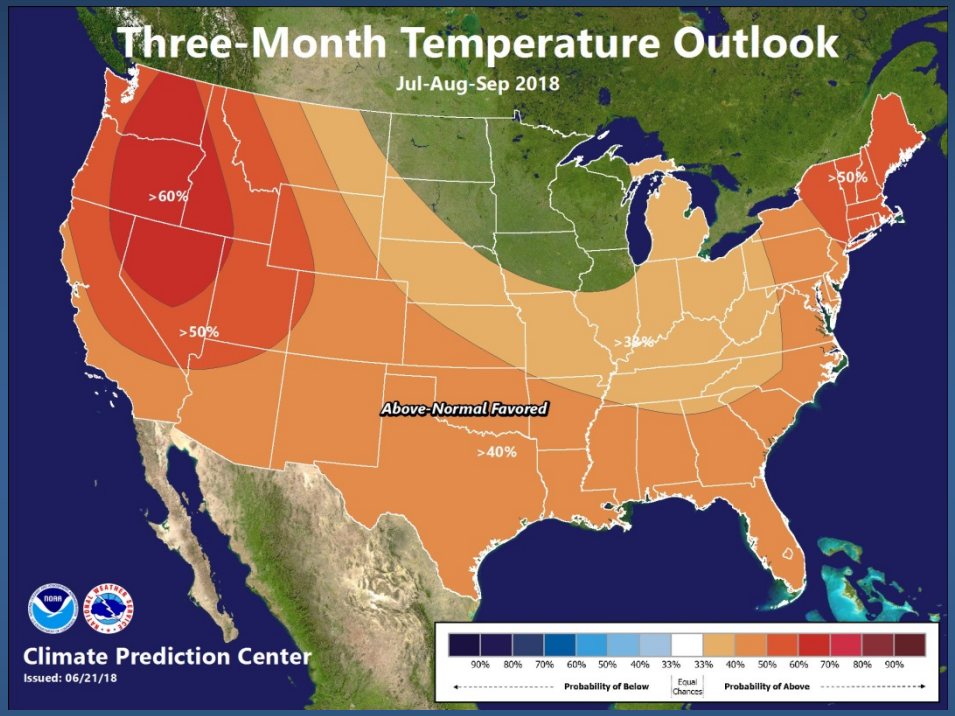
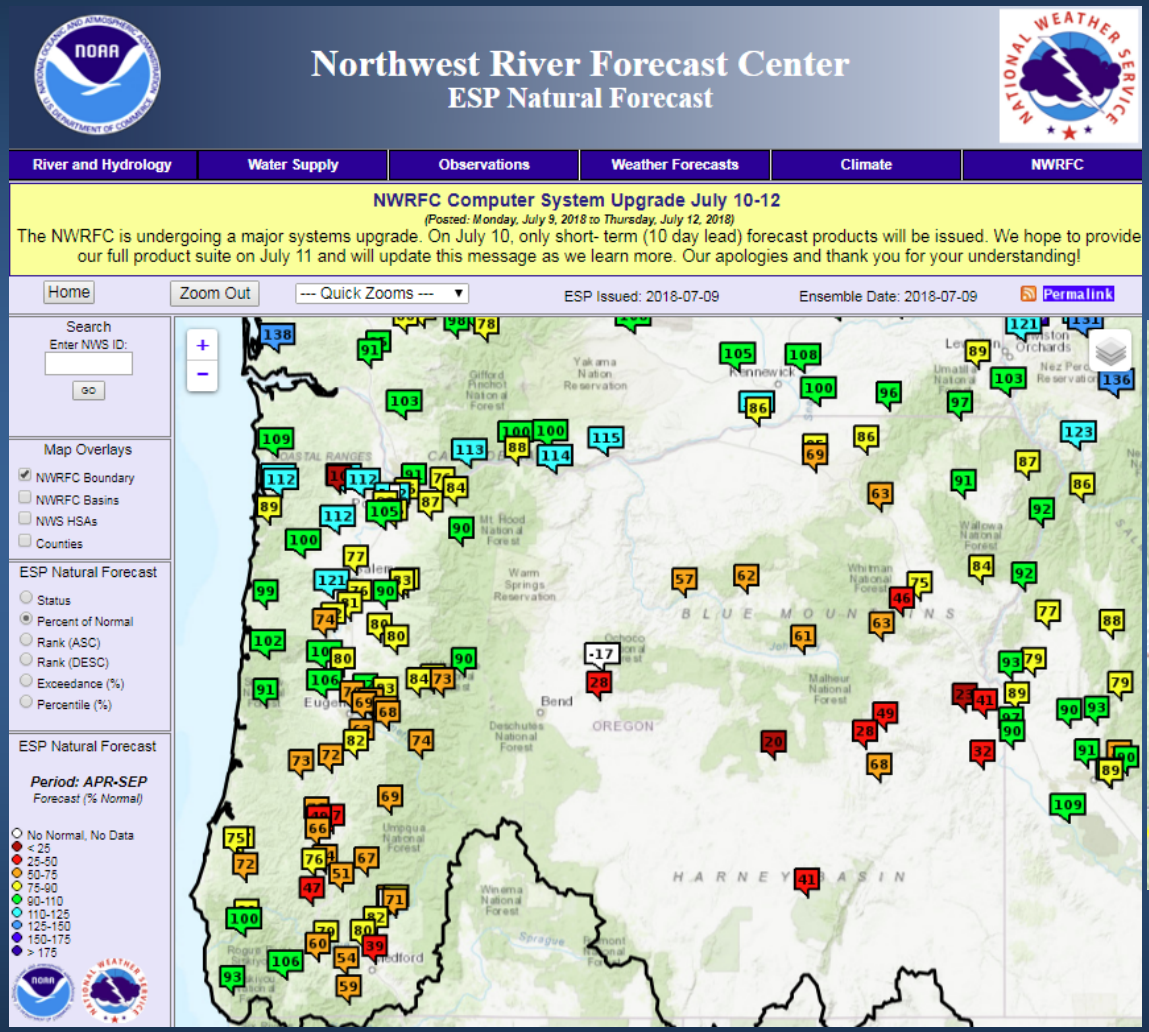
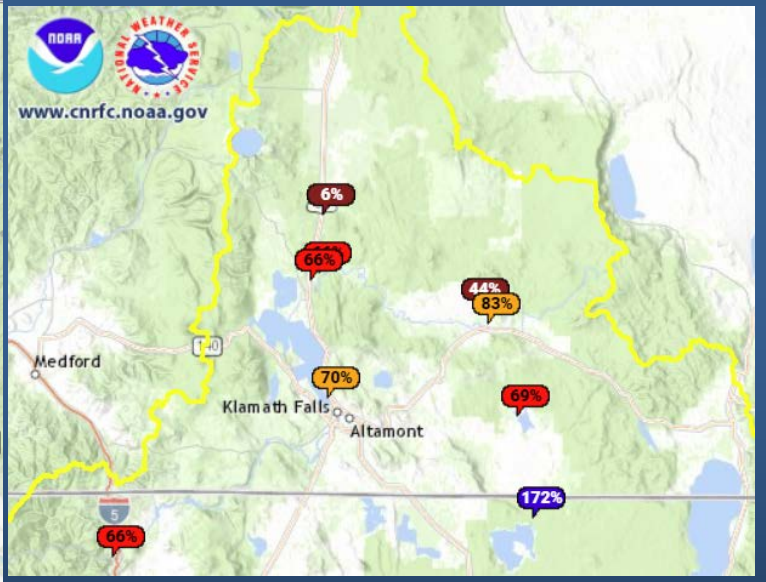


Image source: www.cpc.ncep.noaa.gov

Water Supply Forecasts

as of July 10th

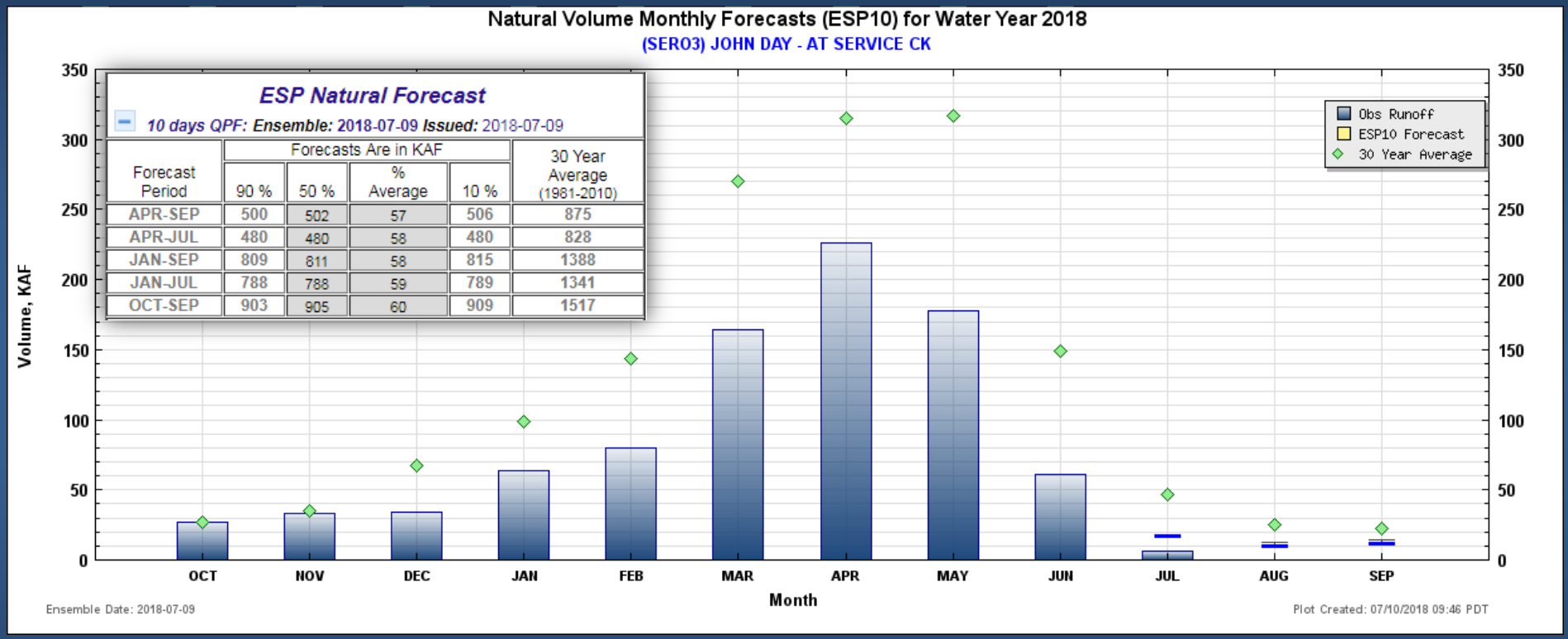




Source: www.nwrfc.noaa.gov & www.cnrfc.noaa.gov

Seasonal Runoff Volume & Monthly Runoff

John Day River near Service Creek

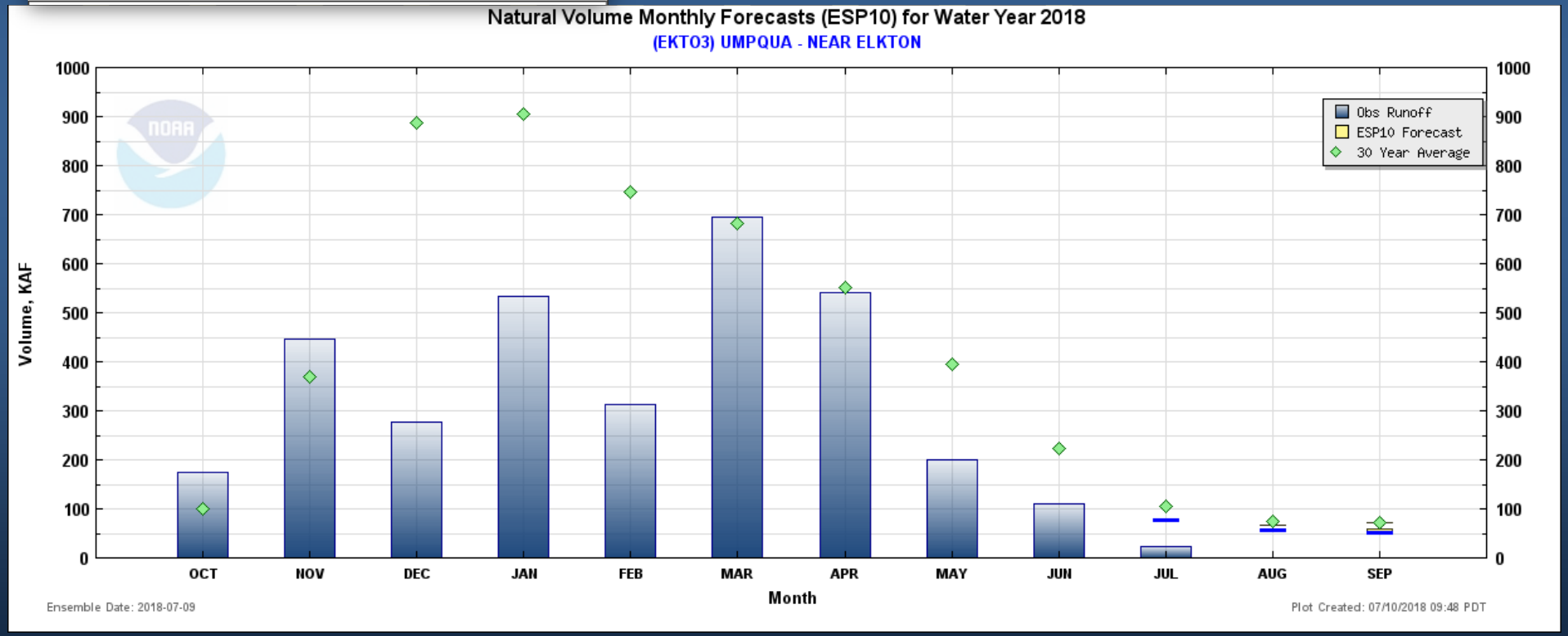


Seasonal Runoff Volume & Monthly Runoff
Umpqua River near Elkton

ESP Natural Forecast

10 days QPF: ***Ensemble:*** 2018-07-09 ***Issued:*** 2018-07-09

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1028	1035	73	1059	1424
APR-JUL	923	923	72	924	1276
JAN-SEP	2572	2578	69	2602	3755
JAN-JUL	2466	2466	68	2467	3607
OCT-SEP	3473	3479	68	3503	5112

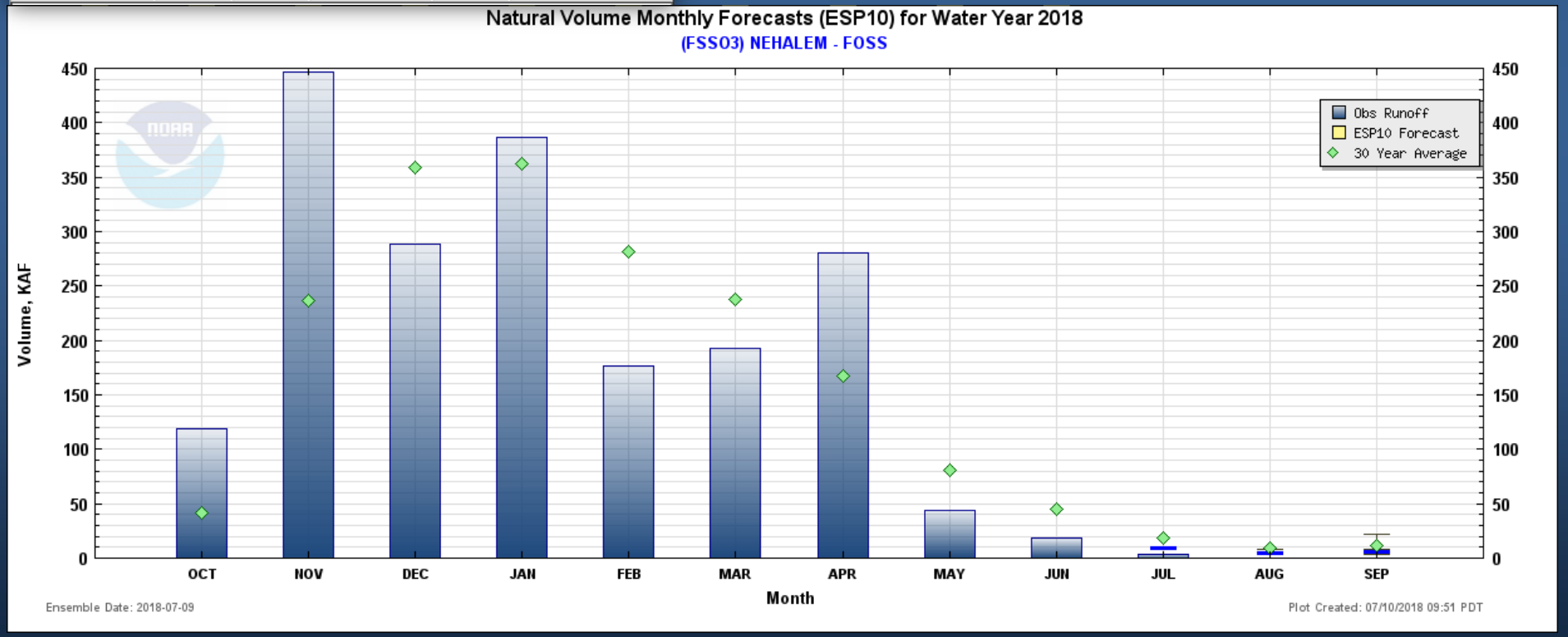


Seasonal Runoff Volume & Monthly Runoff
Nehalem River near Foss

ESP Natural Forecast

10 days QPF: ***Ensemble:*** 2018-07-09 ***Issued:*** 2018-07-09

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	359	362	109	380	332
APR-JUL	351	351	113	352	311
JAN-SEP	1113	1116	92	1133	1213
JAN-JUL	1104	1104	93	1105	1193
OCT-SEP	1971	1974	107	1992	1850

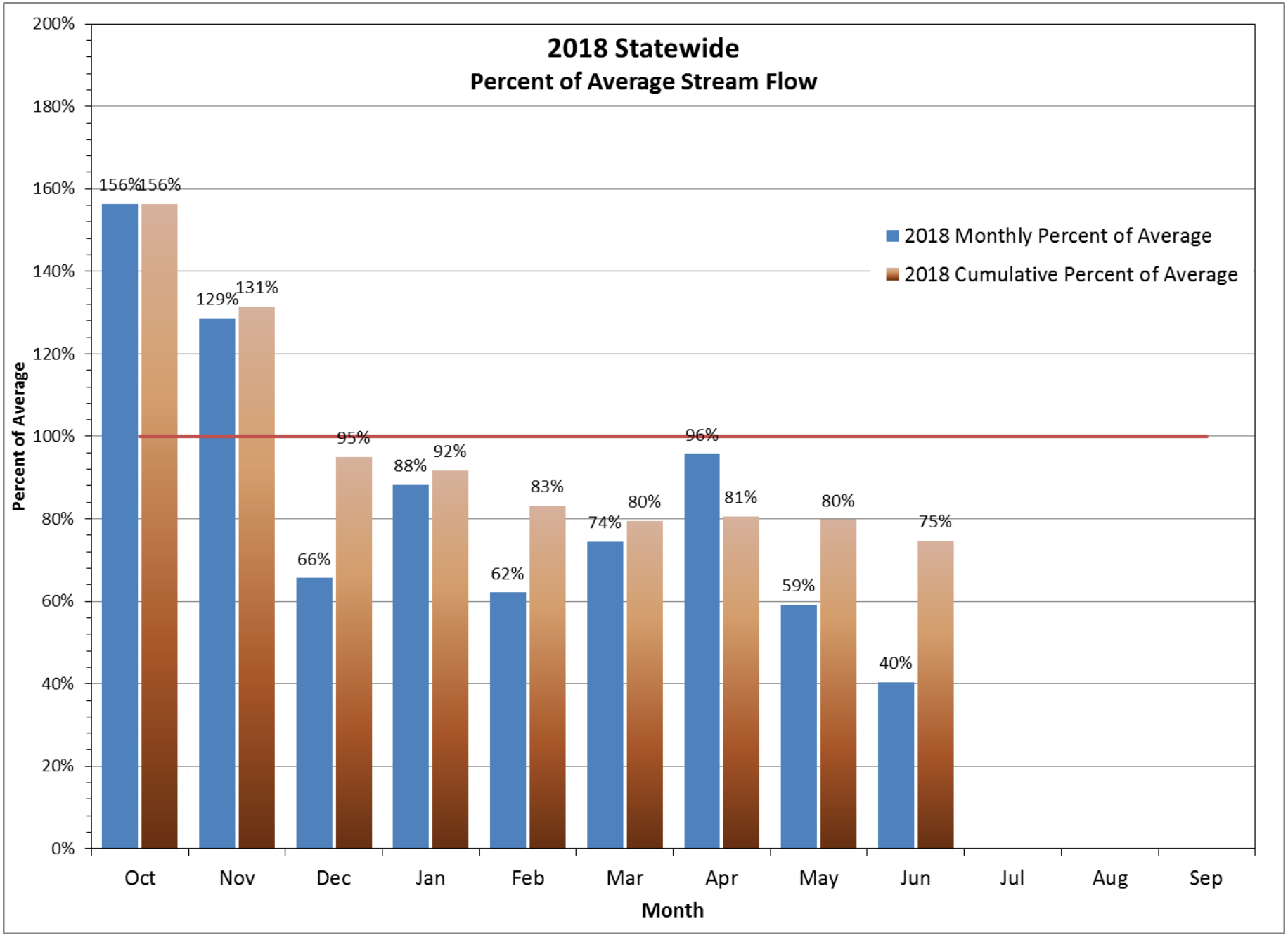


Surface Water Conditions Report

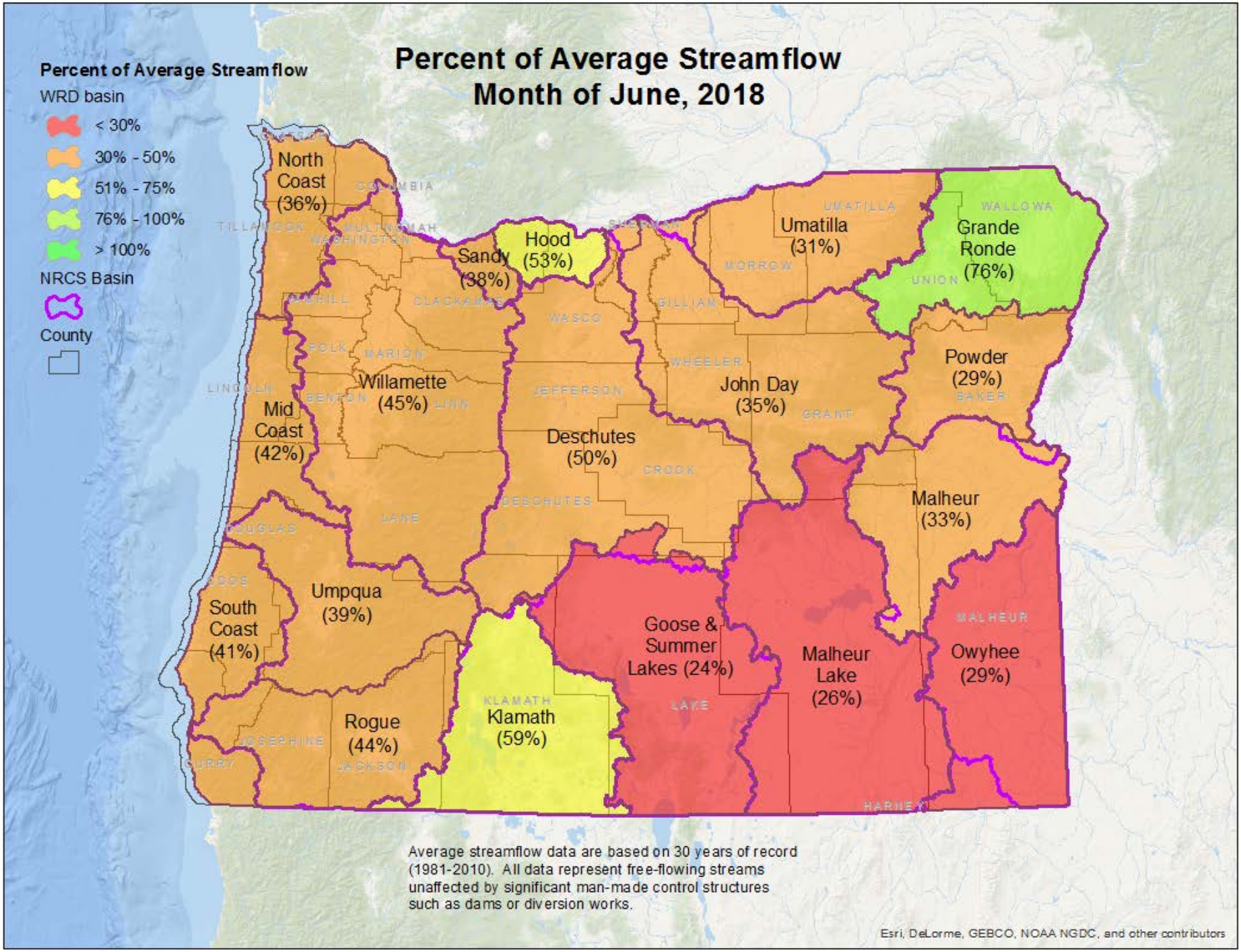
Water Supply Availability Committee

Ken Stahr
Oregon Water Resources Department

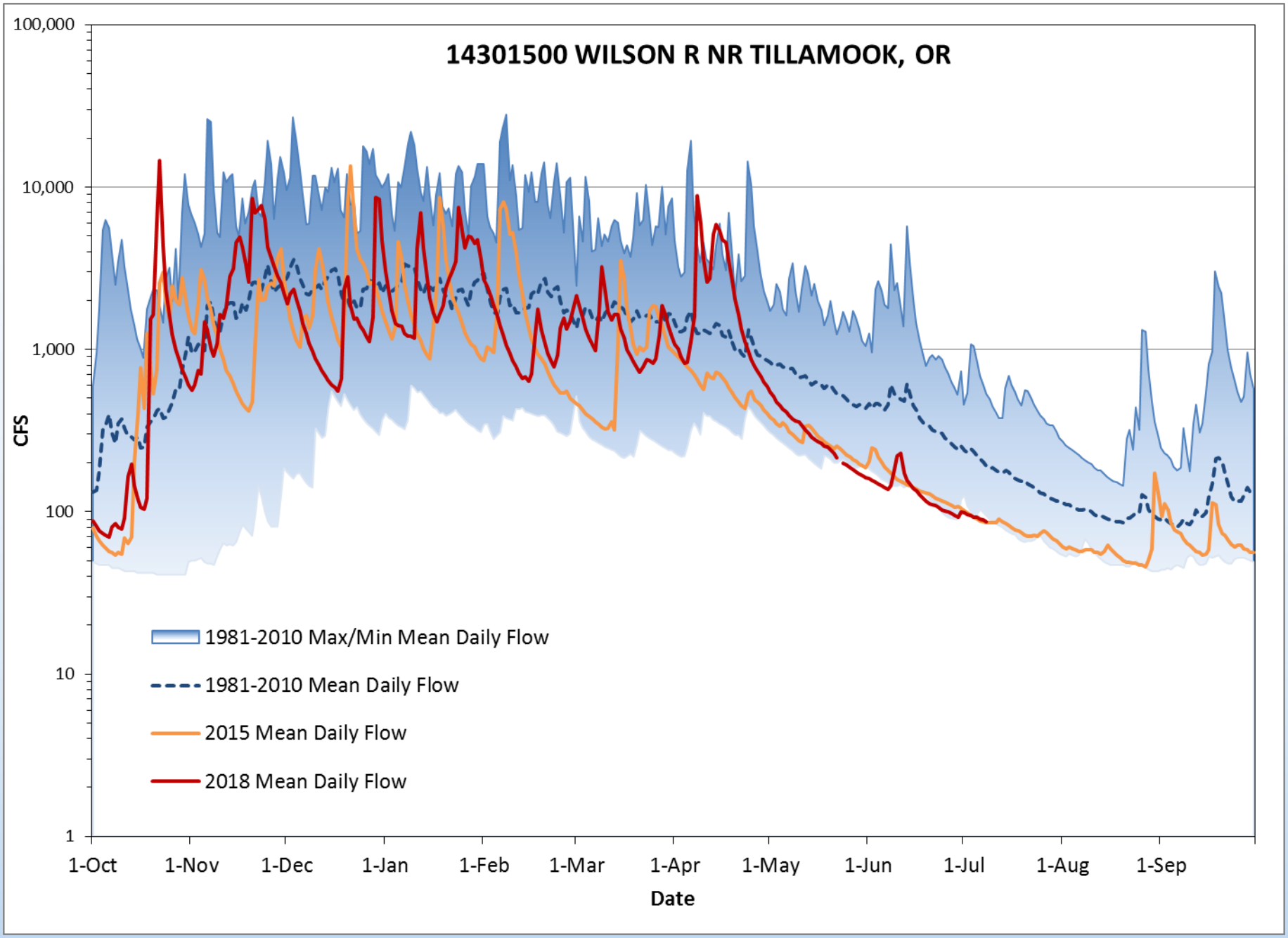
July 10, 2018

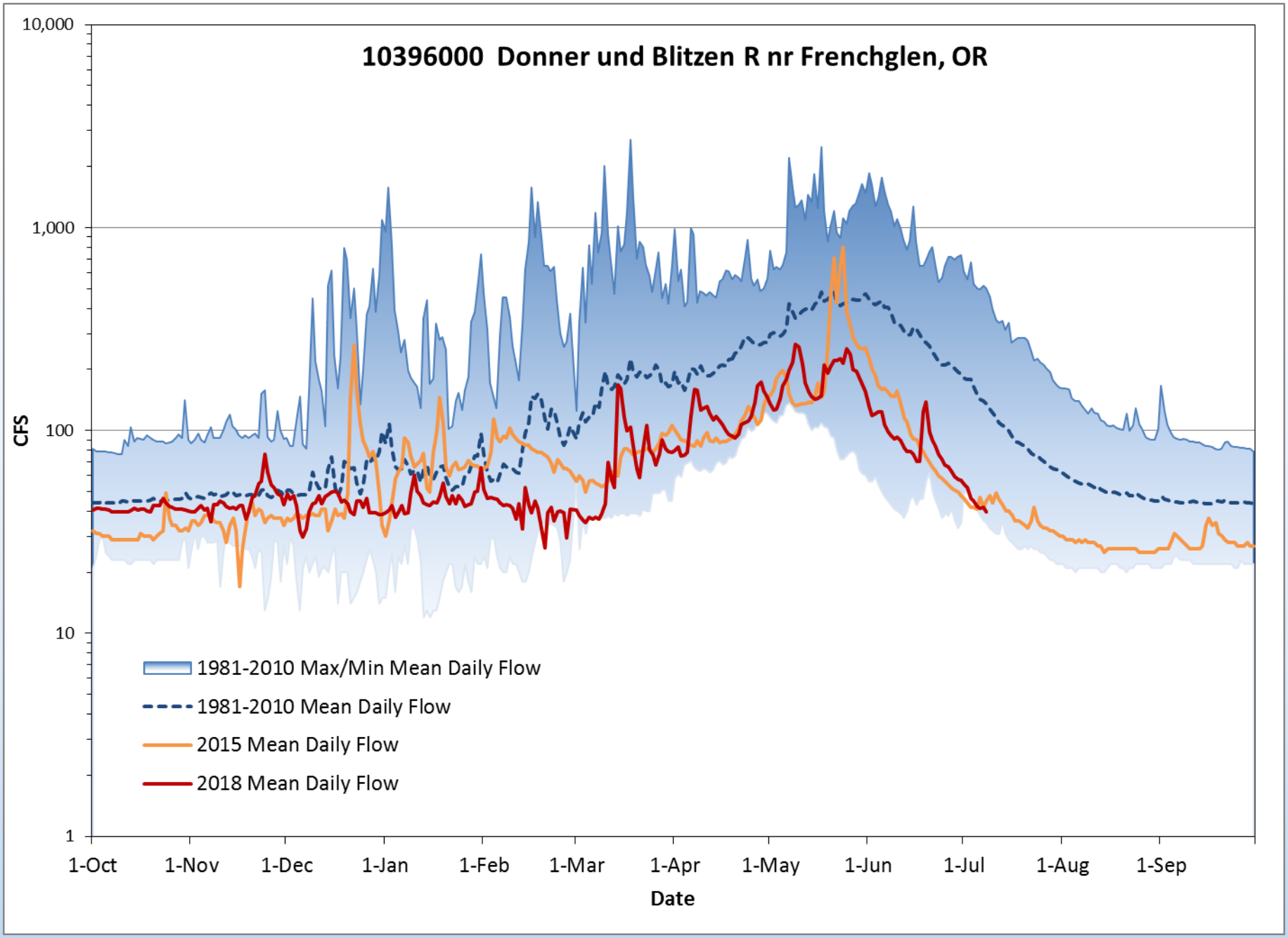

2018 Statewide
Percent of Average Stream Flow
2018 Monthly Percent of Average
2018 Cumulative Percent of Average
Percent of Average
Month
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
156%
156%
129%
131%
66%
95%
88%
92%
62%
83%
74%
80%
96%
81%
59%
80%
40%
75%

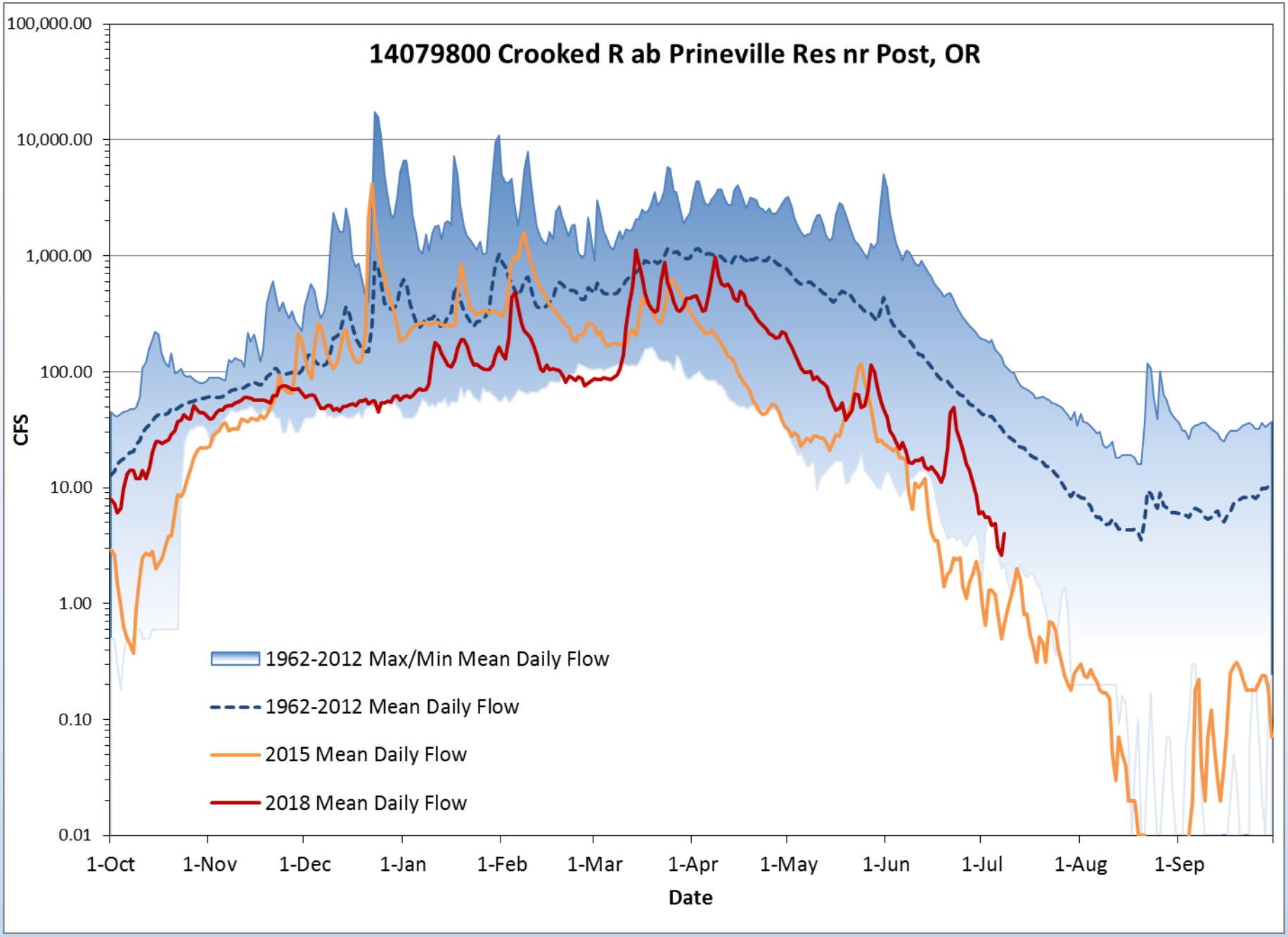
Percent of Average Streamflow
Month of June, 2018

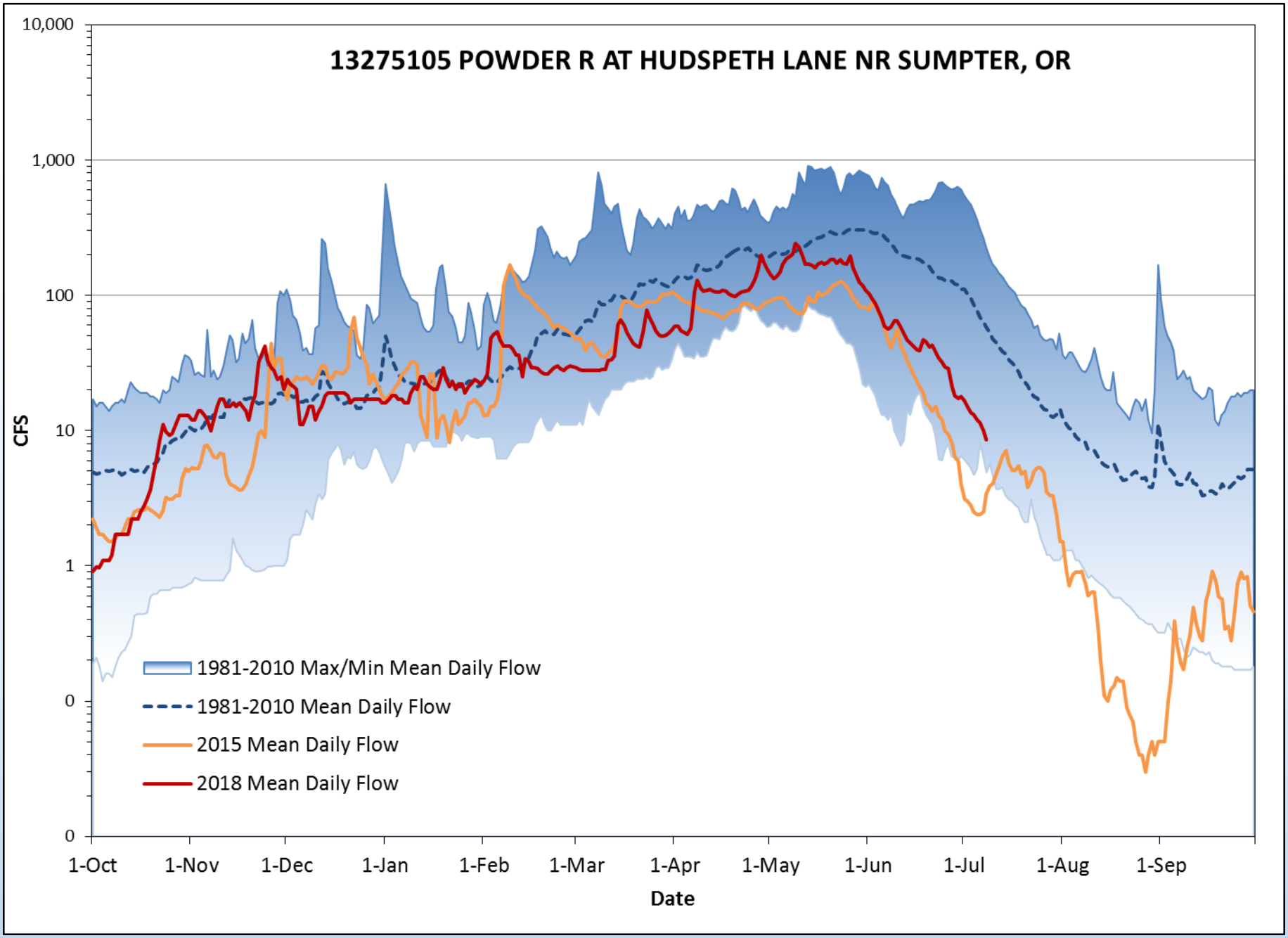


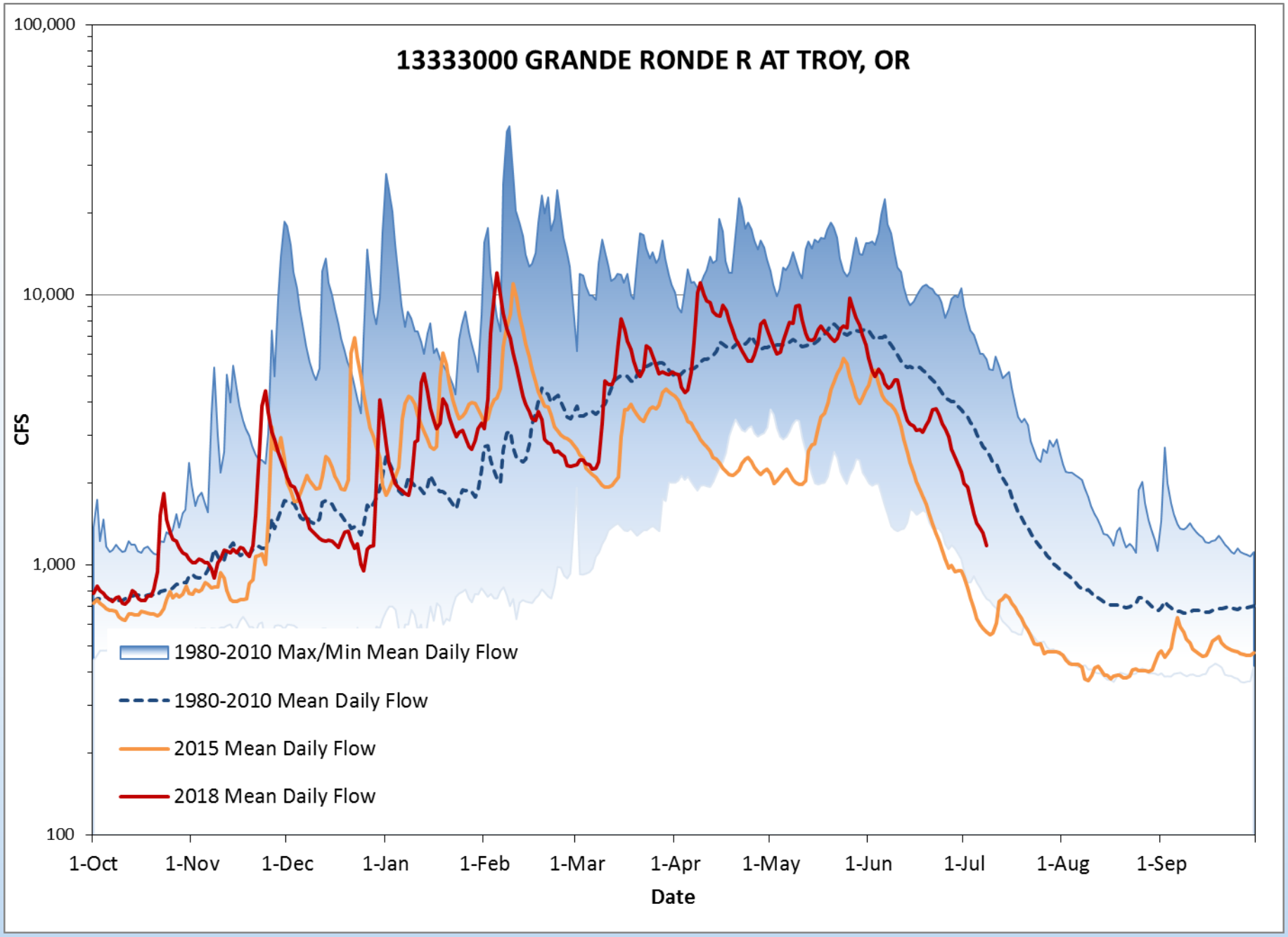
Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.


14301500 WILSON R NR TILLAMOOK, 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


10396000 Donner und Blitzen R nr Frenchglen, OR
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
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


13275105 POWDER R AT HUDSPETH LANE NR SUMPTER, OR
10,000
1,000
100
10
1
0
0
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


13333000 GRANDE RONDE R AT TROY, OR
100,000
10,000
1,000
100
CFS
1980-2010 Max/Min Mean Daily Flow
1980-2010 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.

USGS
science for a changing world

Oregon Water Supply Availability

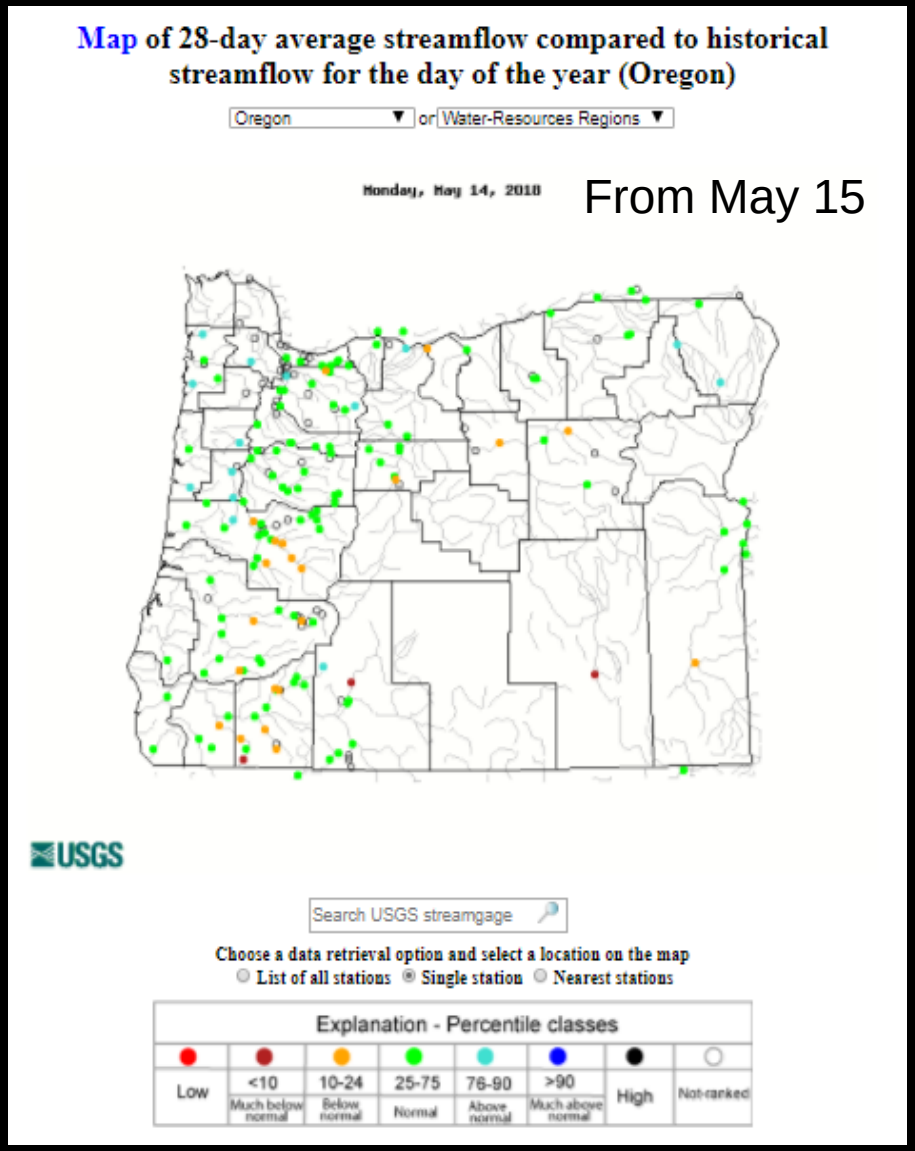
July 2018

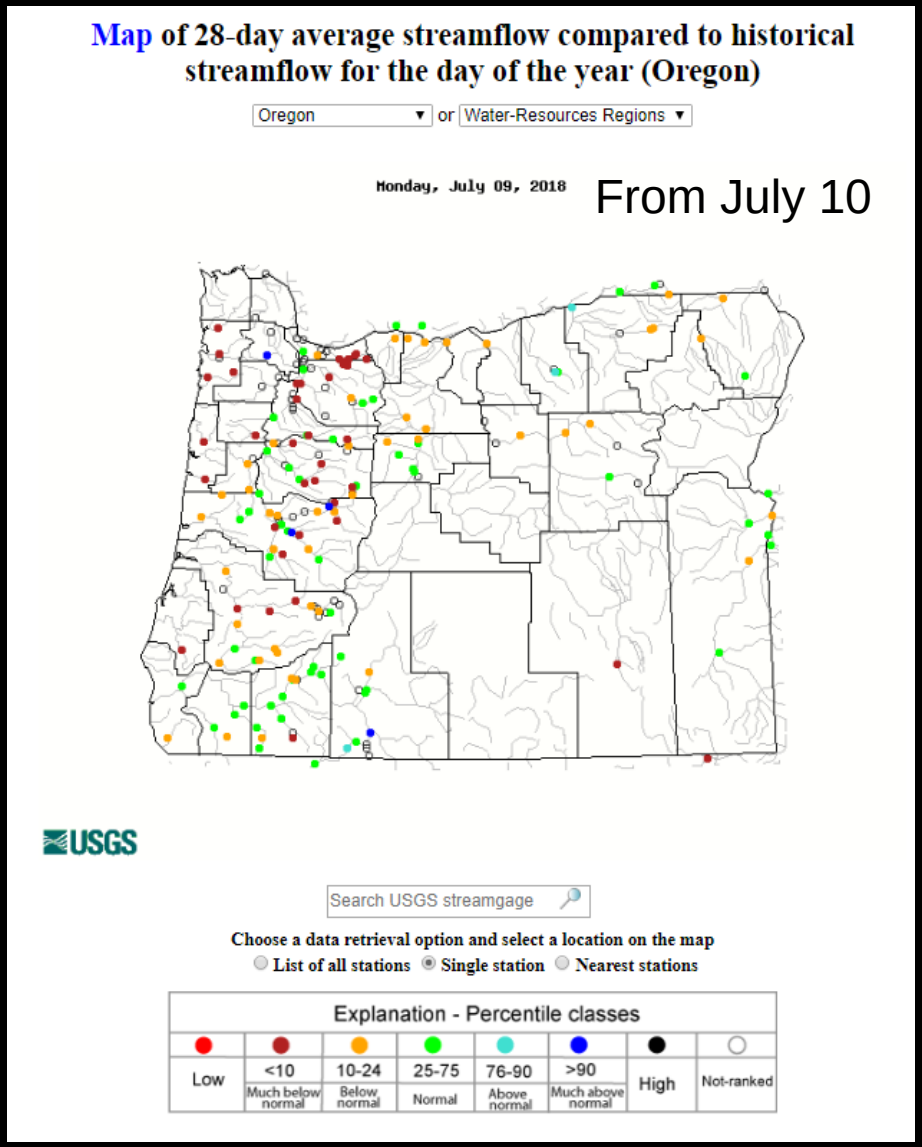
USGS Update on Surface Water Conditions

Carrie Boudreau & Marc Stewart, USGS Oregon Water Science Center

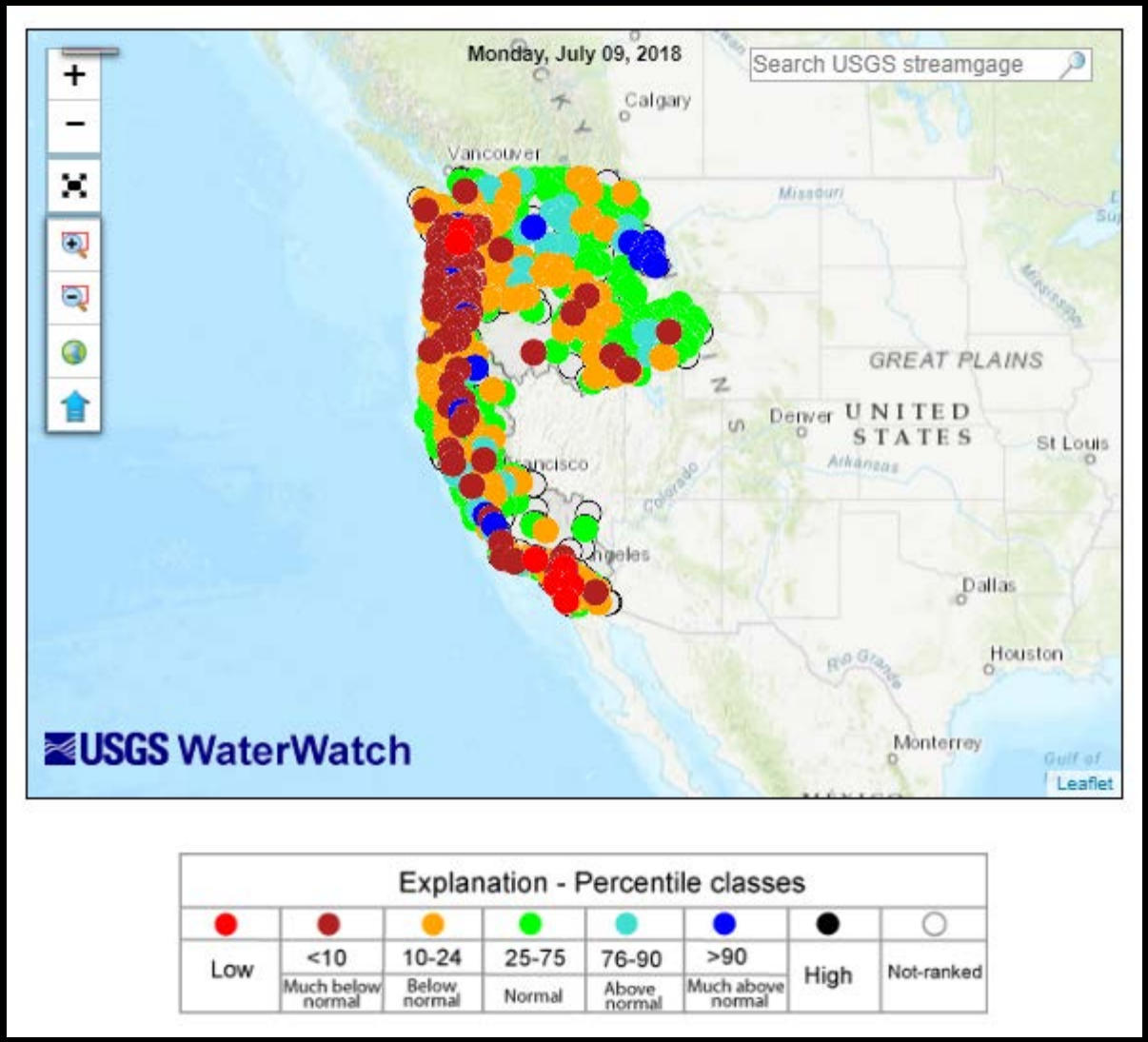
U.S. Department of the Interior
U.S. Geological Survey

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





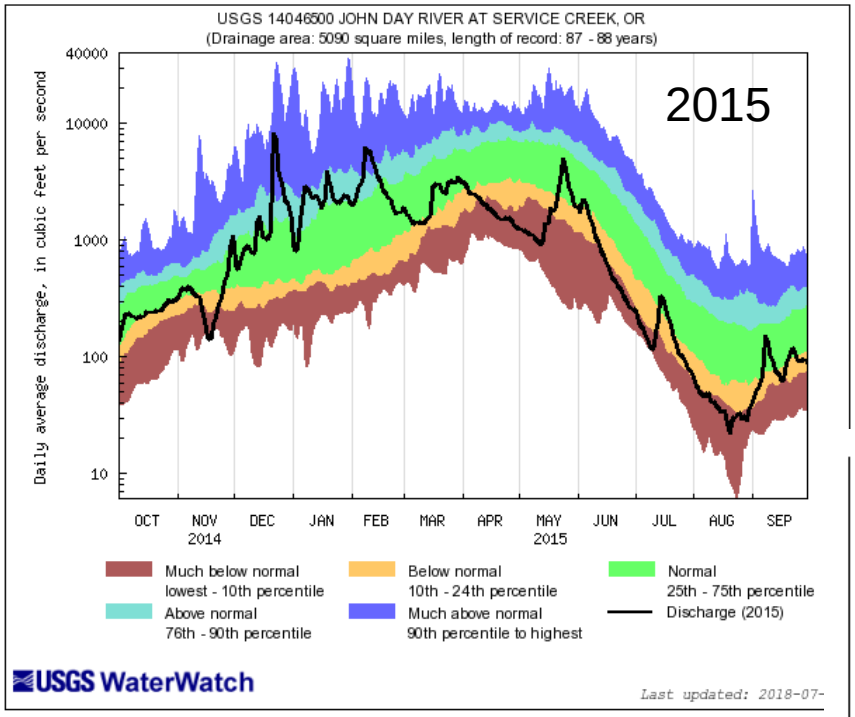
Map of 28-day average streamflow compared to historical streamflow for the day of the year

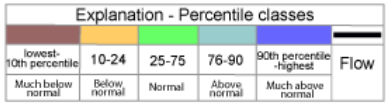


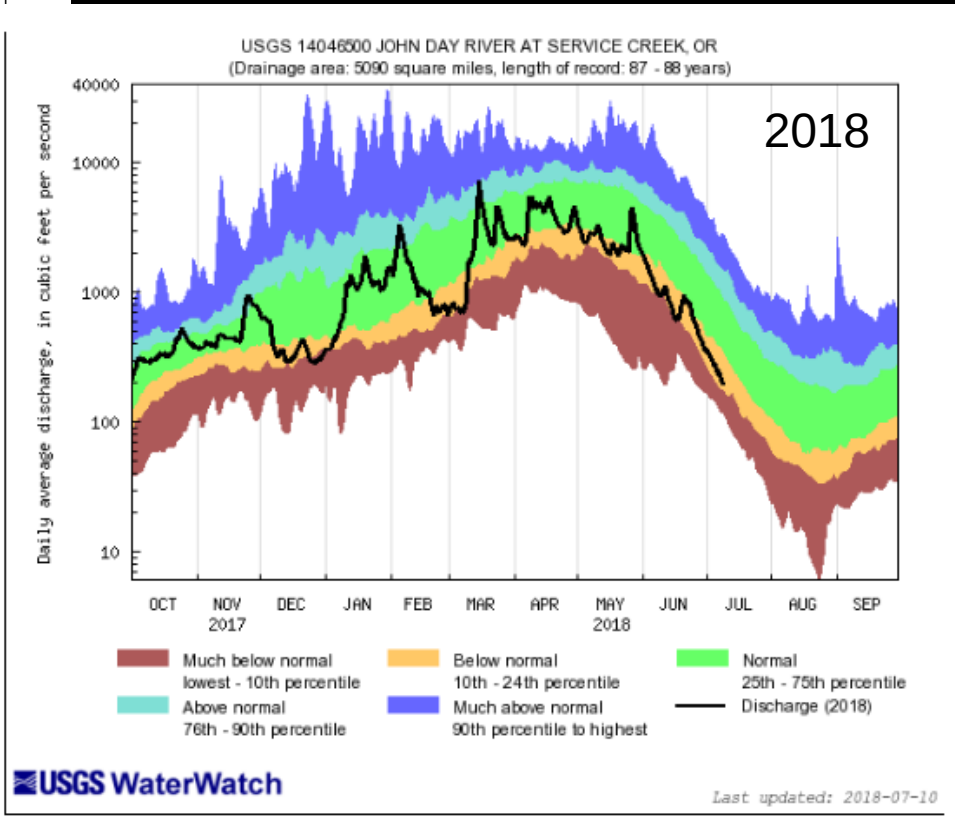
- Map shows a regional view of 28 day average flow

USGS

Wheeler 14046500 John Day Service Creek

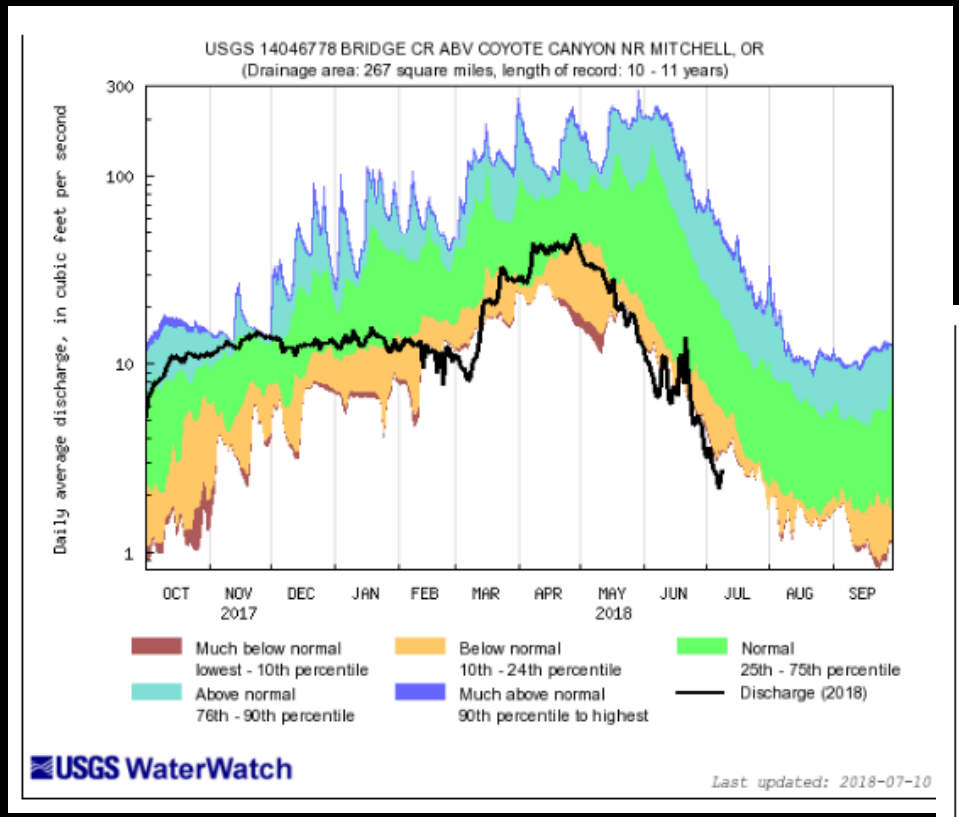


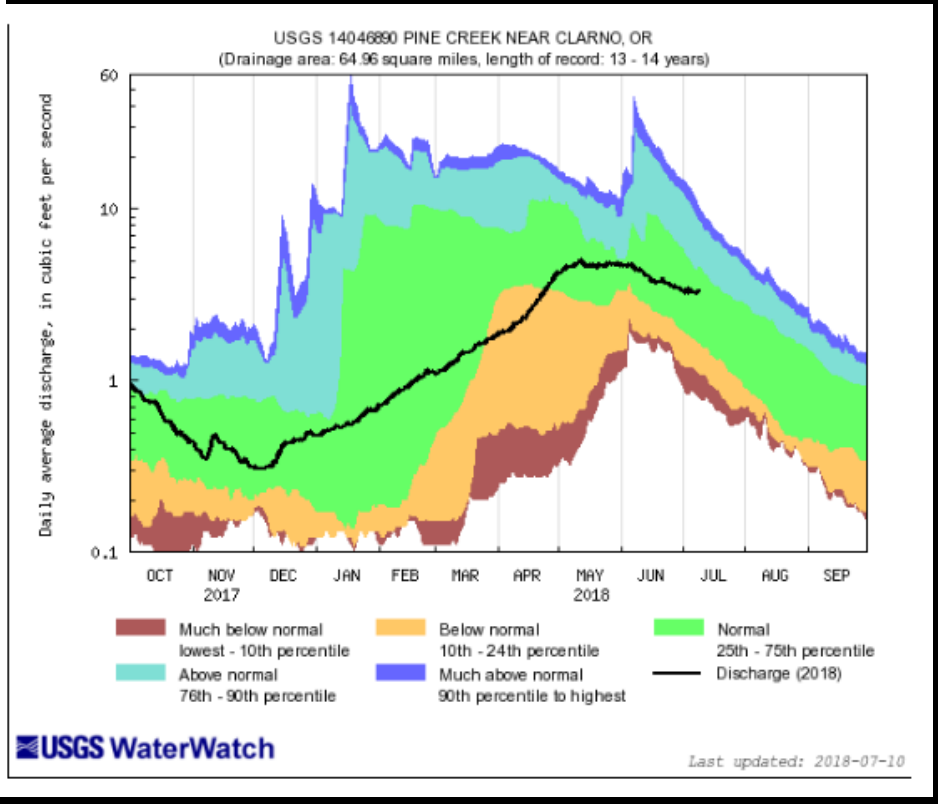




USGS

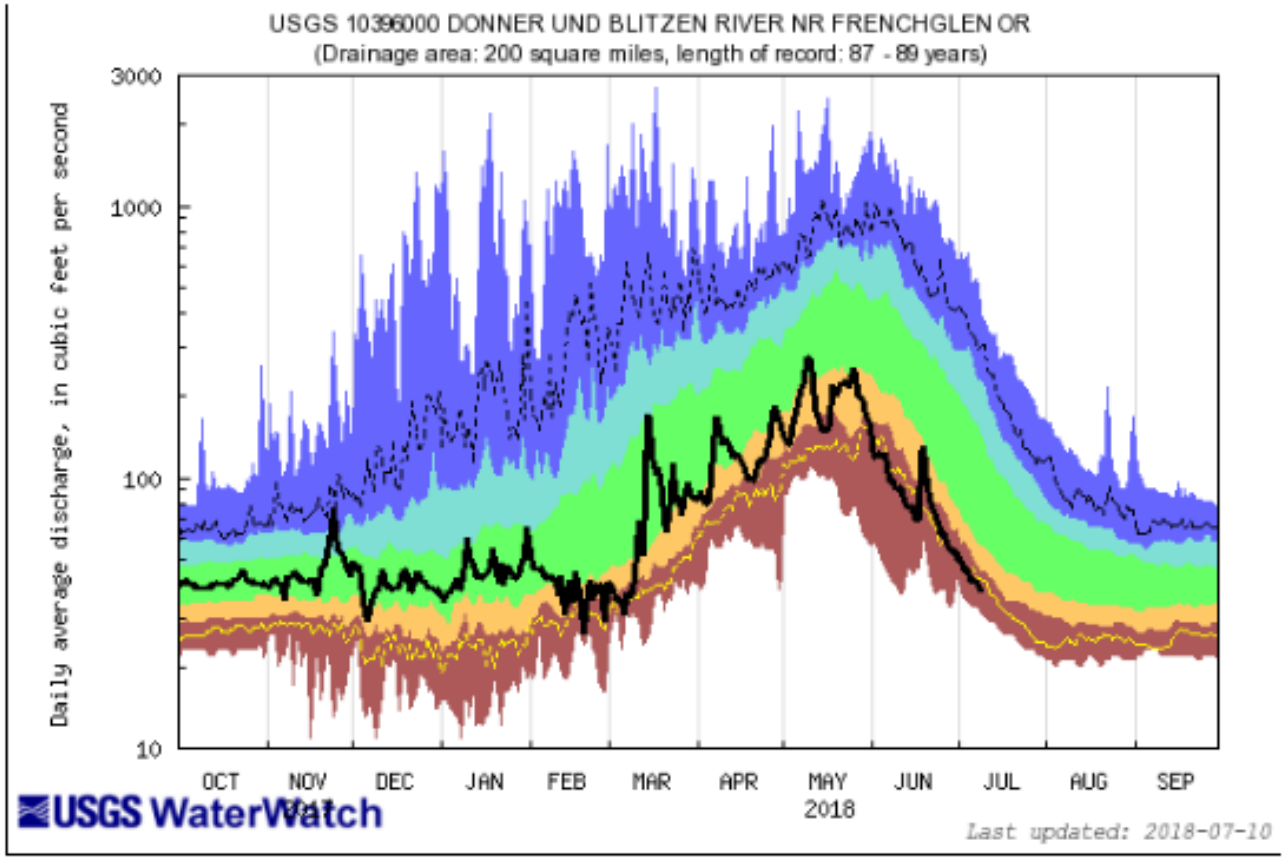
Wheeler 14046778 Bridge Creek near Mitchell (10 years of record) & 14046890 Pine Creek * small DA





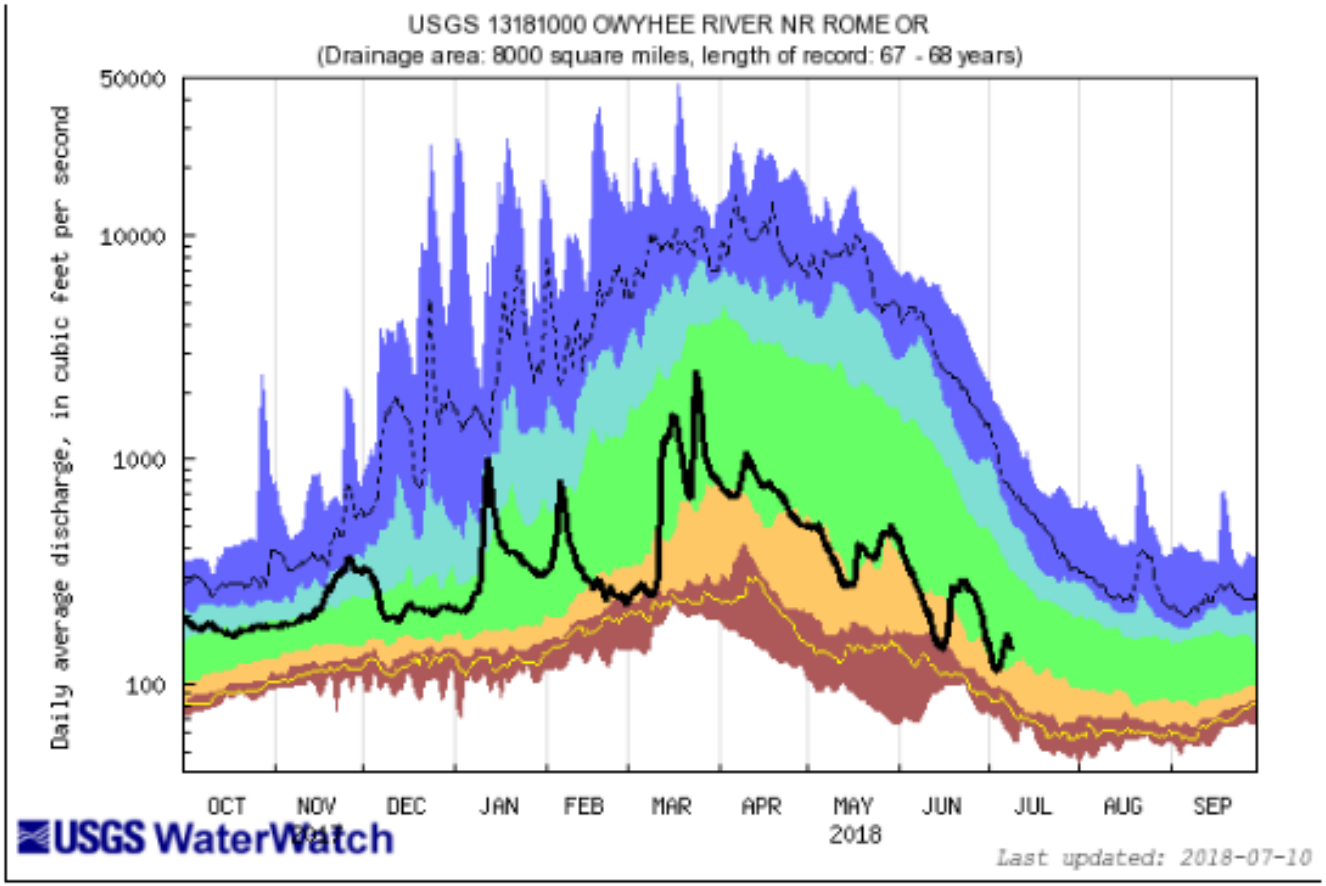
USGS

DONNER BLITZEN & HARNEY BASIN



USGS

OWYHEE BASIN

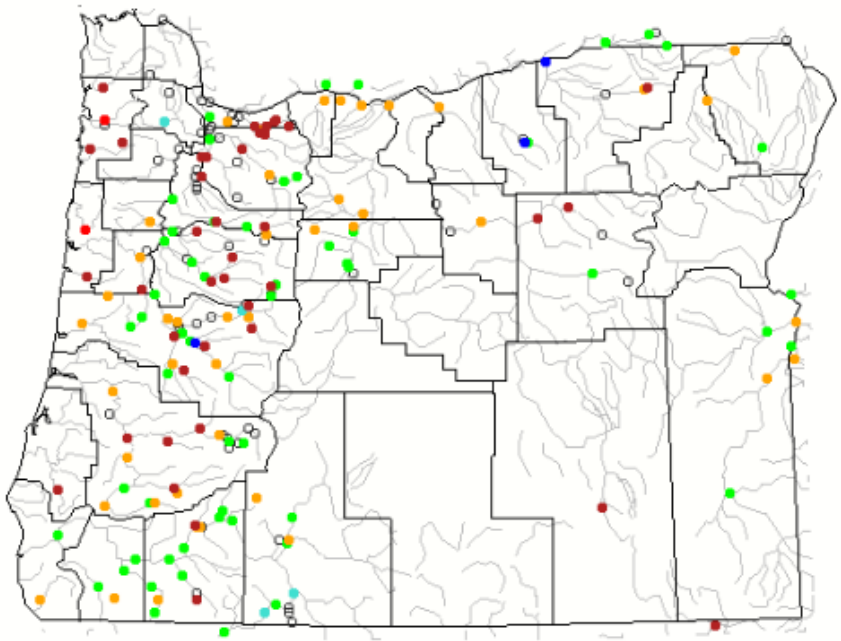


USGS

Map of 14-day average streamflow compared to historical streamflow for the day of the year (Oregon)

Oregon ▼ or Water-Resources Regions ▼

Monday, July 09, 2018



USGS

Search USGS streamgage

Choose a data retrieval option and select a location on the map

List of all stations Single station Nearest stations

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

- Few streamflow sites in or near Wheeler but all have a similar pattern and many show up

US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR JUNE 2018

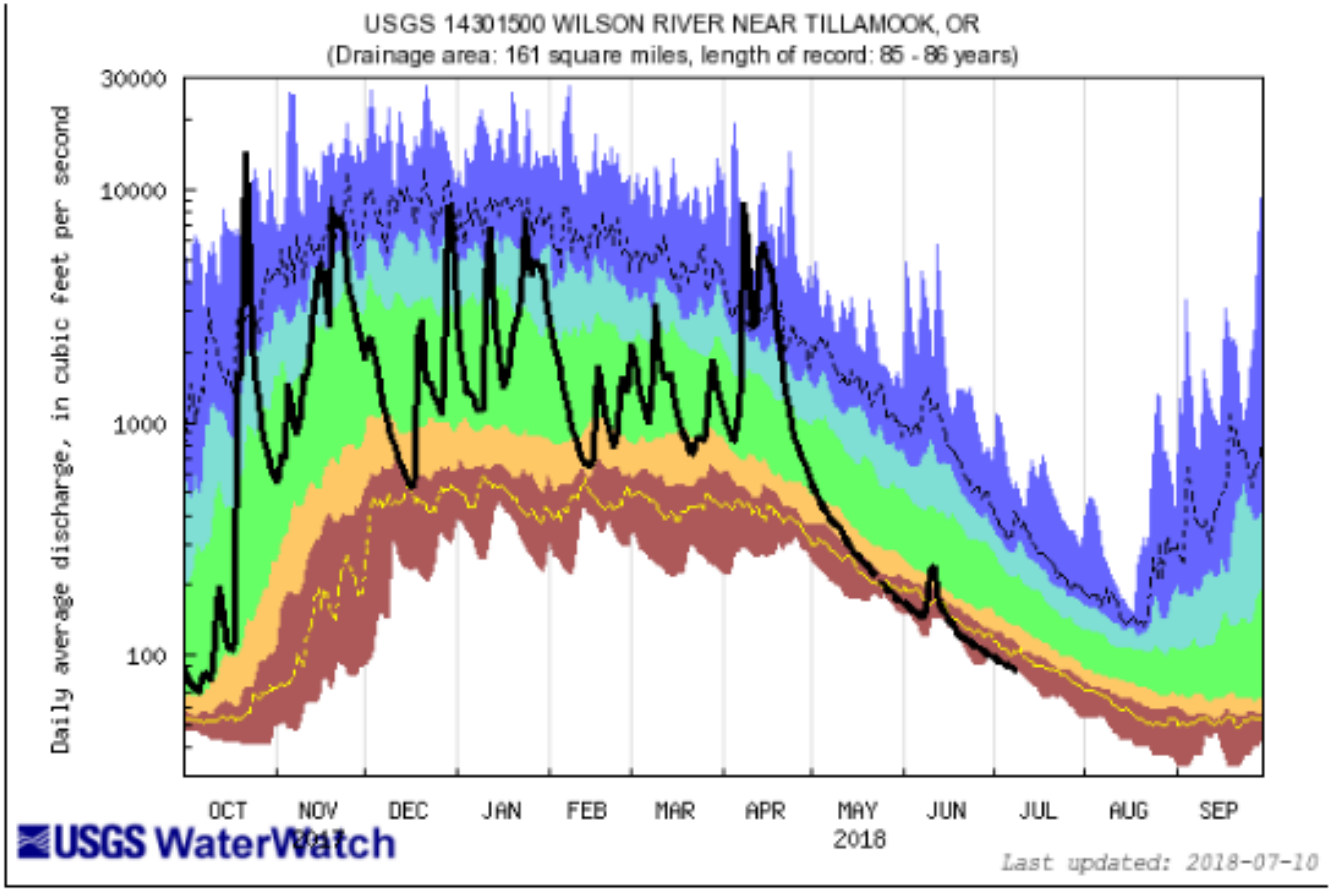
Station	NRCS SWSI Basin	Monthly mean discharge: Cubic feet per second	Monthly mean discharge: Percent of average	Change in discharge from previous month (percent)	Accumulated Runoff For the Period Oct. to June: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	90	31	-53	49
(*)Deep Creek above Adel	Lake County	43	22	-78	54
(*)Chewaucan River near Paisley	Lake County	79	31	-72	63
Williamson River near Chiloquin	Klamath	668	70	-30	66
Owyhee River near Rome	Owyhee	232	29	-42	34
(*)NF Malheur River near Beulah	Malheur	68	41	-52	53
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	3,809	72	-49	111
Umatilla River nr Gibbon	Umatilla Lower John Day	77	43	-72	121
John Day River at Service Crk	Upper John Day	907	36	-65	58
(*)Little Deschutes River nr LaPine	Upper Deschutes	90	36	-43	71
Hood River nr Hood River	Lower Deschutes Mt.Hood	471	56	-51	106
Willamette River at Salem	Willamette	10,425	71	-31	89
Wilson River near Tillamook	North Coast	135	34	-54	113
Umpqua River near Elkton	Rogue/Umpqua	1,790	49	-49	68
Rogue River near Agness	Rogue/Umpqua	2,974	79	-21	67
SF Coquille River at Powers	South Coast	65	31	-62	87
Chetco River near Brookings	South Coast	286	39	-62	83

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

7/2/2018

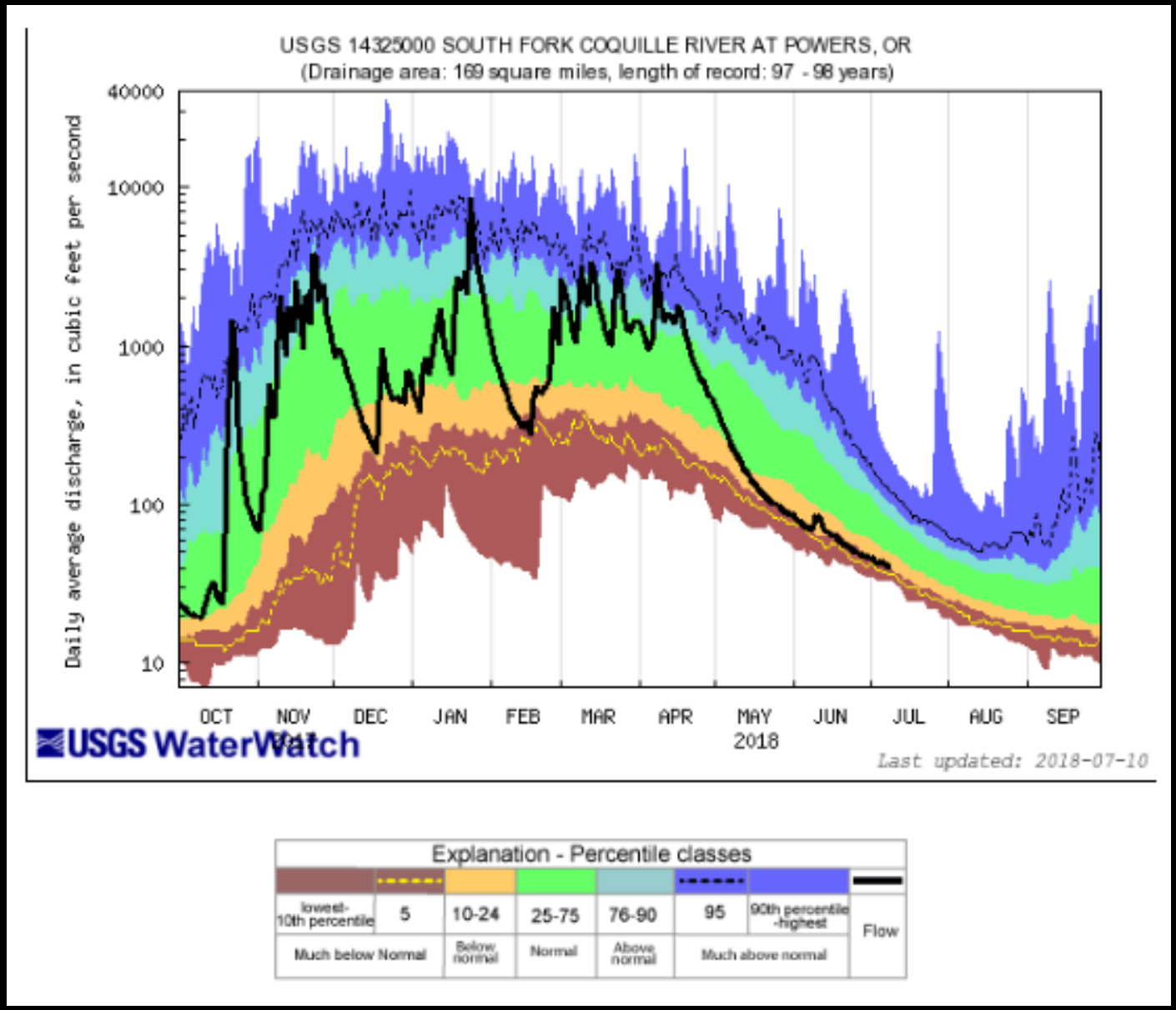
In addition to Eastern Oregon Coastal Basins show flows lower than normal.

Wilson River Tillamook 14301500



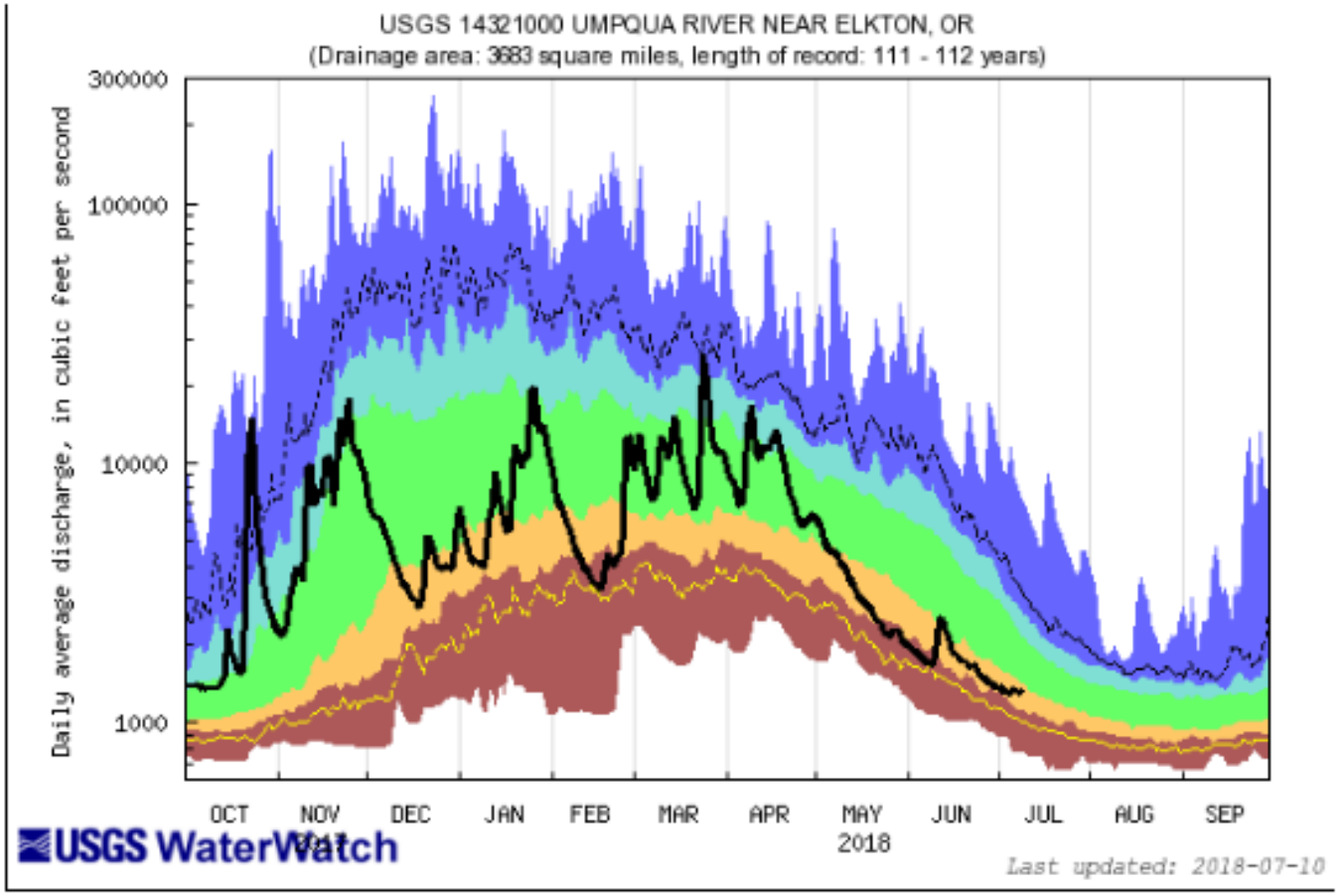
USGS

SOUTH COAST



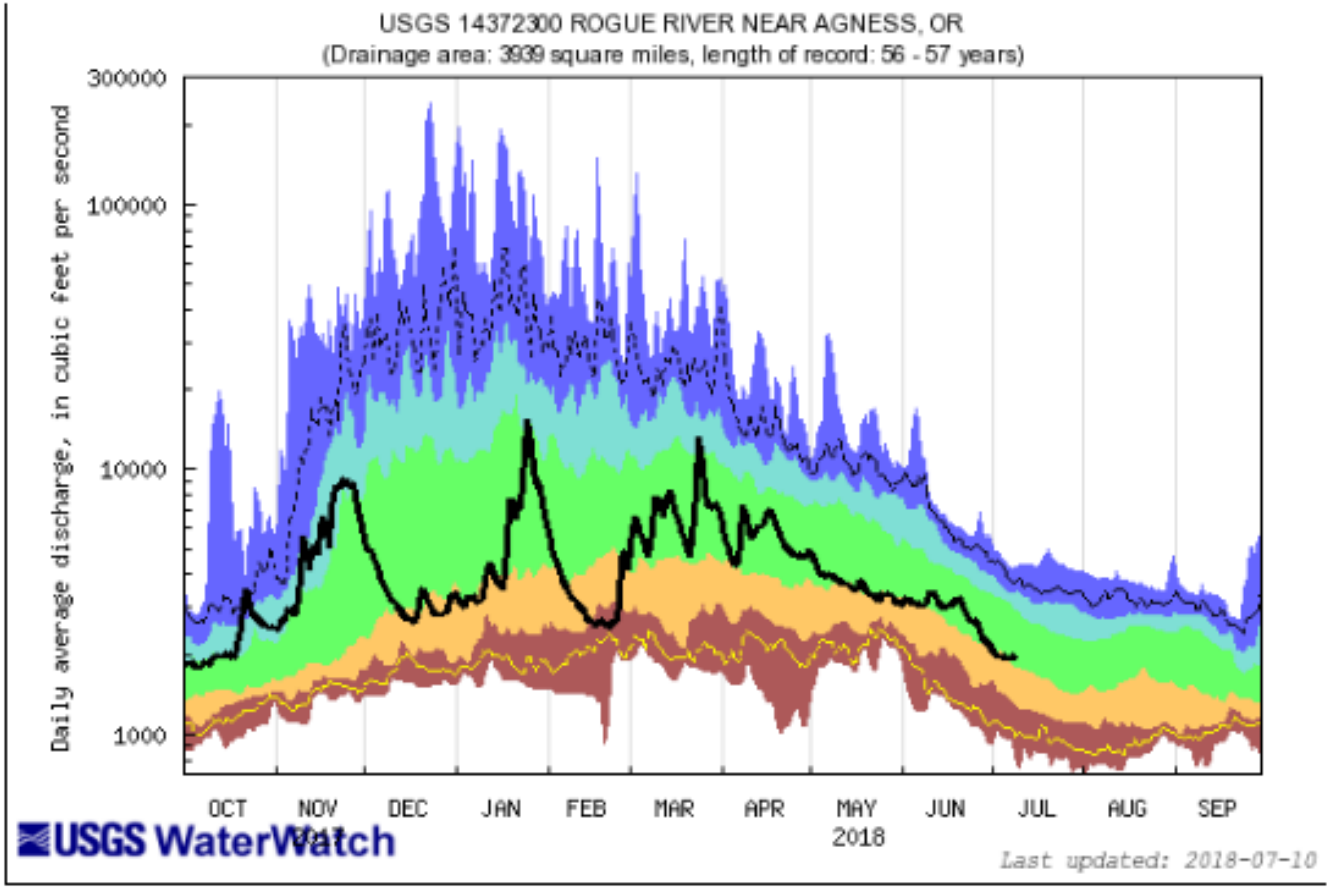
USGS

ROGUE/UMPQUA BASIN



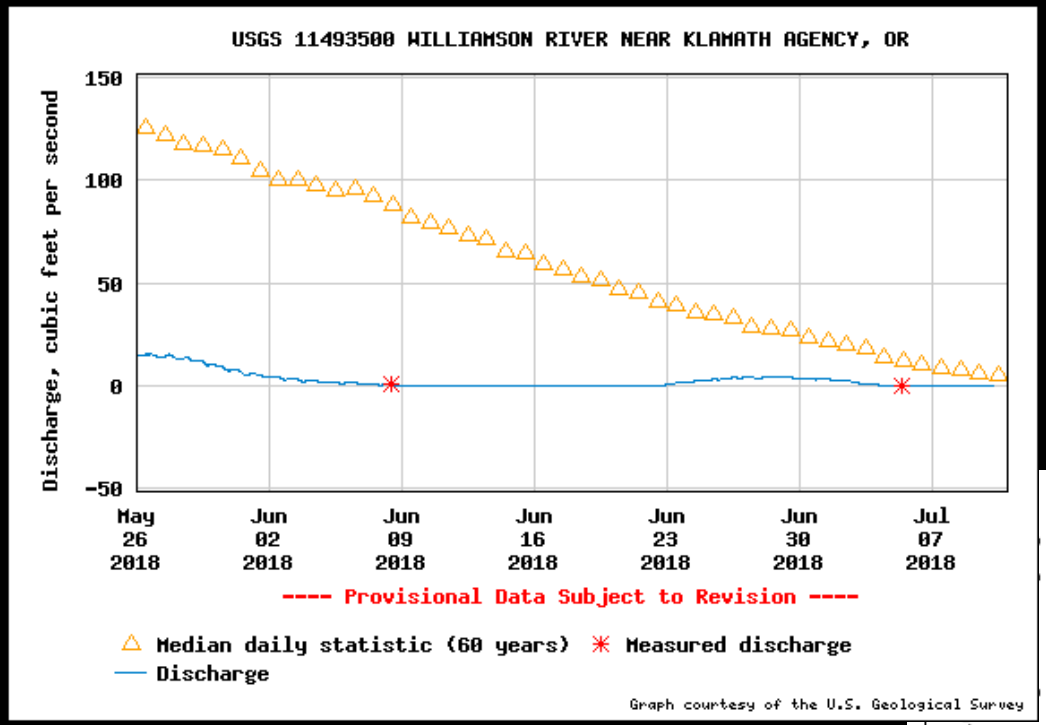
USGS

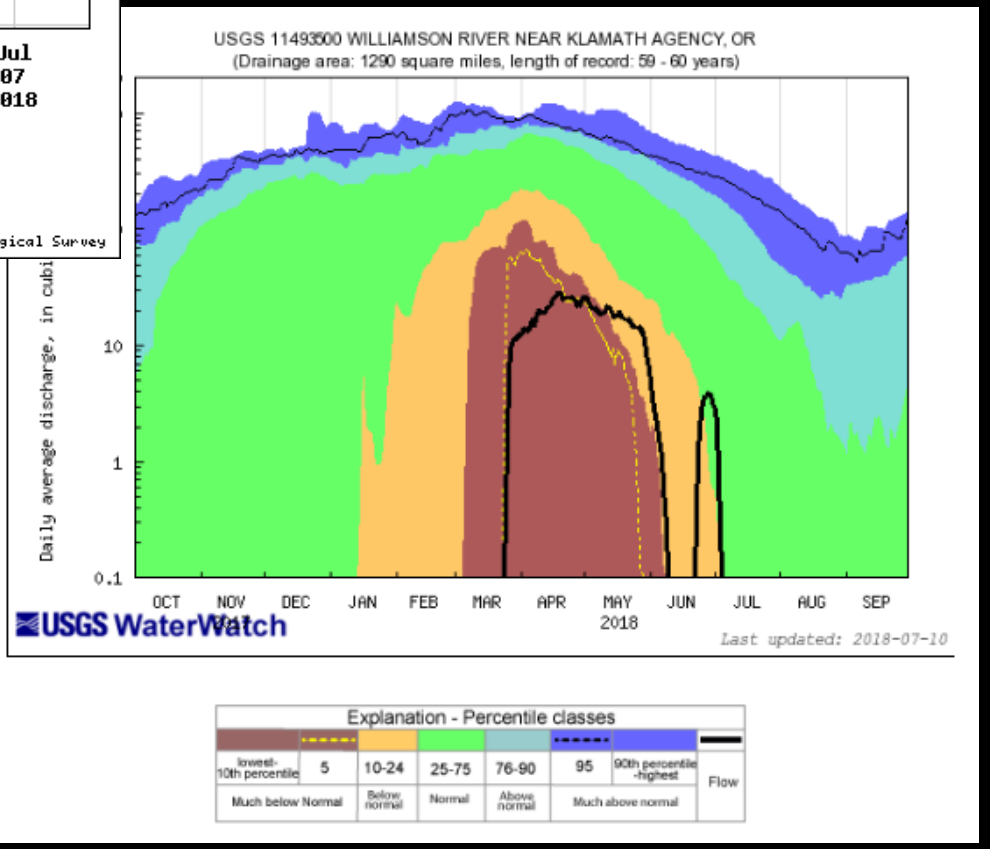
ROGUE/UMPQUA BASIN



USGS

KLAMATH BASIN



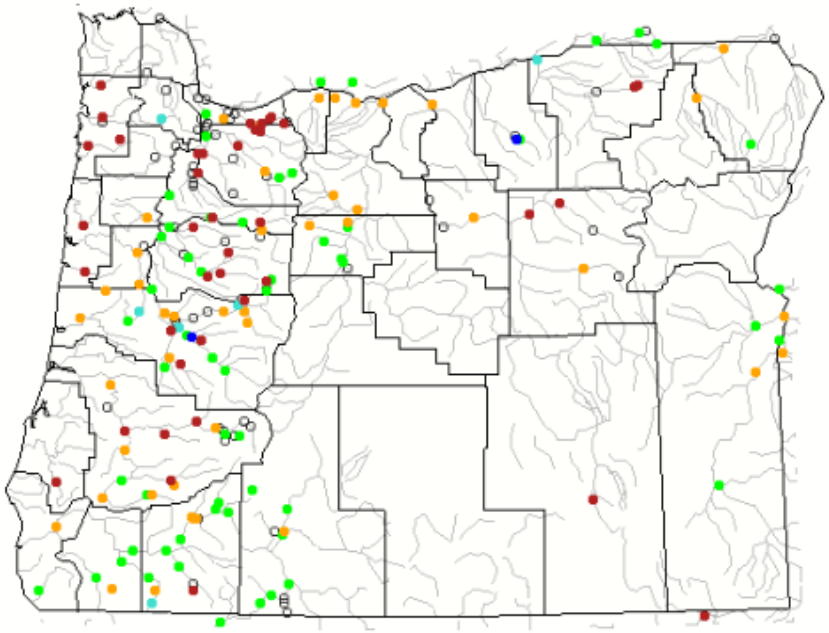


USGS

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

Oregon ▼ or Water-Resources Regions ▼ All Days

Monday, July 09, 2018



USGS

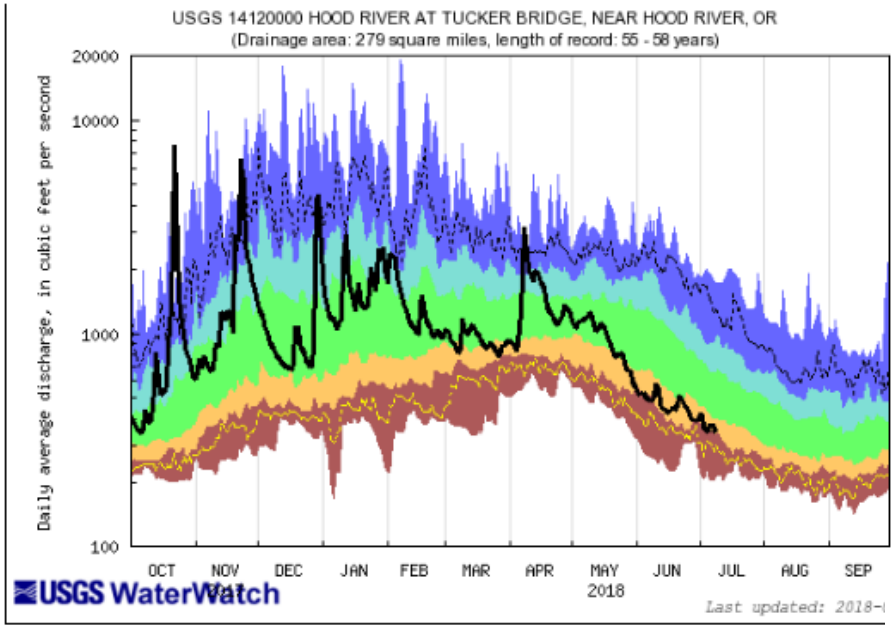
Search USGS streamgage

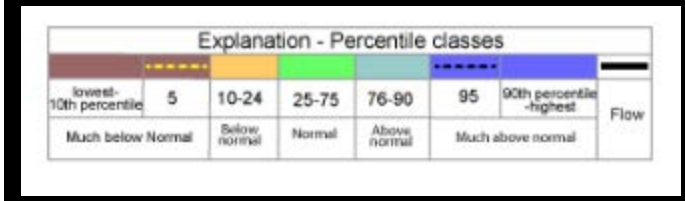
Choose a data retrieval option and select a location on the map

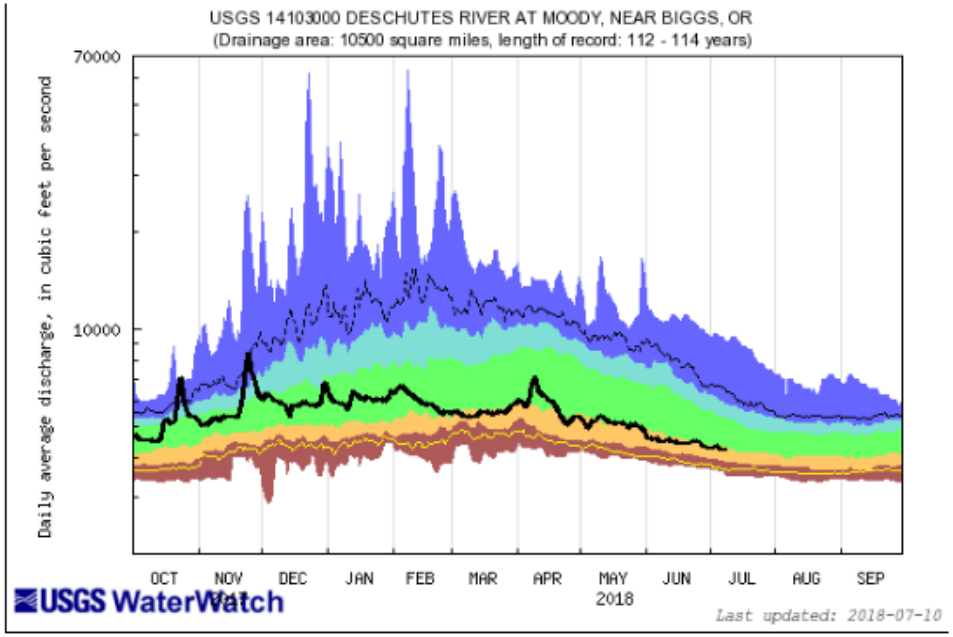
○ List of all stations ◉ Single station ○ Nearest stations

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

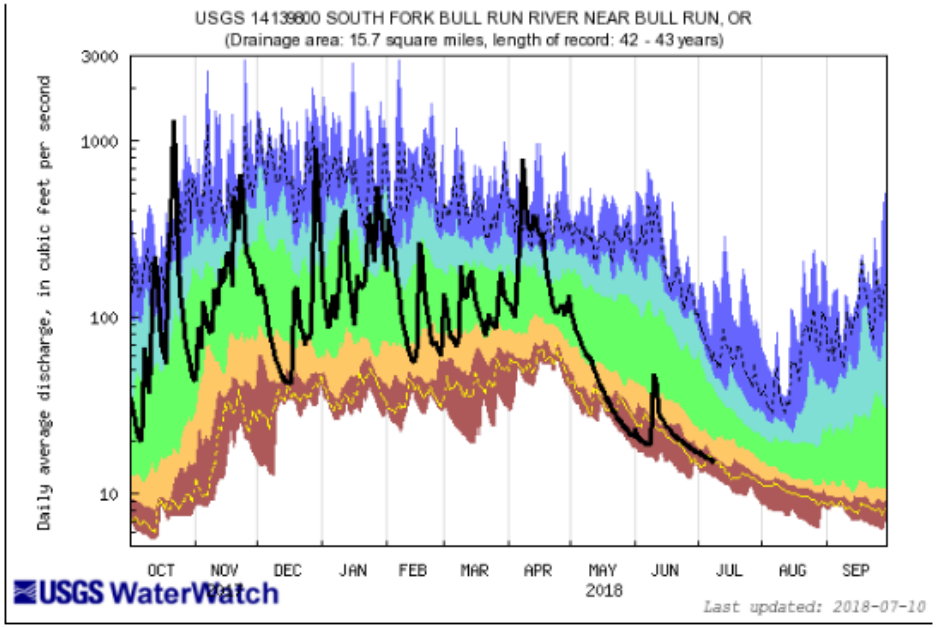
LOWER DESCHUTES / MT HOOD

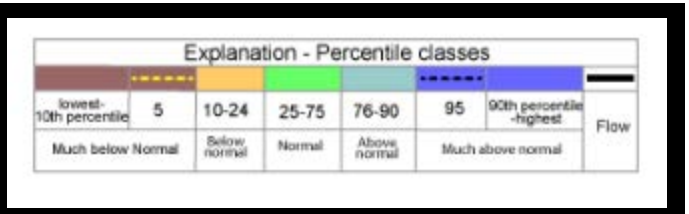


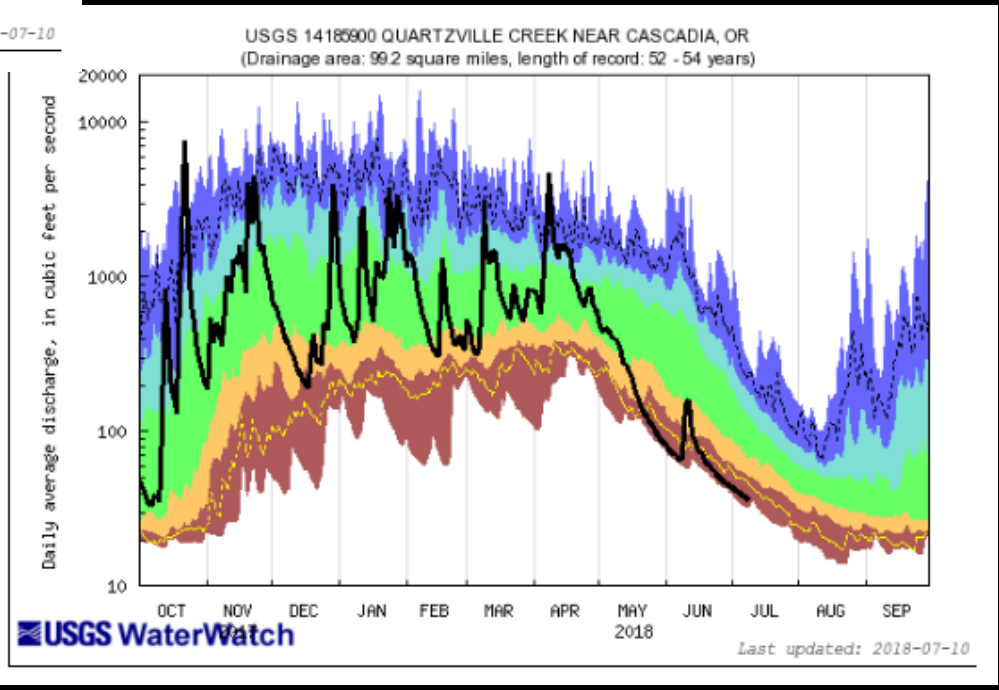




USGS


USGS 14139800 SOUTH FORK BULL RUN RIVER NEAR BULL RUN, OR
(Drainage area: 15.7 square miles, length of record: 42 - 43 years)
Daily average discharge, in cubic feet per second
3000
1000
100
10
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
2018
USGS WaterWatch
Last updated: 2018-07-10

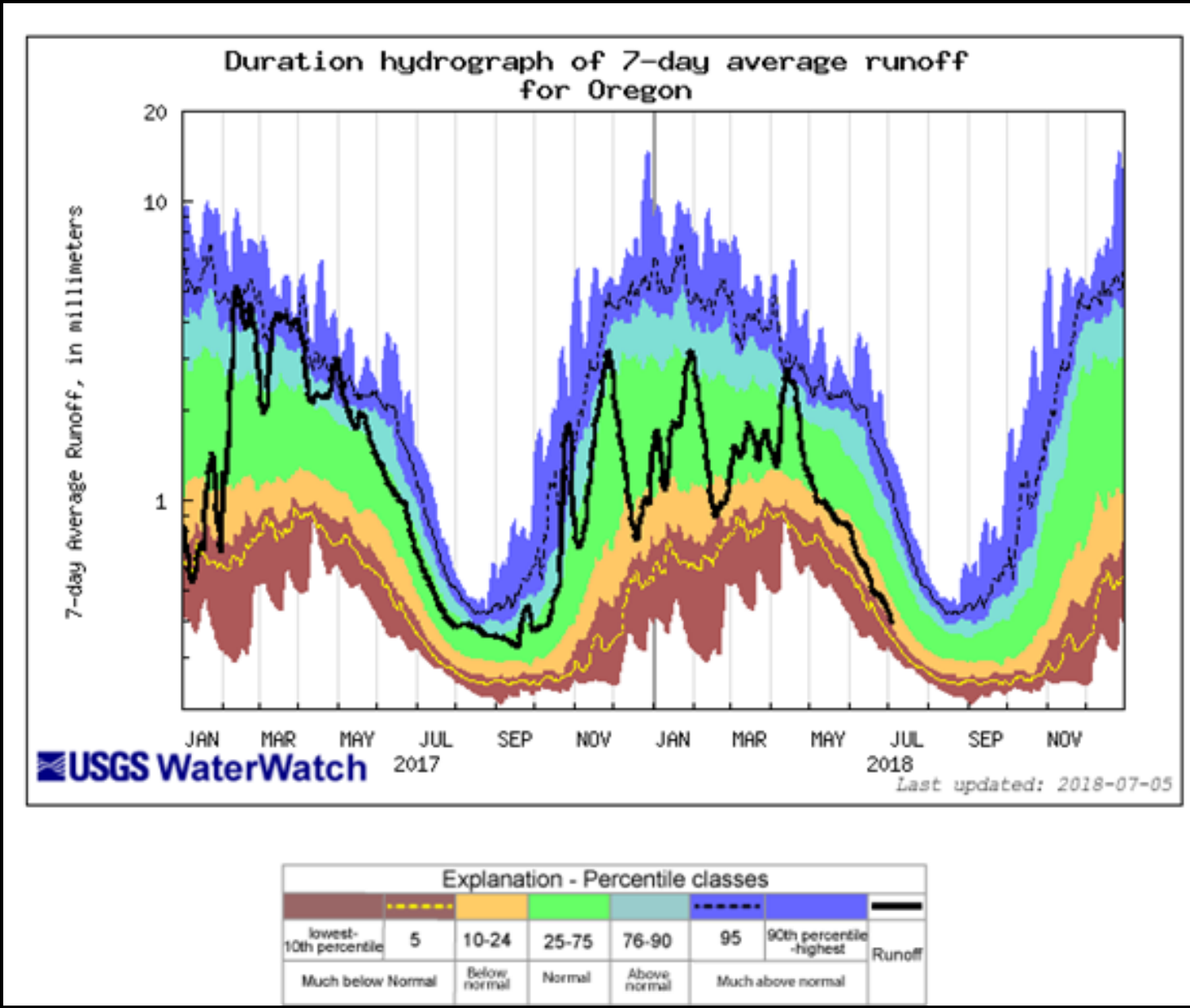

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal


USGS 14185900 QUARTZVILLE CREEK NEAR CASCADIA, OR
(Drainage area: 99.2 square miles, length of record: 52 - 54 years)
Daily average discharge, in cubic feet per second
20000
10000
1000
100
10
OCT
NOV
DEC
JAN
FEB
MAR
APR
MAY
JUN
JUL
AUG
SEP
2018
USGS WaterWatch
Last updated: 2018-07-10

USGS

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

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



USGS

Power Point “USGS Update on Surface Water Conditions”

By: Carrie Boudreau & Marc Stewart USGS ORWSC

Water Availability Report By: Tiffany Rae Jacklin USGS ORWSC

RECLAMATION

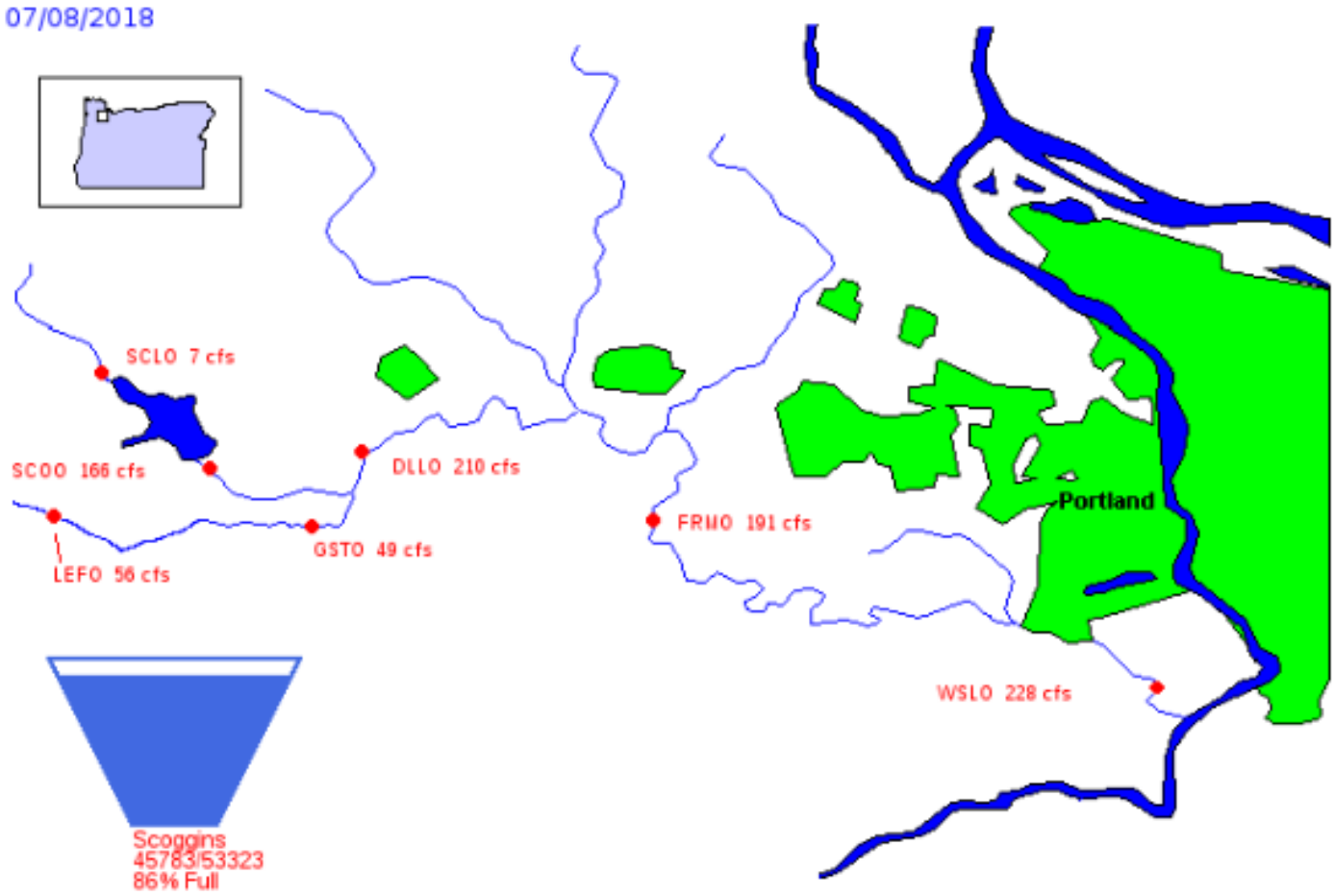
Managing Water in the West

Oregon Water Supply Availability Committee Meeting
July 10, 2018

Peter Cooper
PN Region RRO

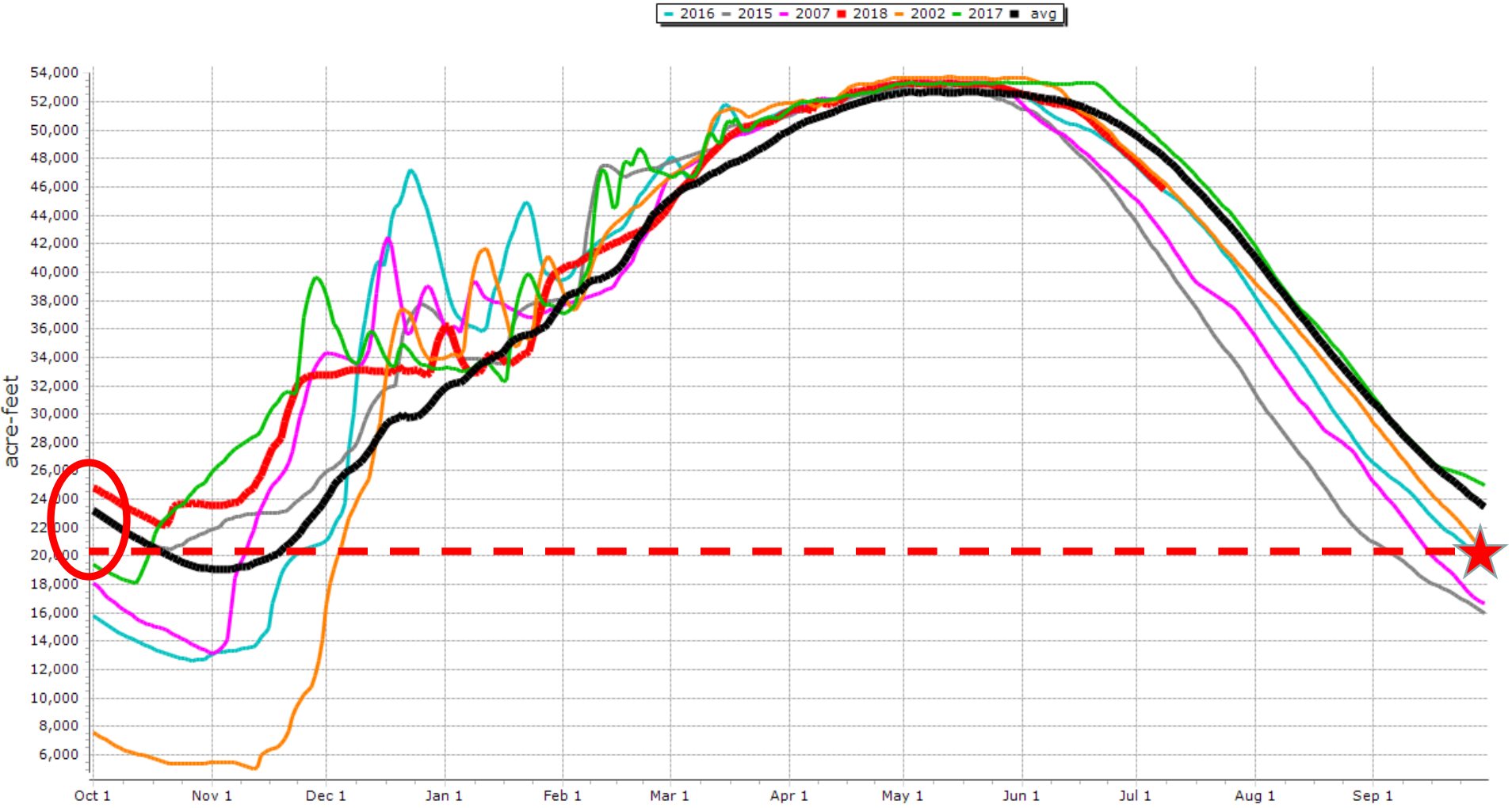
U.S. Department of the Interior
Bureau of Reclamation

Bureau of Reclamation, Pacific Northwest Region
Tualatin River Basin Storage and Flow Diagram



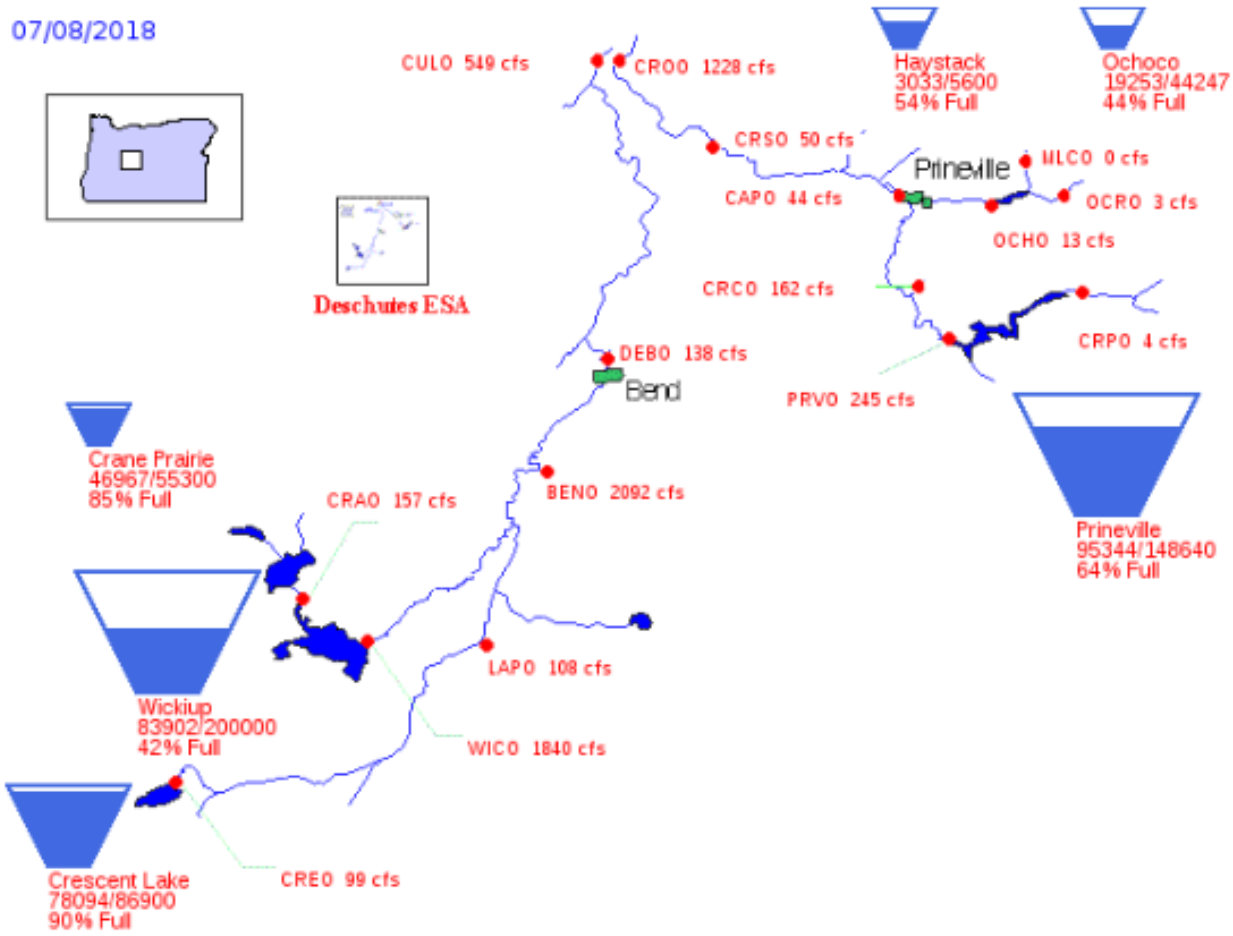
RECLAMATION

Scoggins Dam & Henry Hagg Lake nr Forest Grove, OR Elevation:200.0000

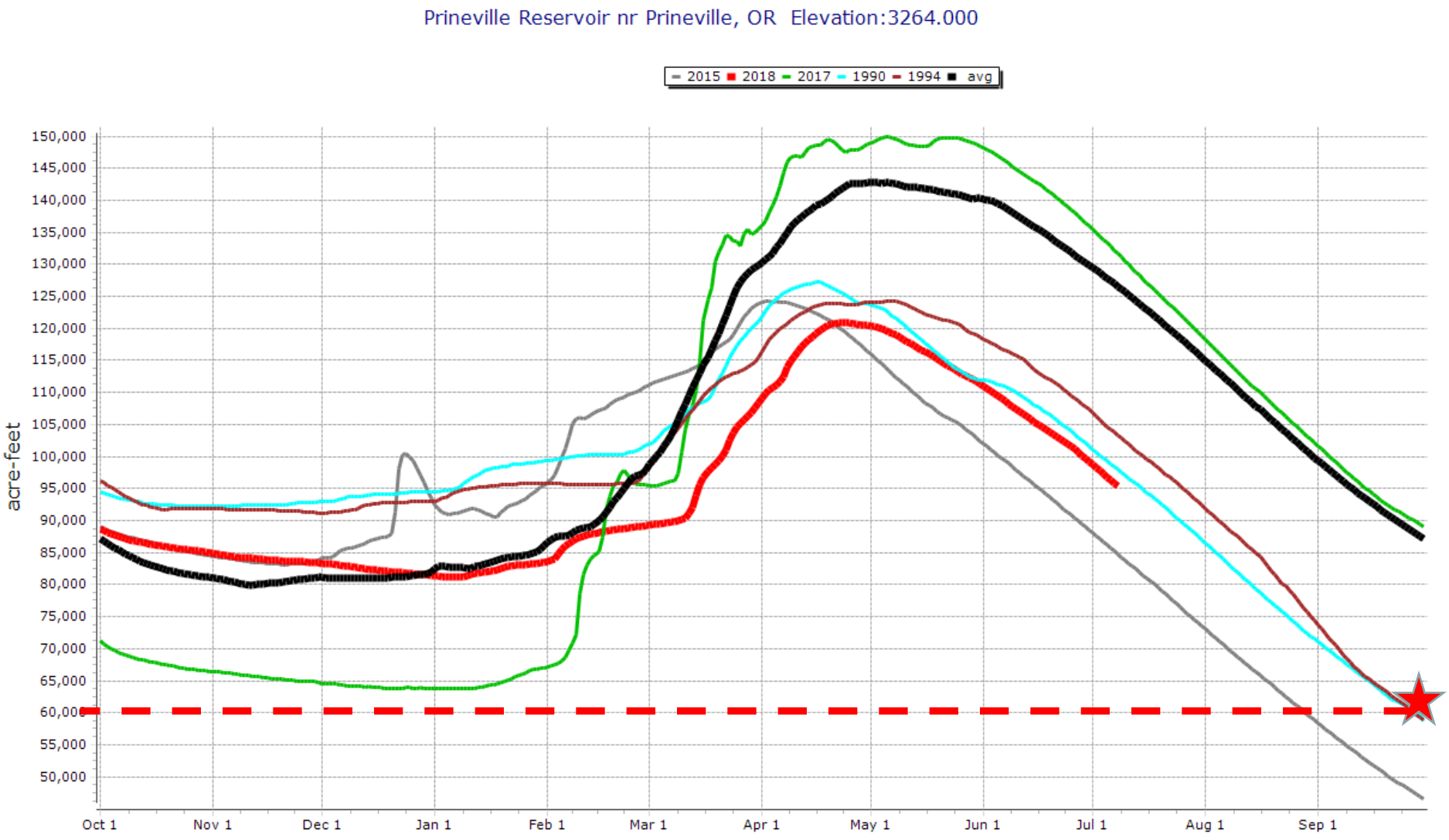


RECLAMATION

US Bureau of Reclamation, Pacific Northwest Region
Major Storage Reservoirs in the Deschutes River Basin



RECLAMATION



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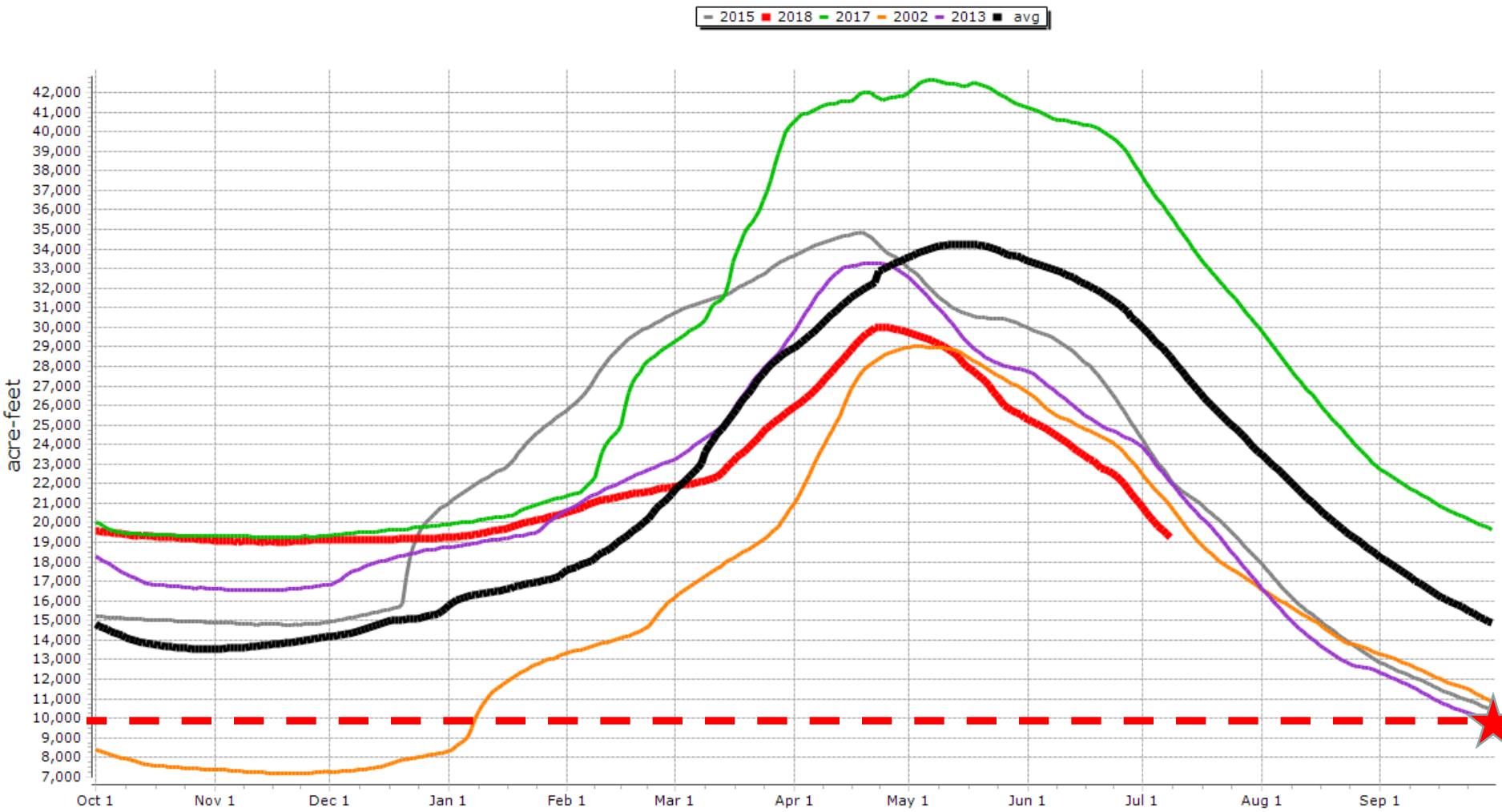
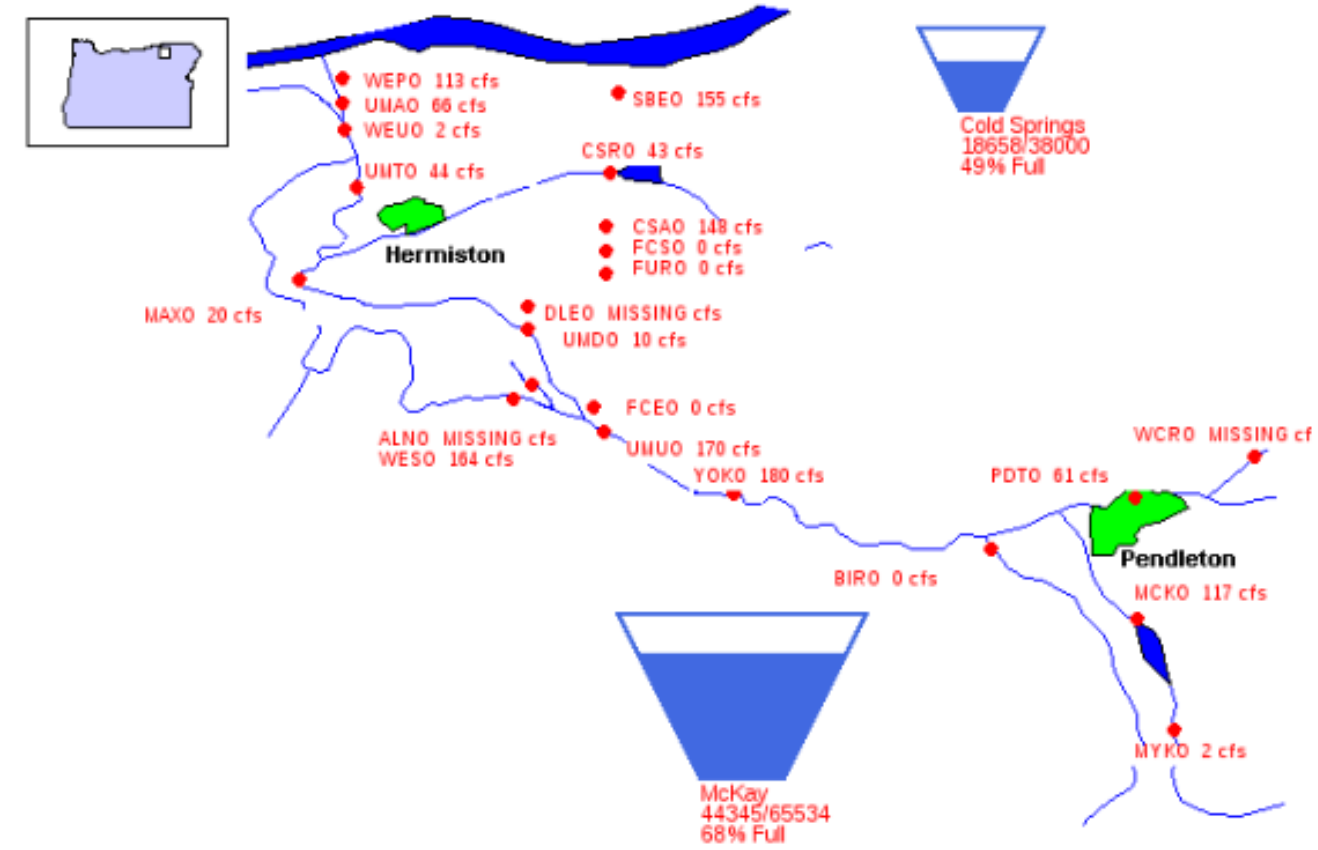


RECLAMATION

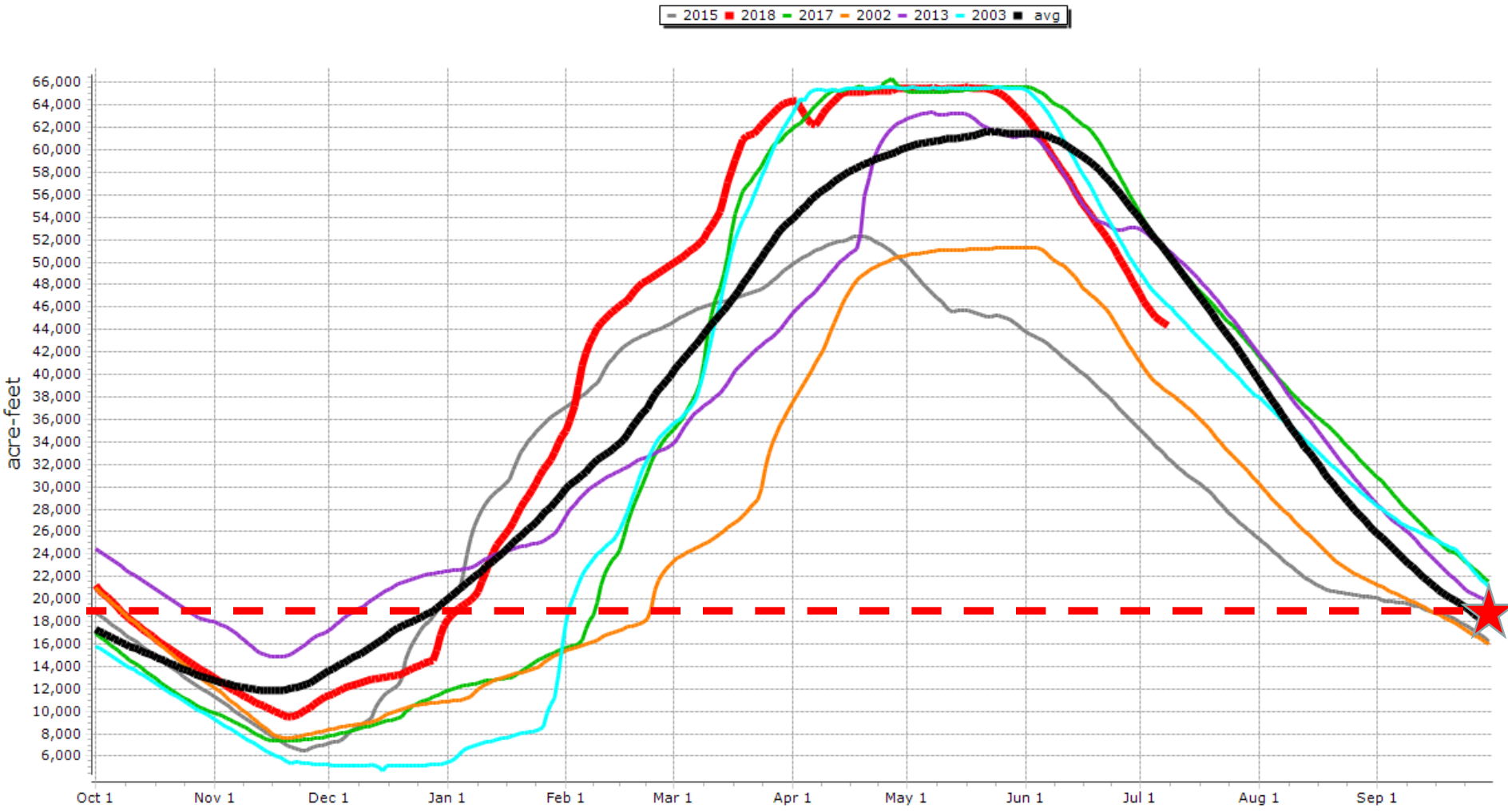
Bureau of Reclamation, Pacific Northwest Region
Umatilla River Basin Storage and Flow Diagram

07/08/2018



RECLAMATION

McKay Reservoir near Pendleton, OR Elevation:1333.000



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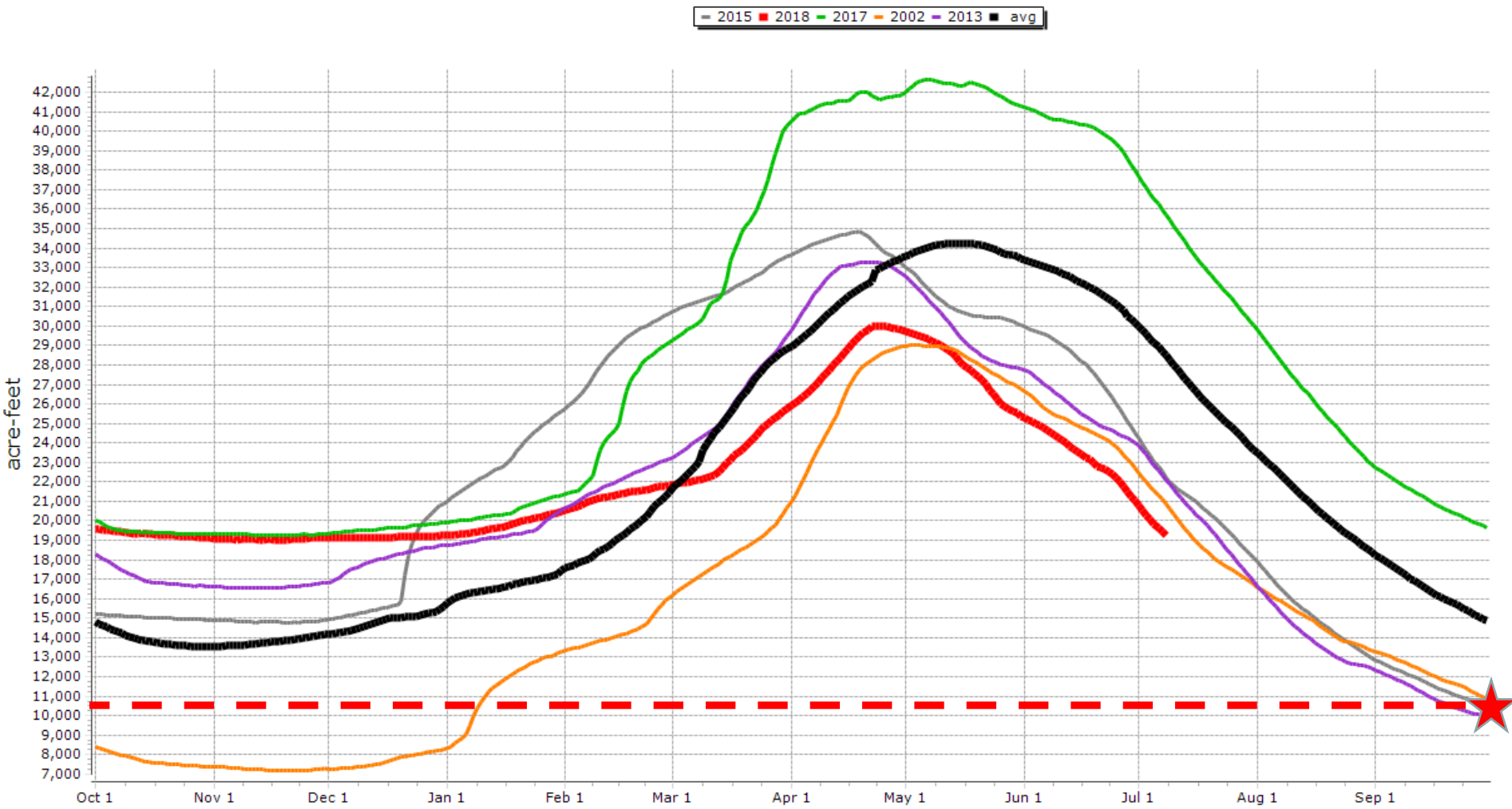
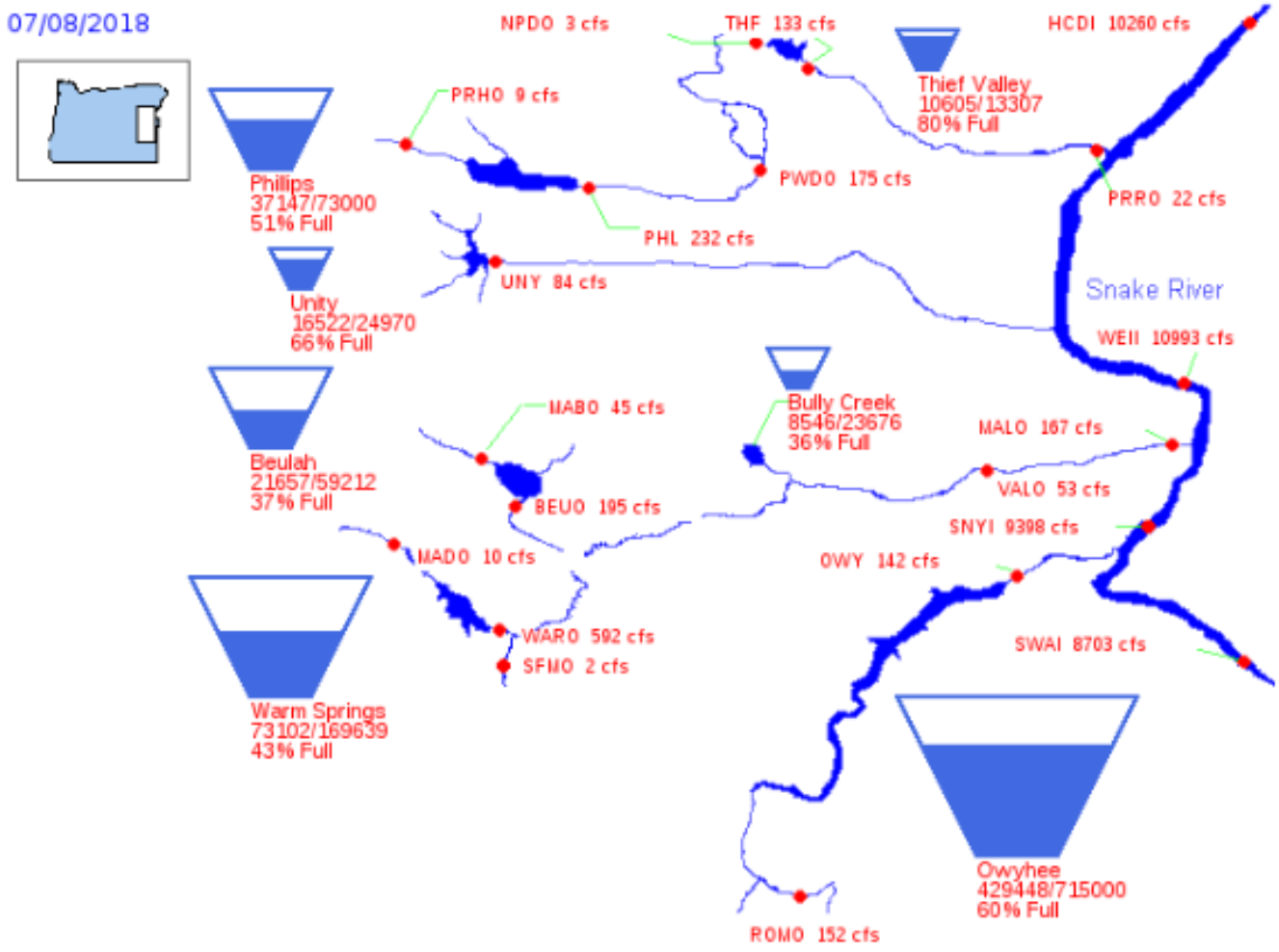


RECLAMATION

US Bureau of Reclamation, Pacific Northwest Region
Major Storage Reservoirs in Southeastern Oregon

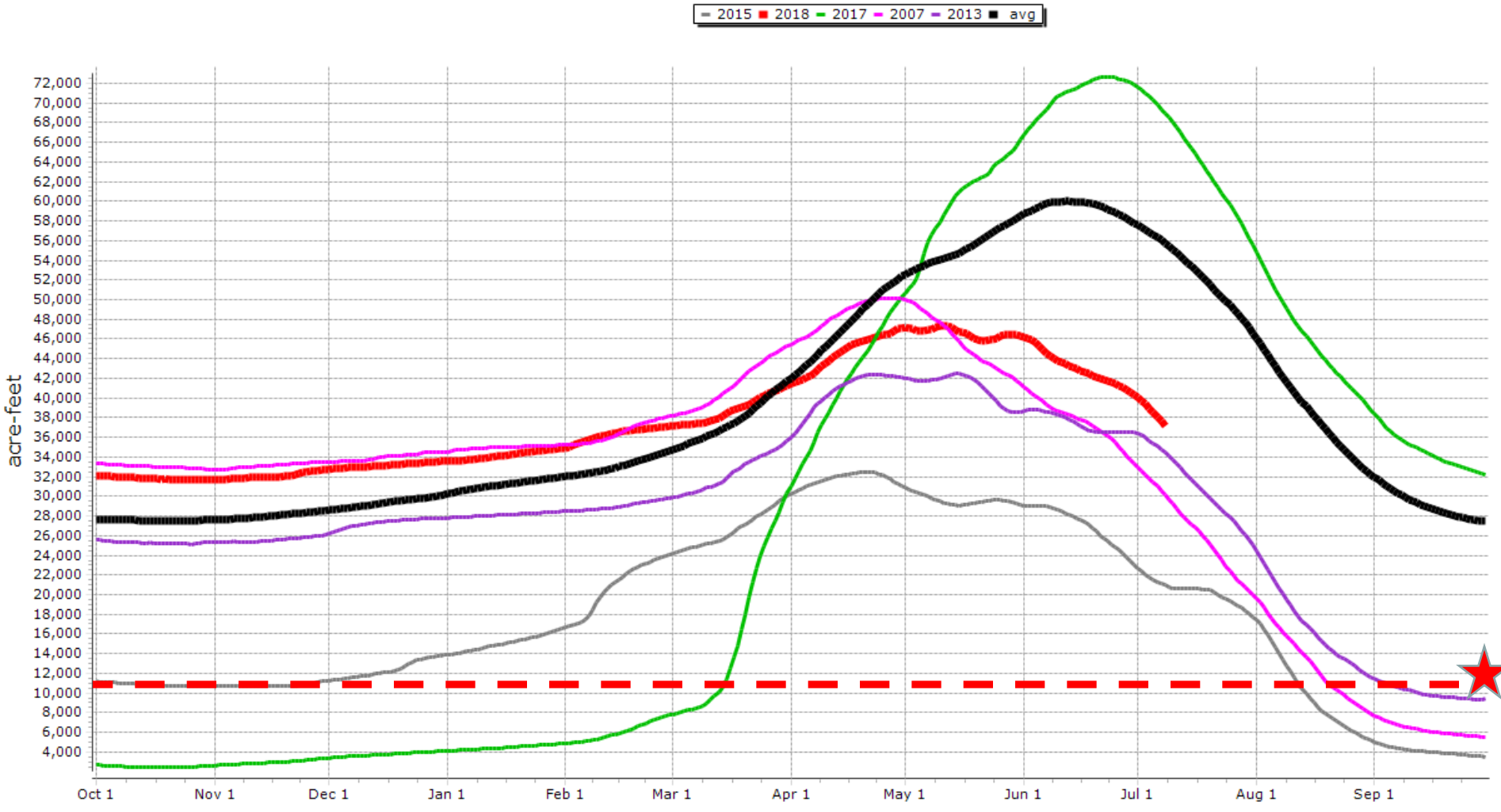


RECLAMATION

Baker

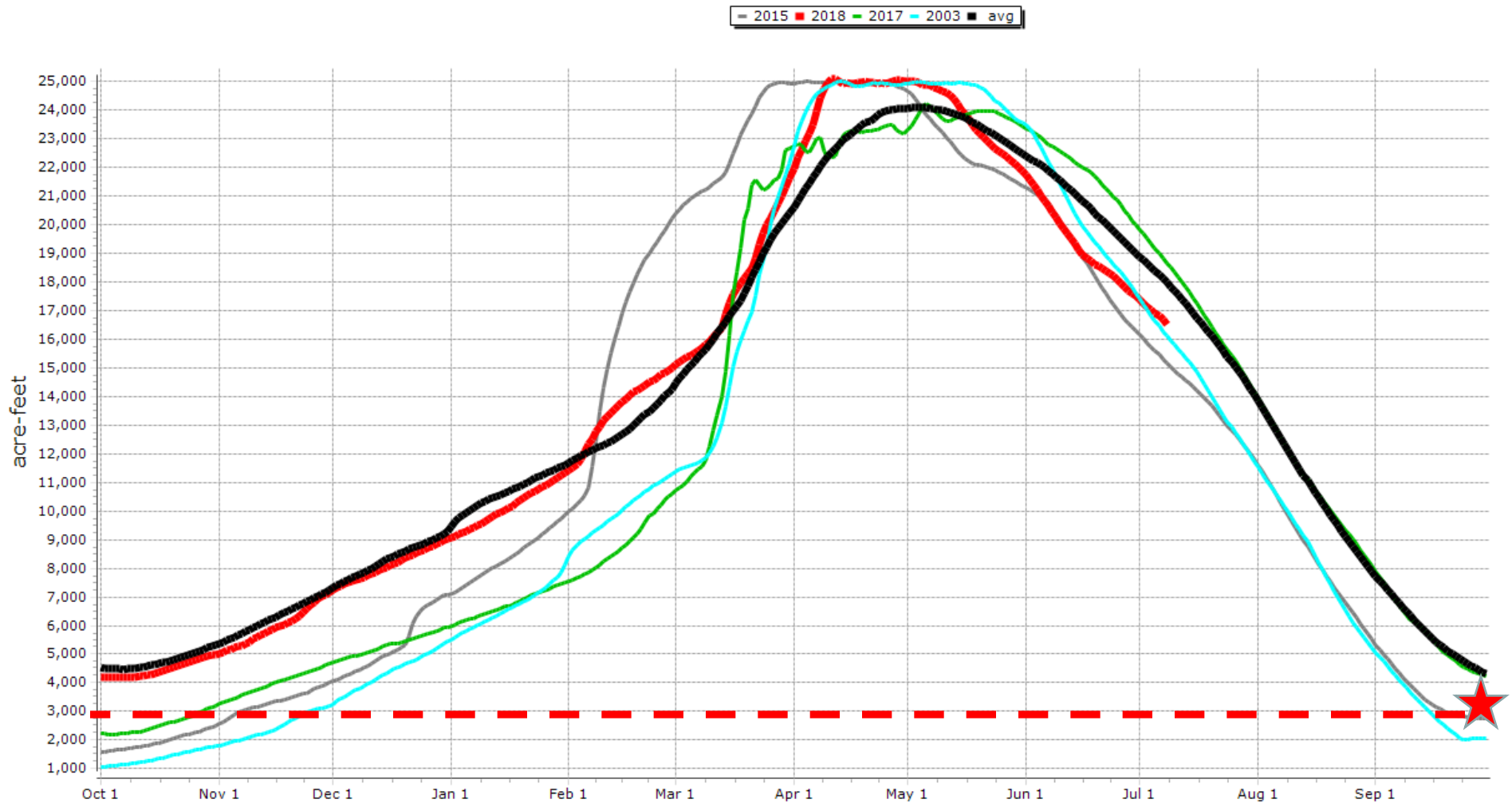
RECLAMATION

Mason Dam and Phillips Lake near Sumpter, OR Elevation:3898.000



RECLAMATION

Unity Reservoir and Burnt River near Unity, Oregon Elevation:3820.000

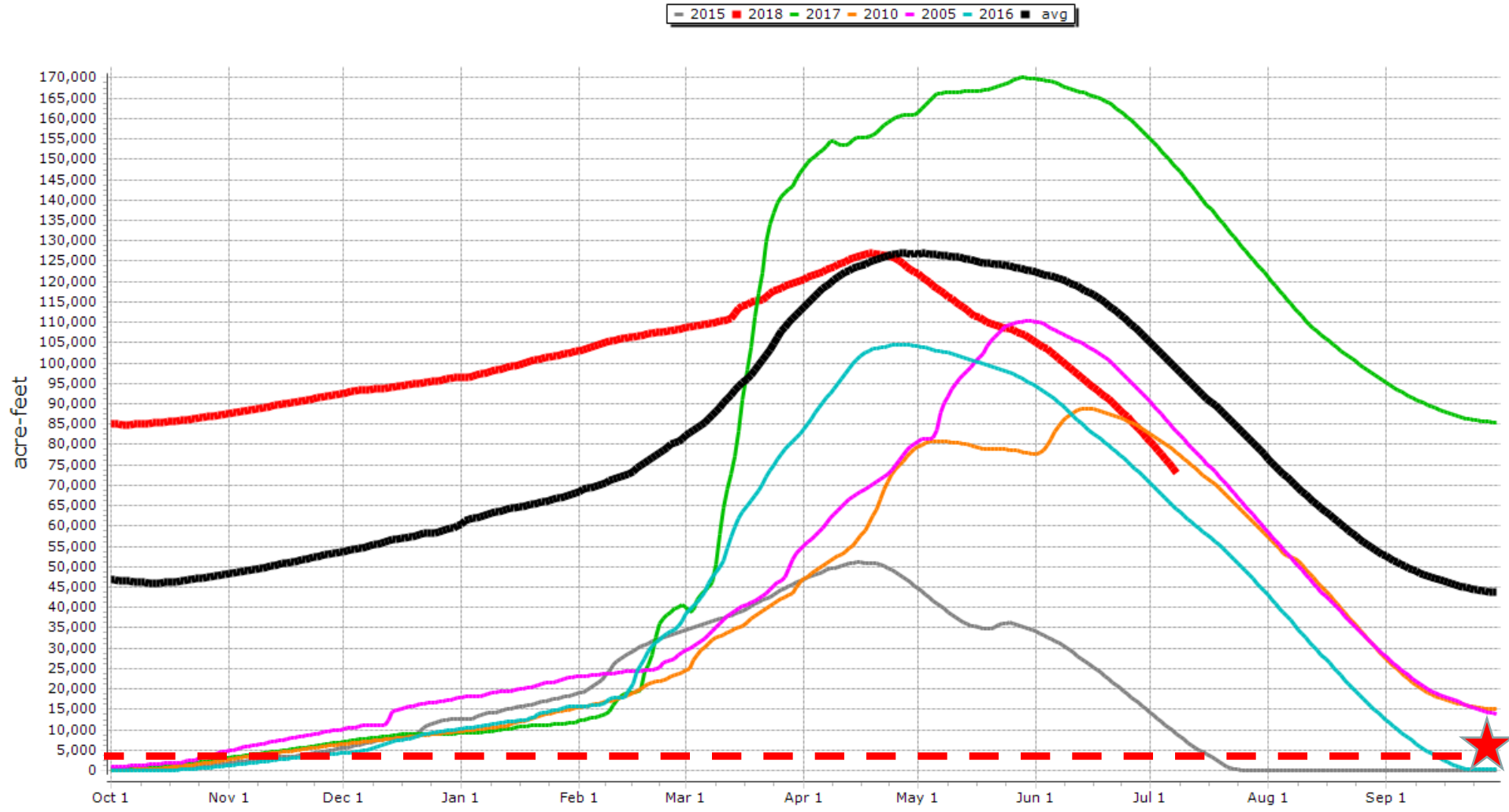


RECLAMATION

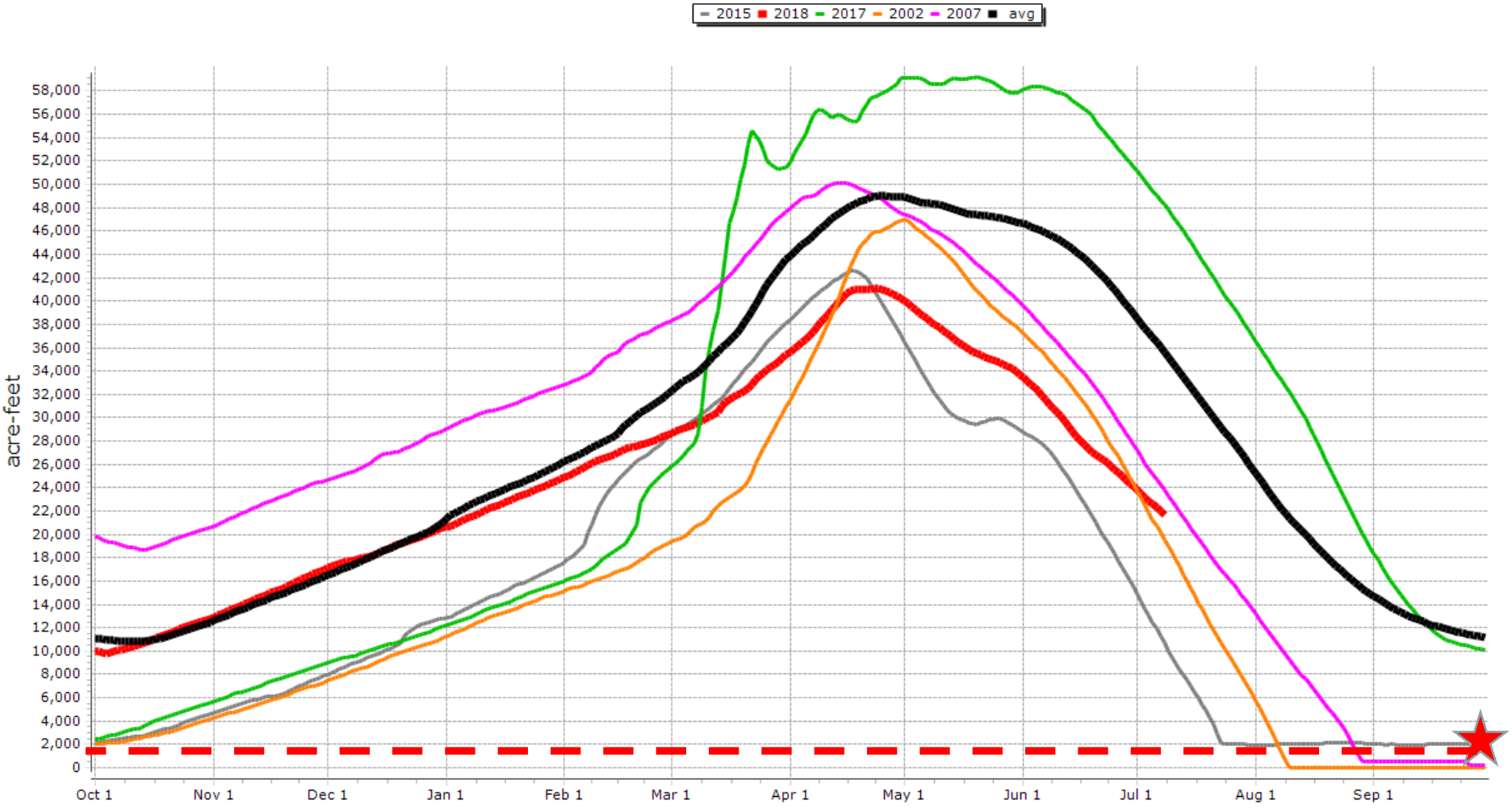
Malheur

RECLAMATION

Warm Springs Dam and Reservoir nr Riverside, OR Elevation:3305.000

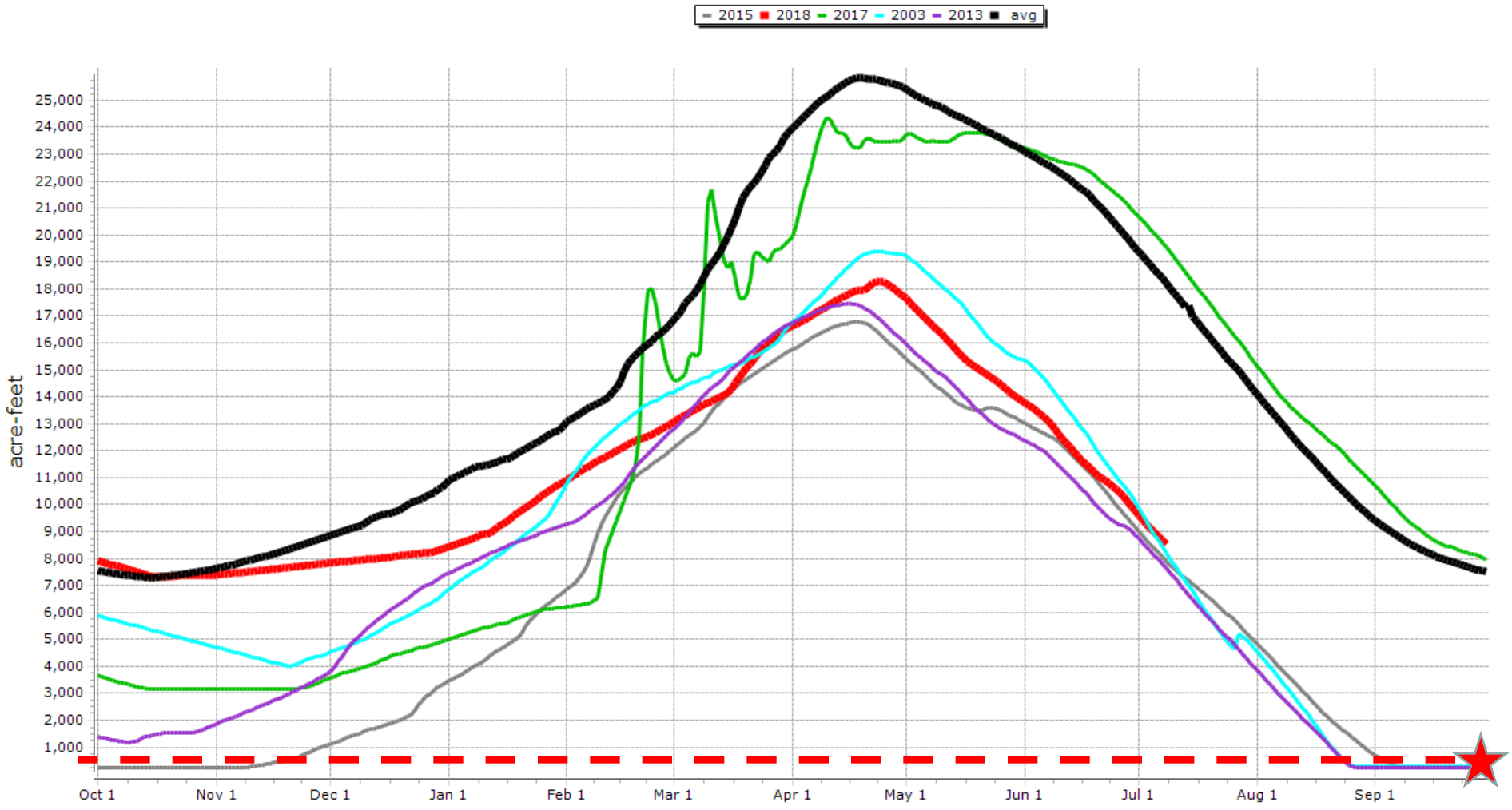


Agency Valley (Beulah) Dam and Reservoir Elevation:3305.000



RECLAMATION

Bully Creek Dam and Reservoir near Vale, OR Elevation:2516.000

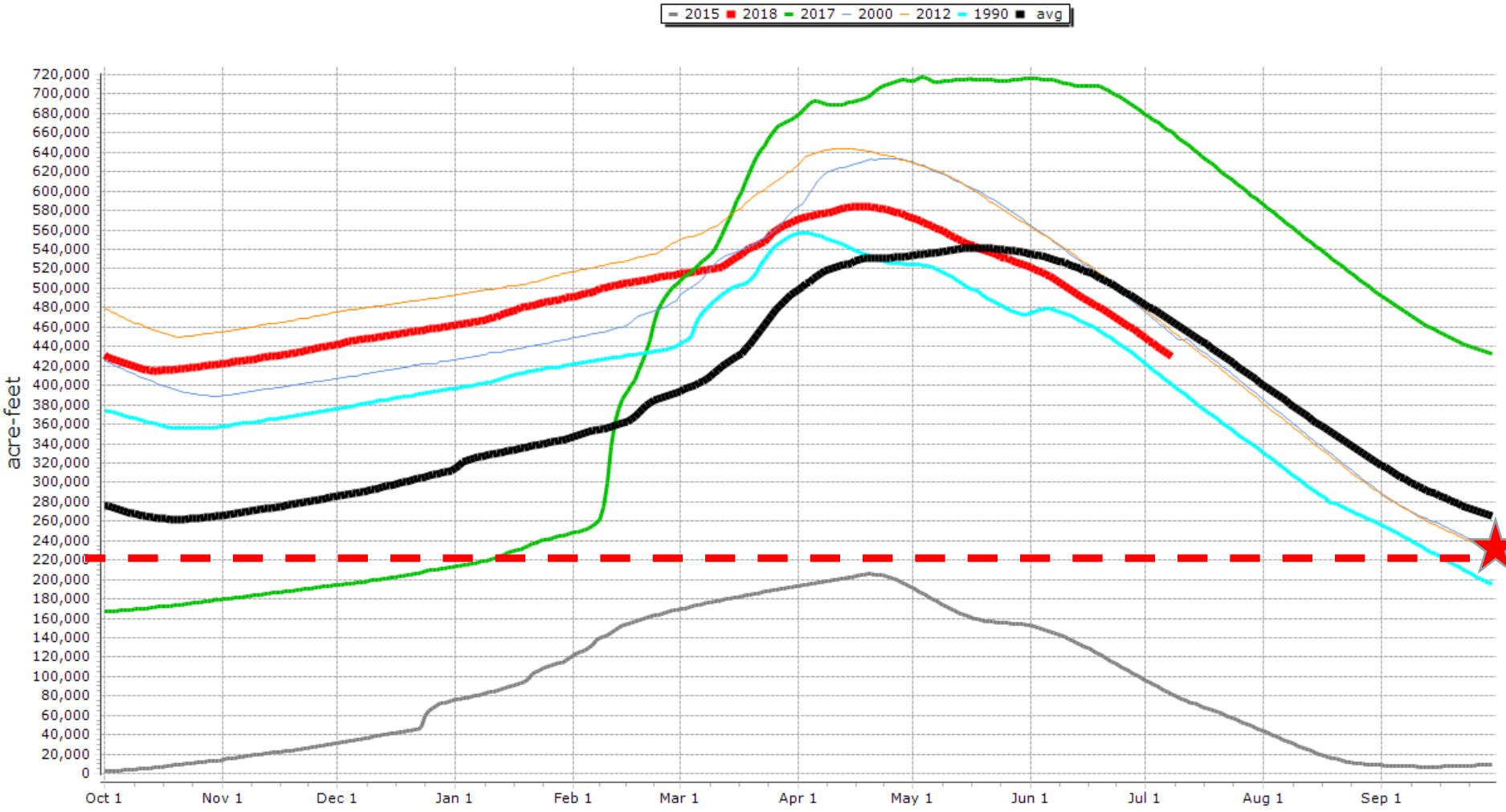


RECLAMATION

Owyhee

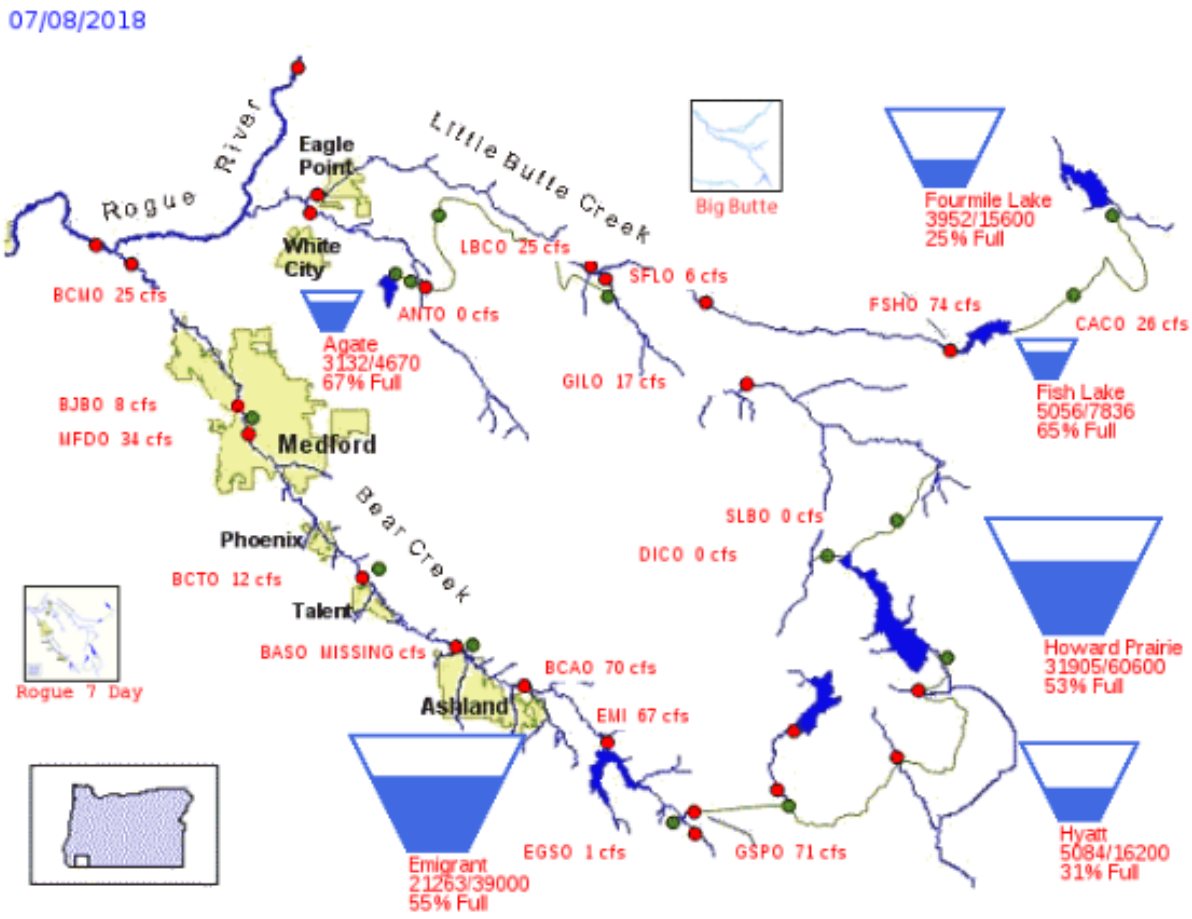
RECLAMATION

Lake Owyhee and Owyhee River near Nyssa, OR Elevation:2344.000



RECLAMATION

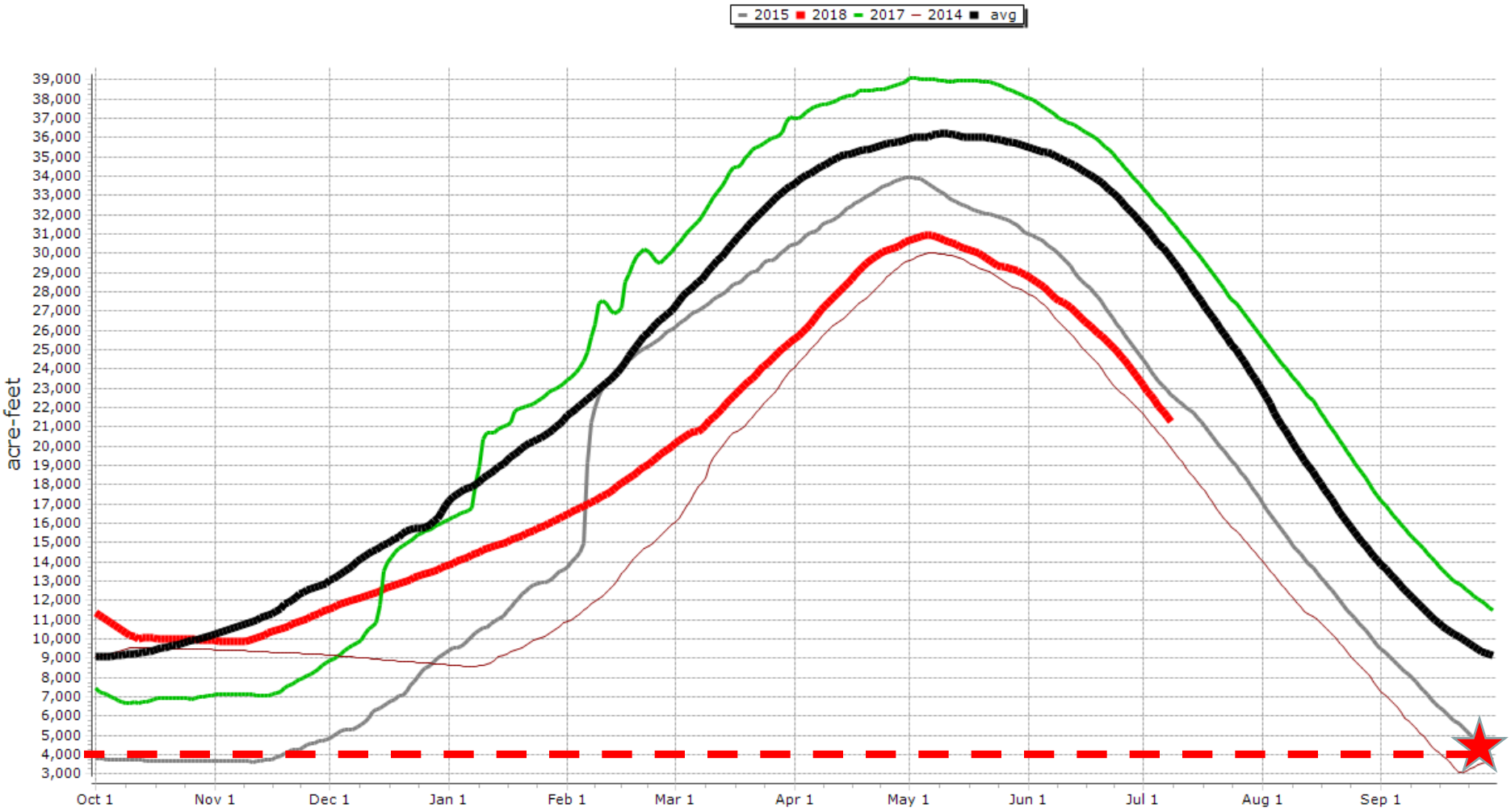
US Bureau of Reclamation, Pacific Northwest Region
Bear Creek and Little Butte Creek Basins



PROVISIONAL DATA - SUBJECT TO CHANGE!

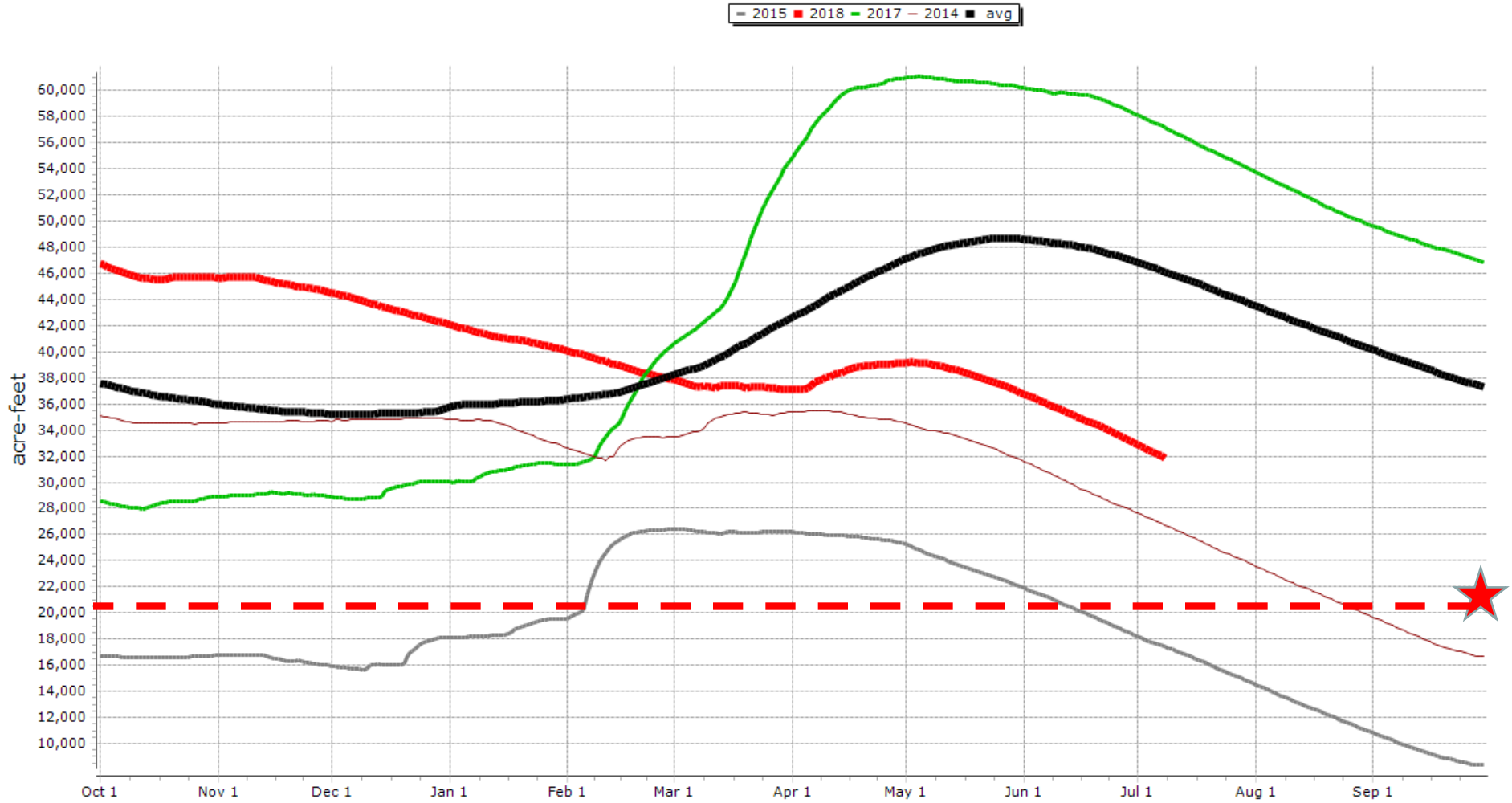
RECLAMATION

Emigrant Dam and Lake near Ashland, OR Elevation:2100.000

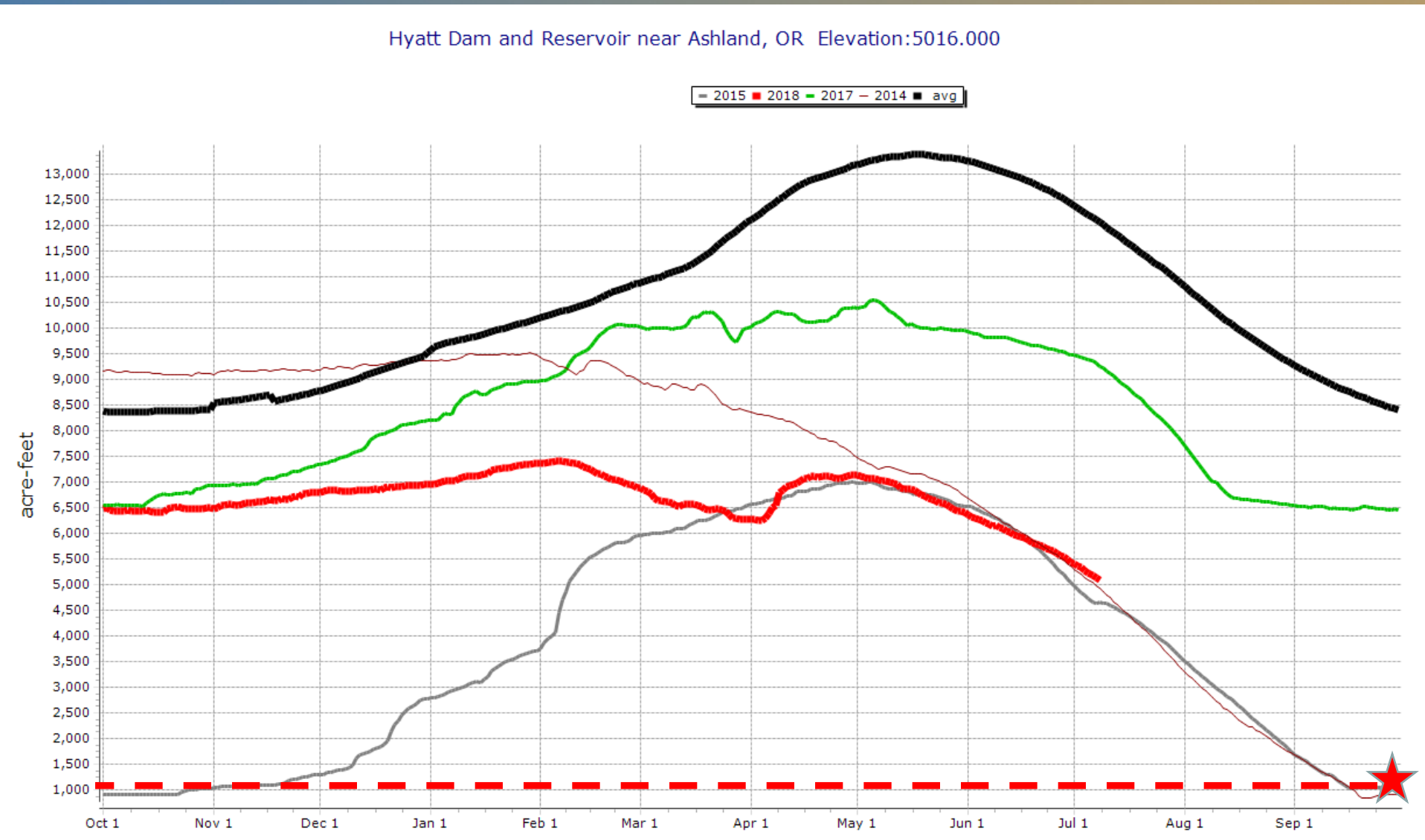


RECLAMATION

Howard Prairie Lake and Dam near Ashland, OR Elevation:4539.000



RECLAMATION



RECLAMATION

Questions?