Oregon Water Supply Availability Committee

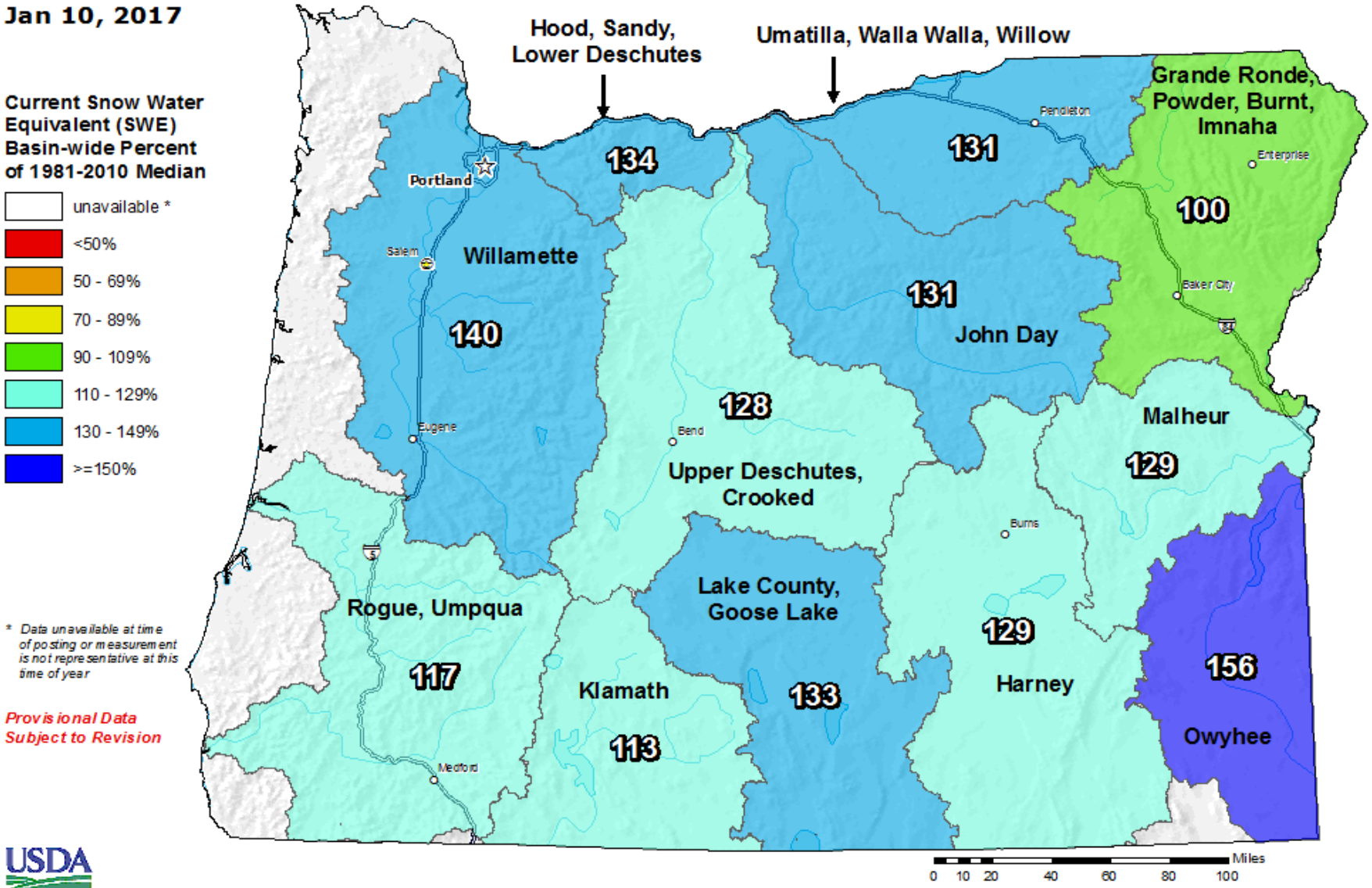
January 10, 2017

The final sunset of 2016 over Crater Lake
Photo courtesy of Lauren Austin (Snow Surveyor, Oregon NRCS)

H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA NRCS Snow Survey and Water Supply Forecasting Program
Scott.Oviatt@or.usda.gov
503-414-3271
http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/

Statewide SNOTEL Snowpack is 128% of normal

Jan 10, 2017

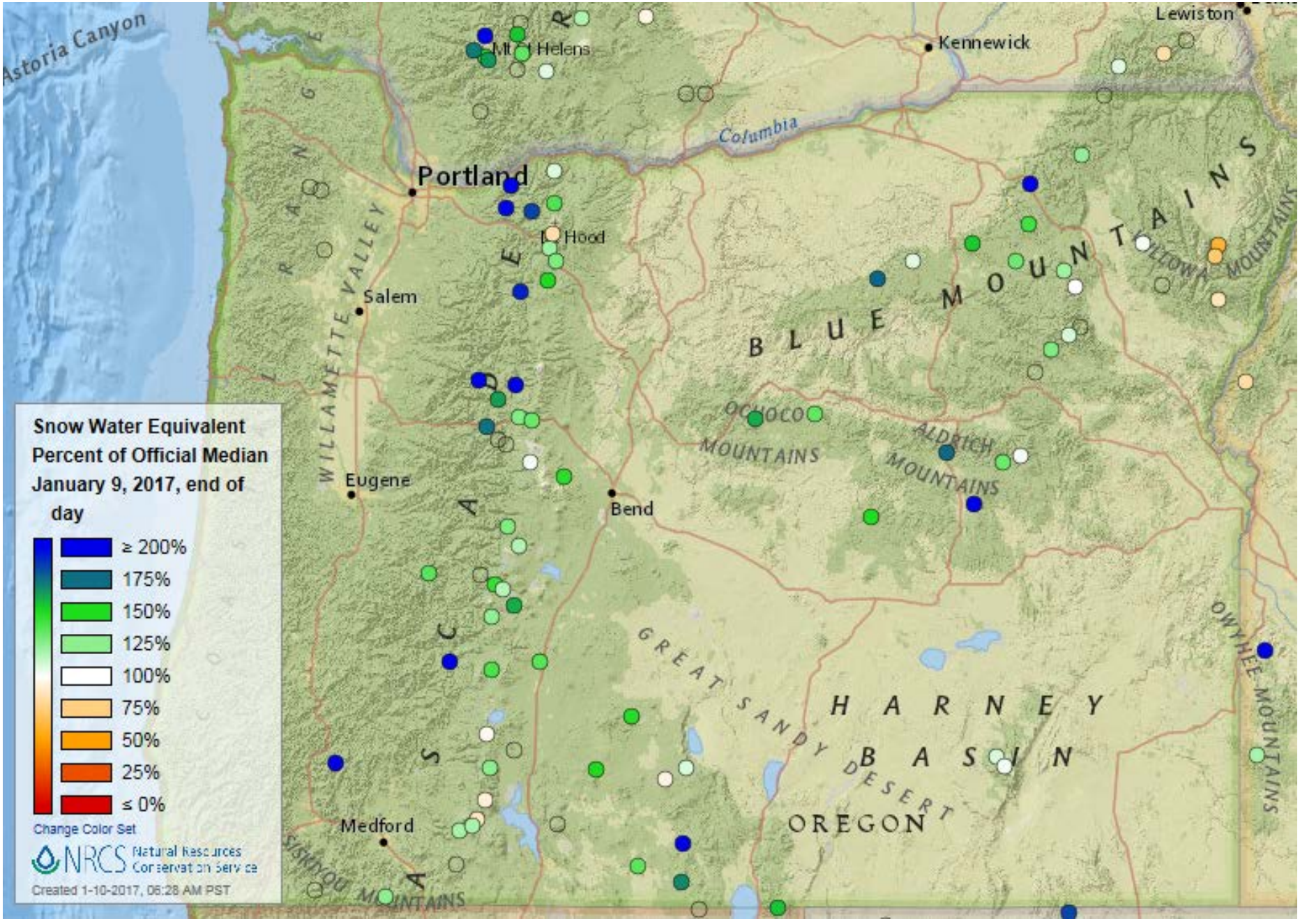


USDA NRCS

The snow water equivalent percent of normal represents the current snow water equivalent 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).

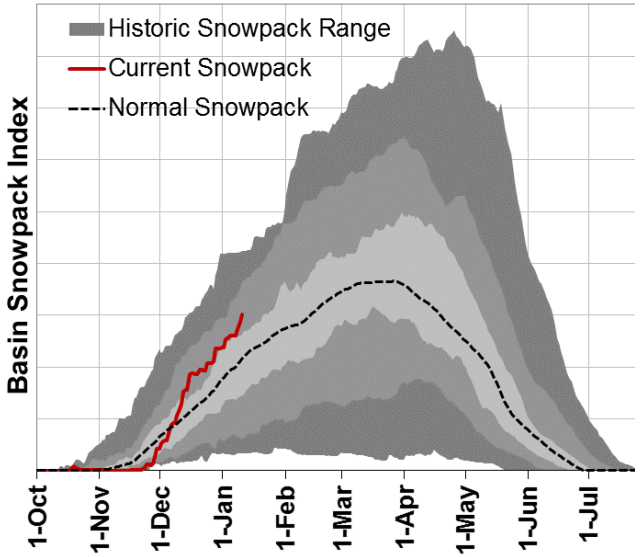
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Statewide Snowpack – January 10

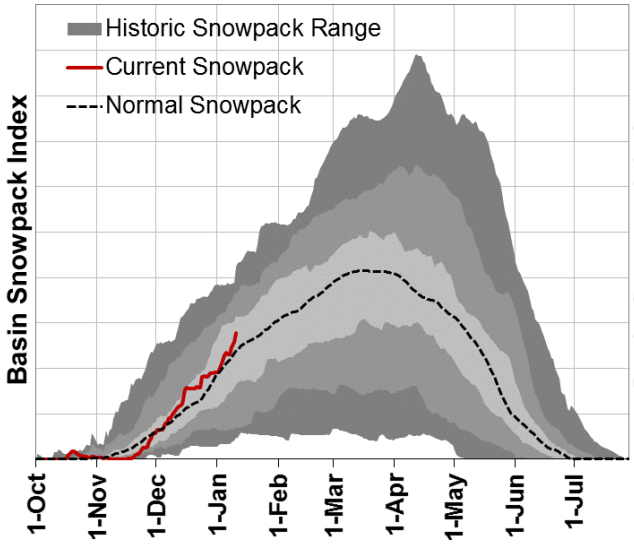


SNOWPACK GRAPHS – January 10, 2017

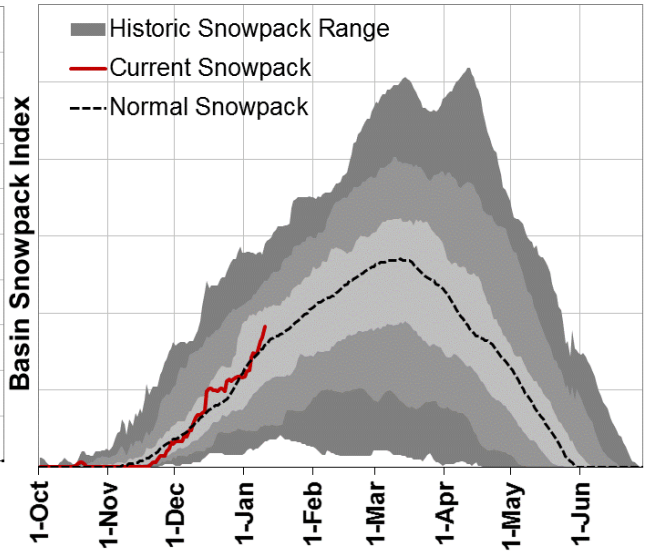
Willamette



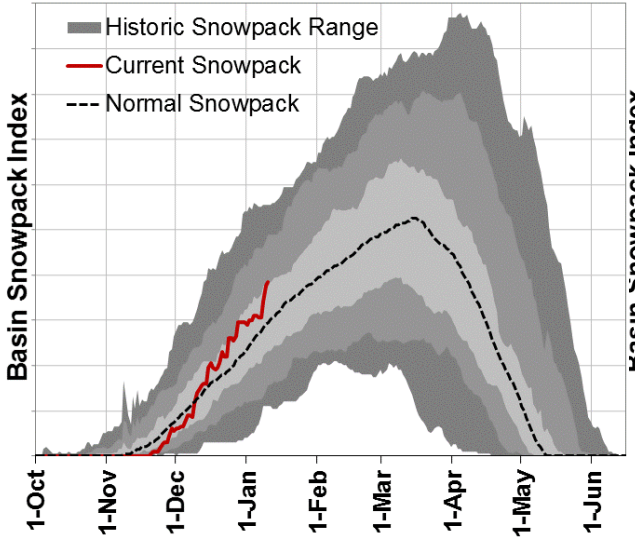
Rogue/Umpqua



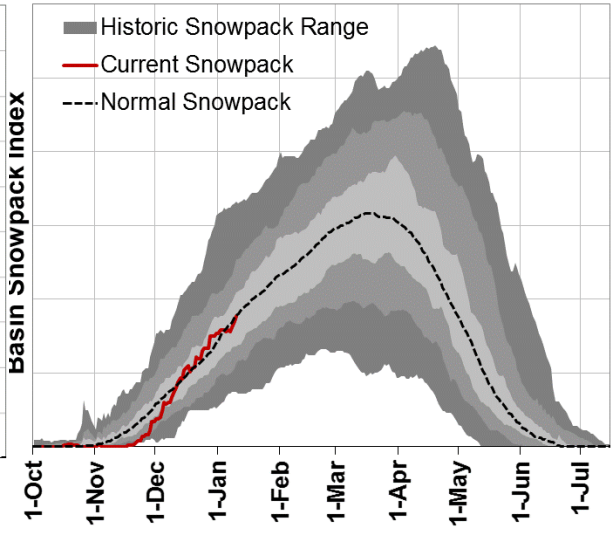
Klamath



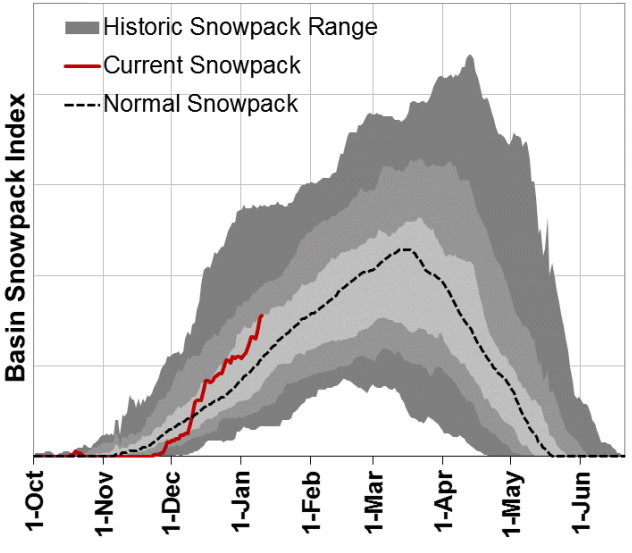
John Day



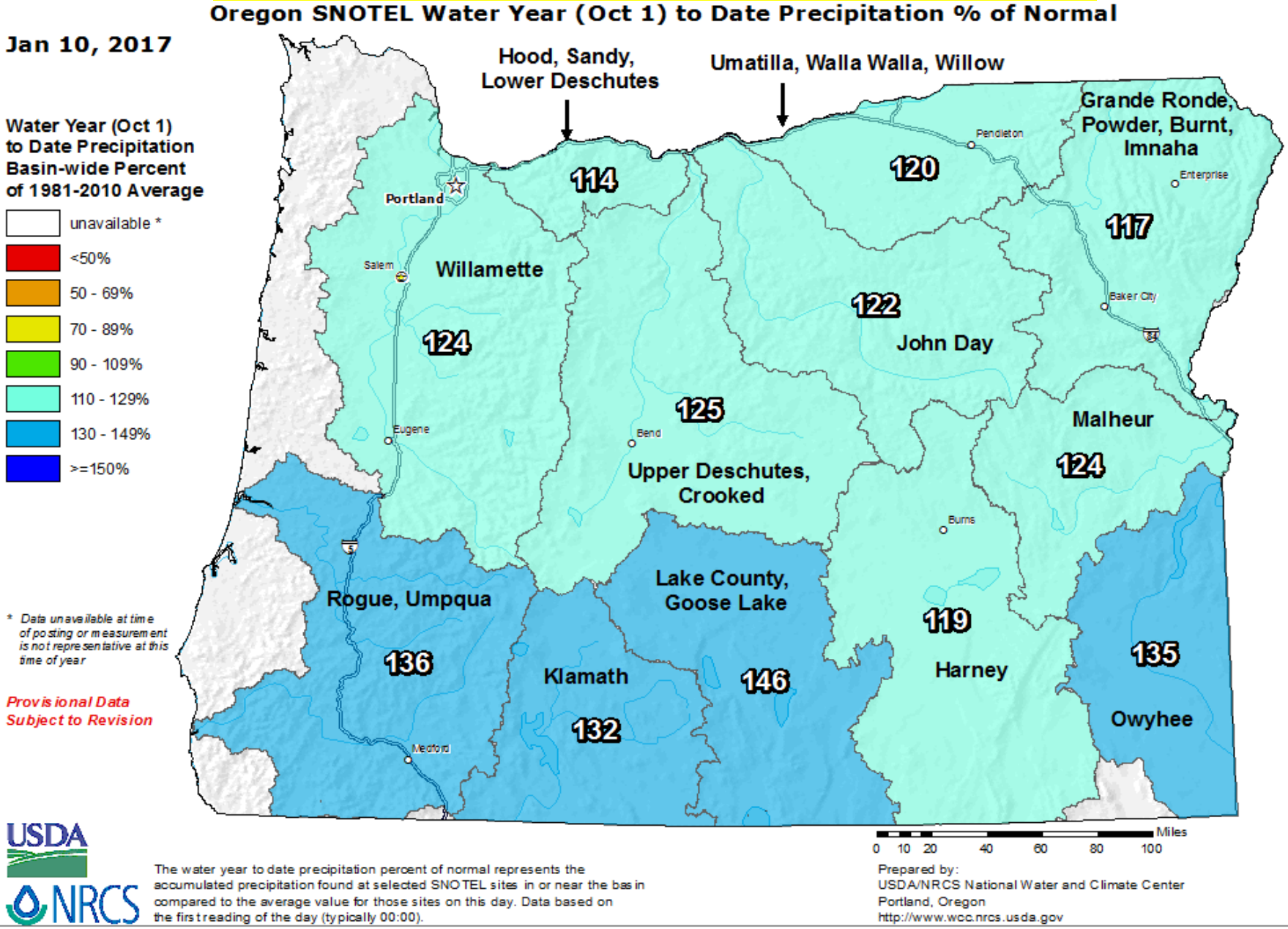
Grande Ronde/Powder/Burnt



Owyhee/Malheur



Statewide SNOTEL Precipitation is 124% of normal



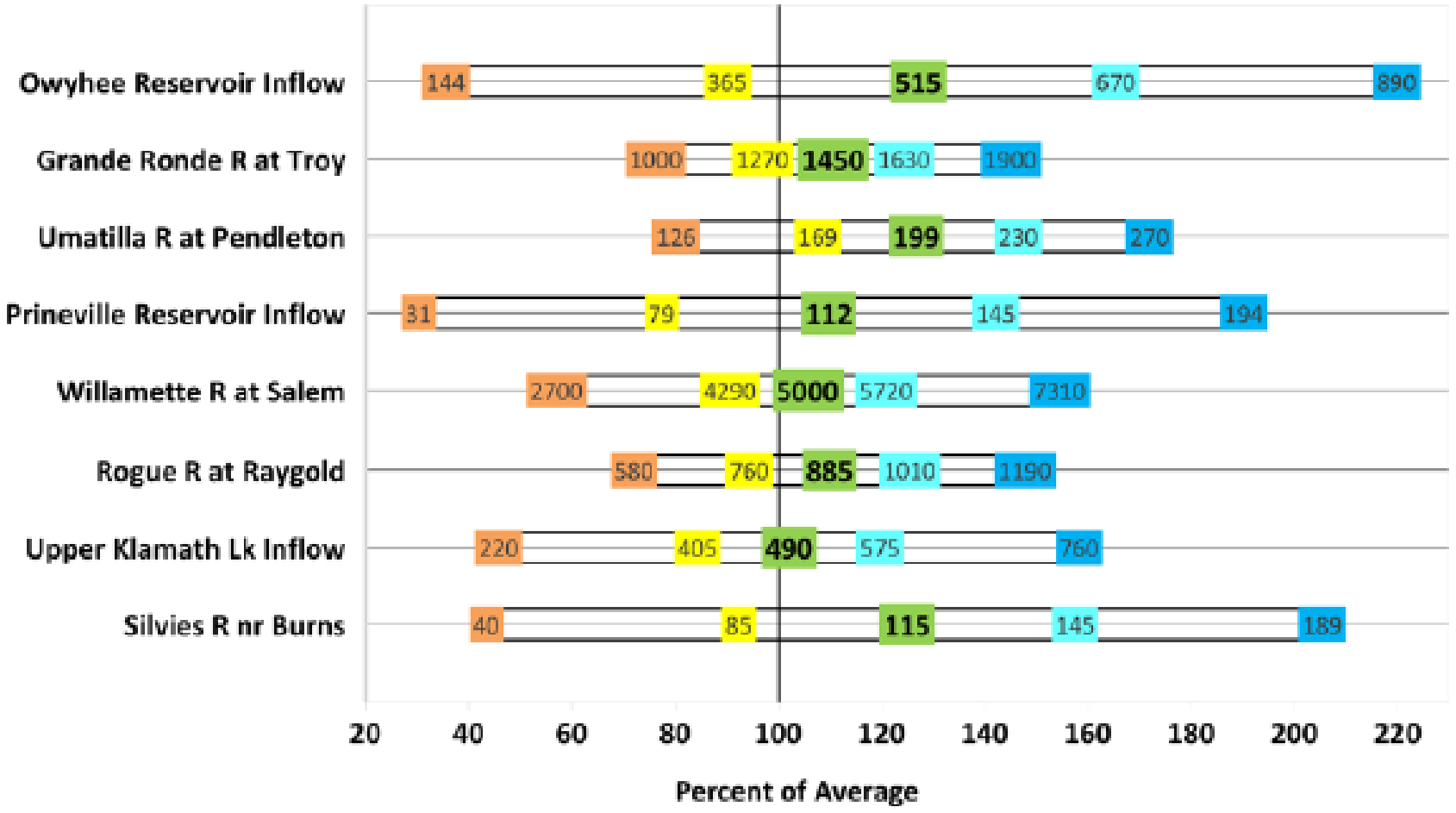
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

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.

To accompany the new forecast summary graphic, here are some helpful reminders about interpreting streamflow forecasts published in this document. For each forecast point, 5 possible streamflow volumes are predicted. Where the observed streamflow occurs within this spectrum depends on the range of future weather conditions. If water users wish to plan conservatively, they may lean toward using the 70% chance of exceedance forecast, or the drier forecast (which may be below average depending on the region). Conversely, if a water user believes future conditions will provide more water to the system, they could choose to use the 30% chance of exceedance forecast (the wetter forecast). This array of forecasts are shown above in the chart as well as on page 33.

Some of these forecasts assume that normal weather conditions will occur from now to the end of the forecast period. All forecasts are listed with units of 1000 acre-feet (KAF). This report contains data furnished by the Oregon Department of Water Resources, U.S. Geological Survey, NOAA National Weather Service and other cooperators. This report will be updated monthly, January through June.

Note: A select set of streamflow forecasts have been discontinued in the Rogue, Grande Ronde and Willamette basins. Please see each basin section for more information.

Oregon Water Supply Availability Committee

January 10, 2017

The final sunset of 2016 over Crater Lake
Photo courtesy of Lauren Austin (Snow Surveyor, Oregon NRCS)

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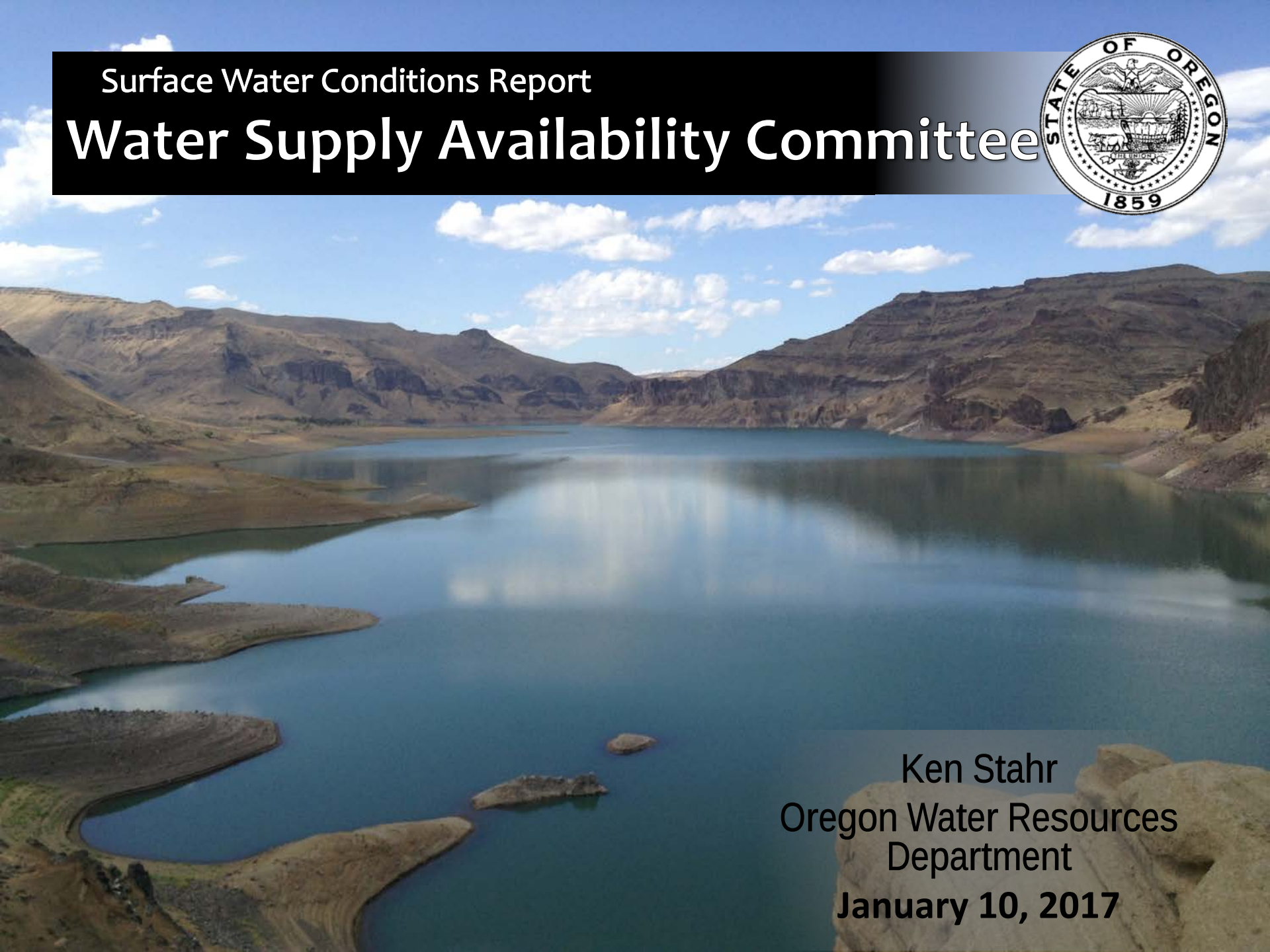
Thank you!

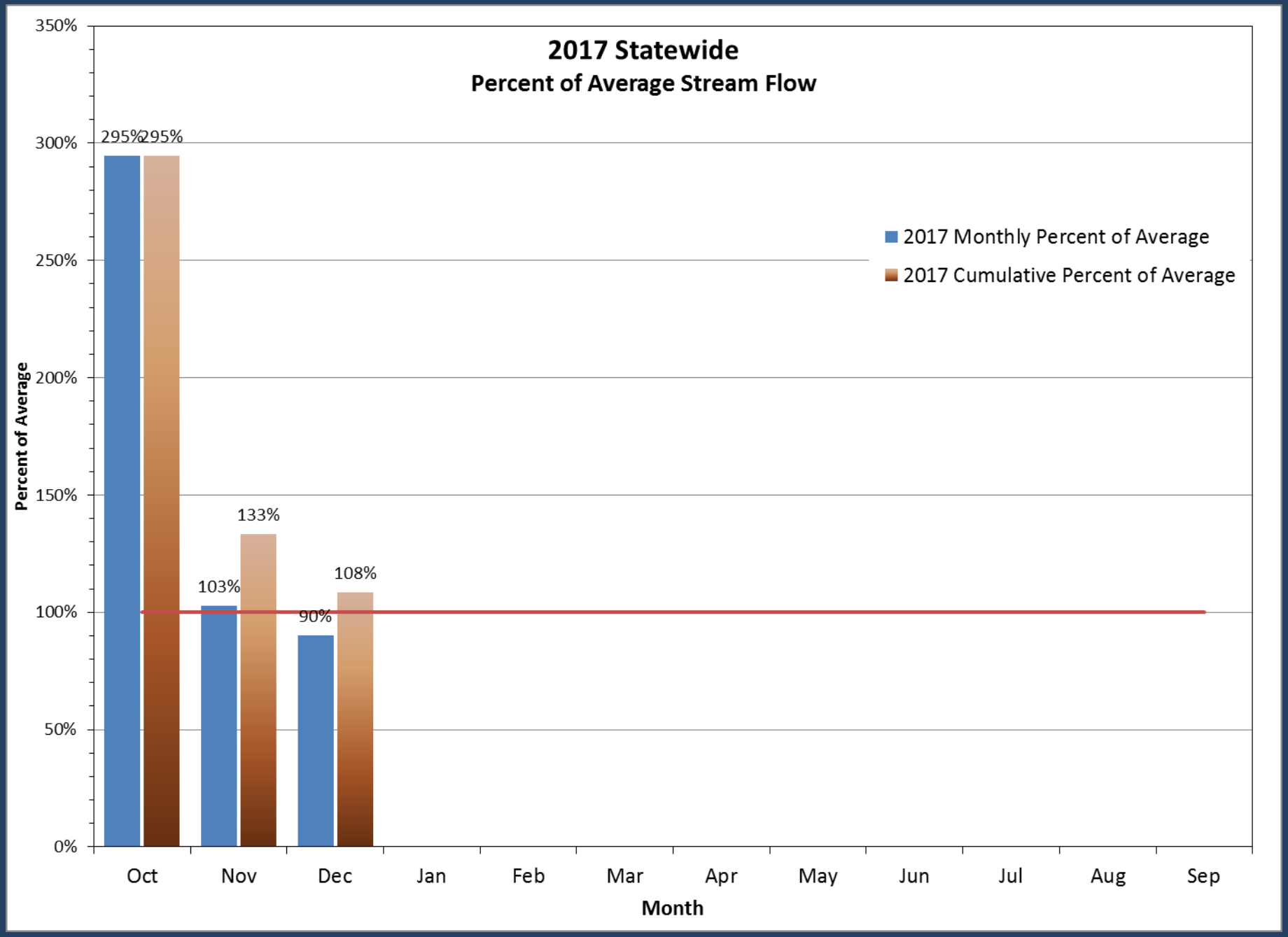
Surface Water Conditions Report

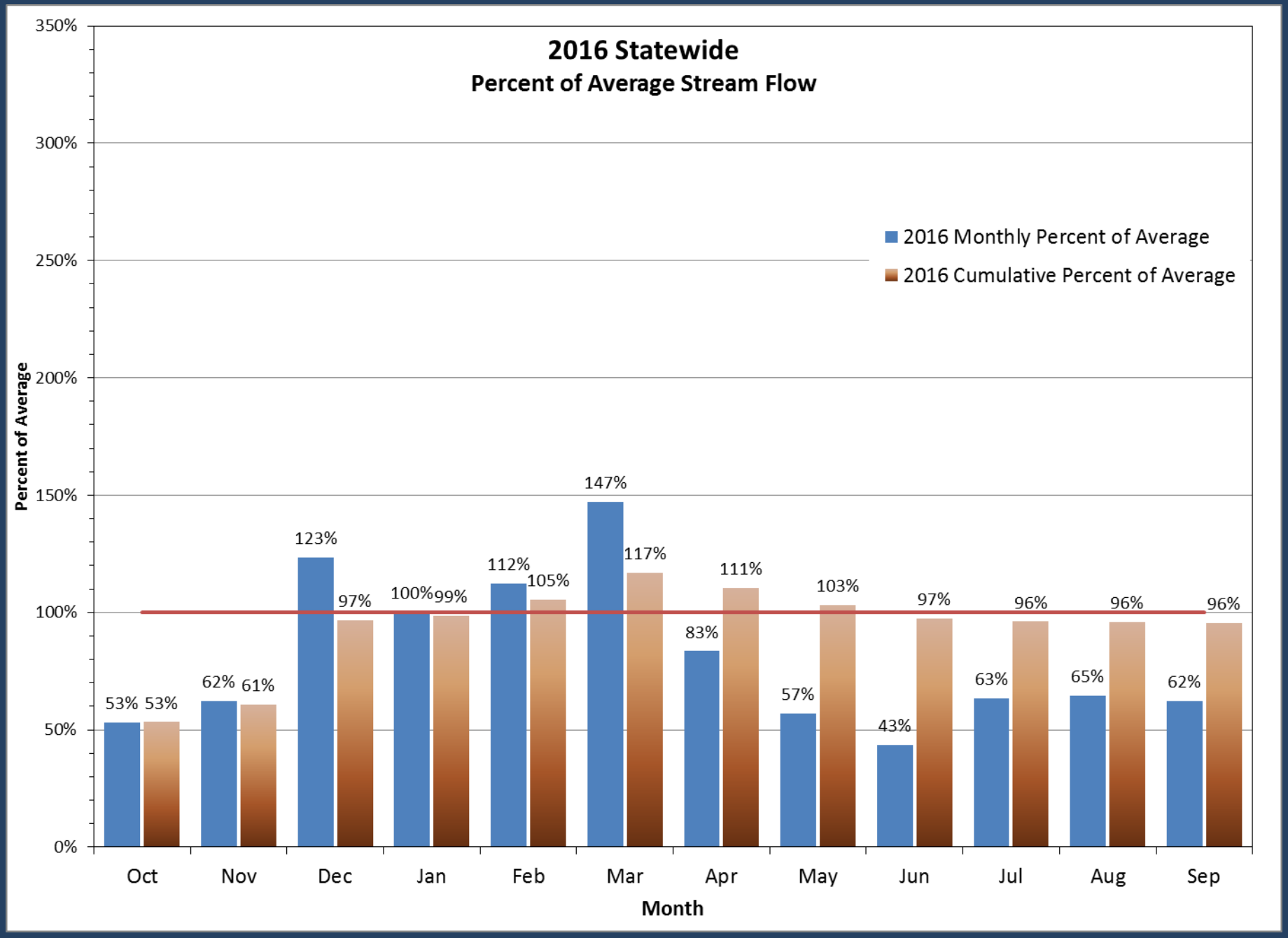
Water Supply Availability Committee



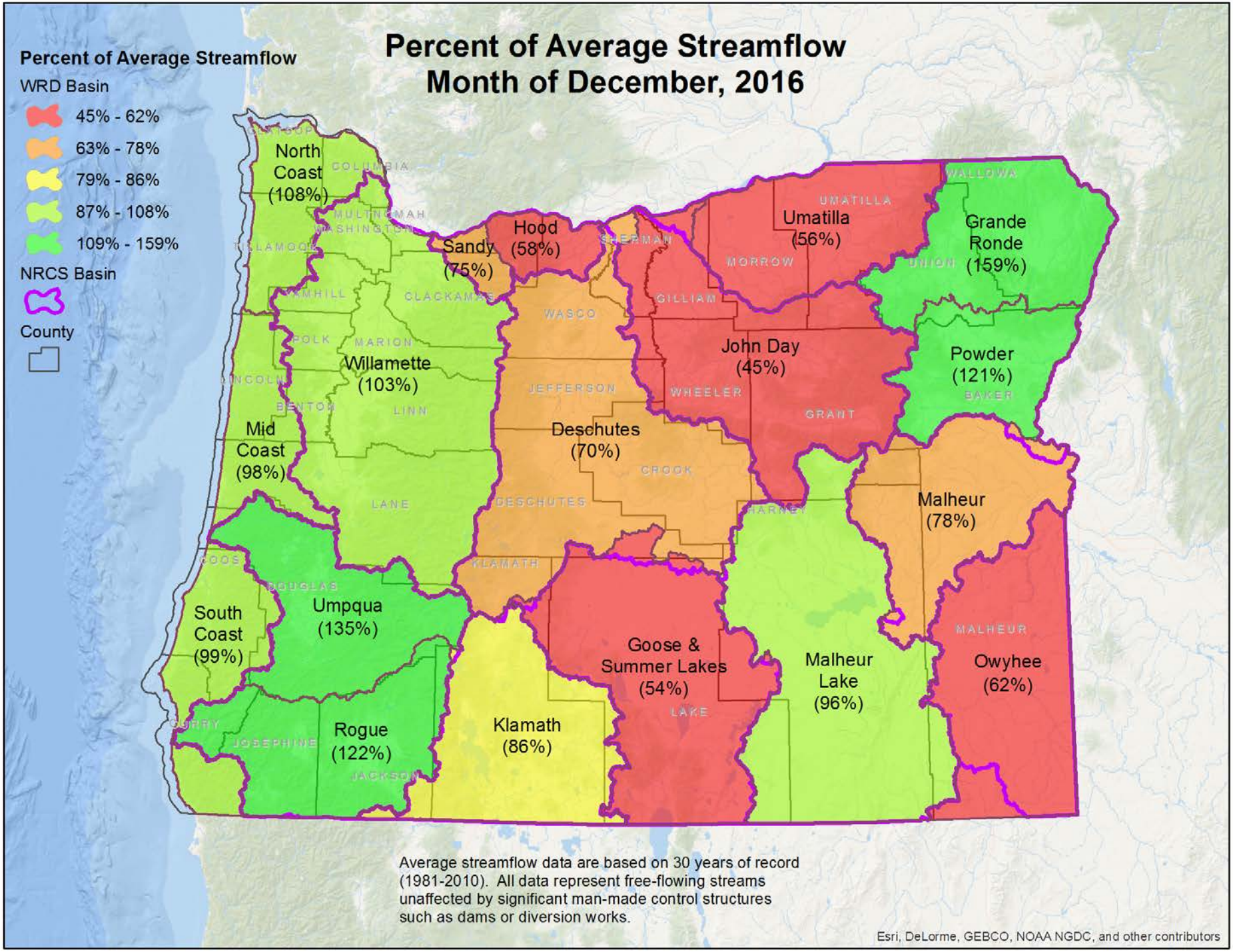
Ken Stahr
Oregon Water Resources Department

January 10, 2017


2017 Statewide
Percent of Average Stream Flow
350%
300%
250%
200%
150%
100%
50%
0%
Percent of Average
295%
295%
103%
133%
90%
108%
2017 Monthly Percent of Average
2017 Cumulative Percent of Average
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Month

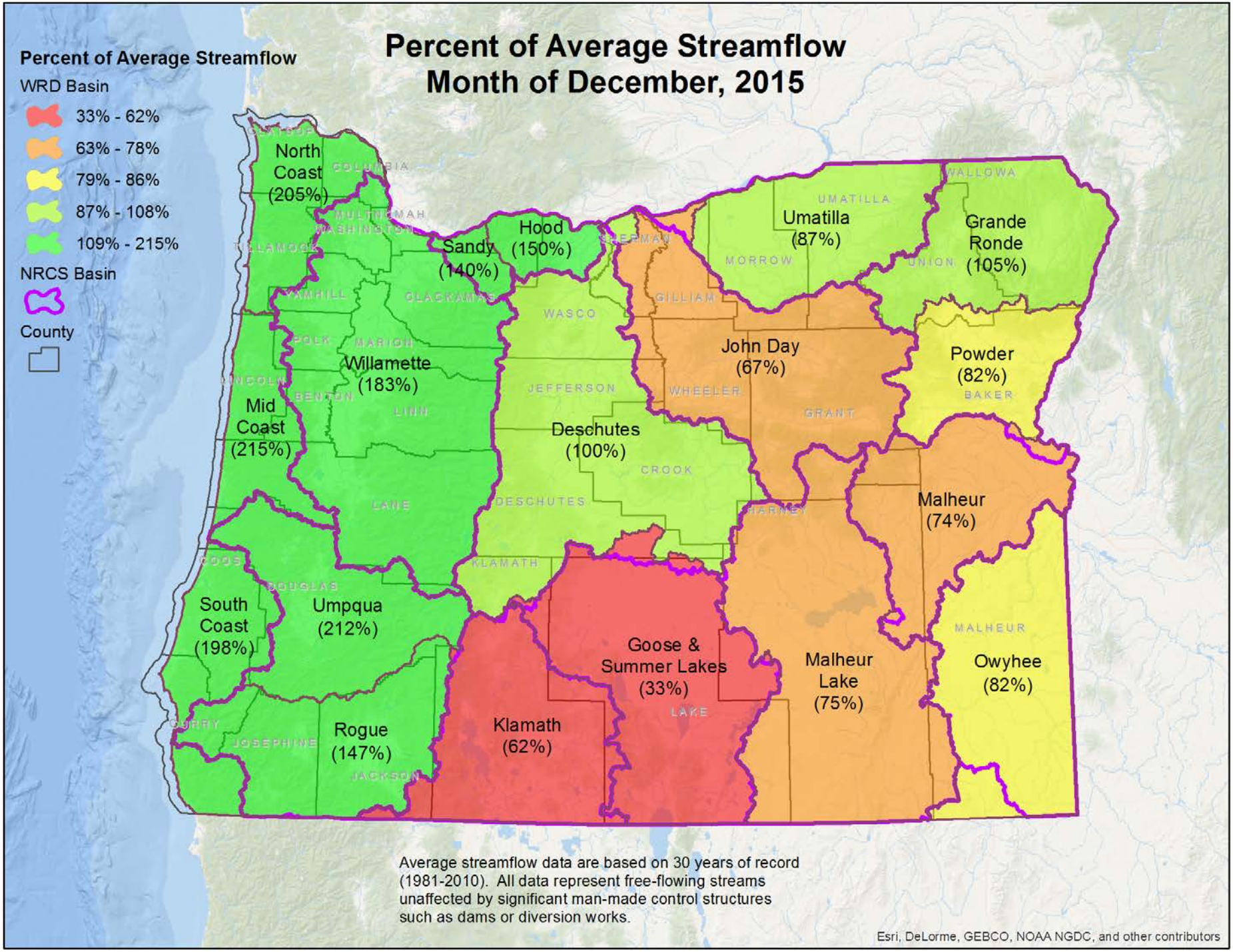

2016 Statewide
Percent of Average Stream Flow
2016 Monthly Percent of Average
2016 Cumulative Percent of Average
Percent of Average
Month
350%
300%
250%
200%
150%
100%
50%
0%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
53%
53%
62%
61%
123%
97%
100%
99%
112%
105%
147%
117%
83%
111%
57%
103%
43%
97%
63%
96%
65%
96%
62%
96%

Percent of Average Streamflow
Month of December, 2016



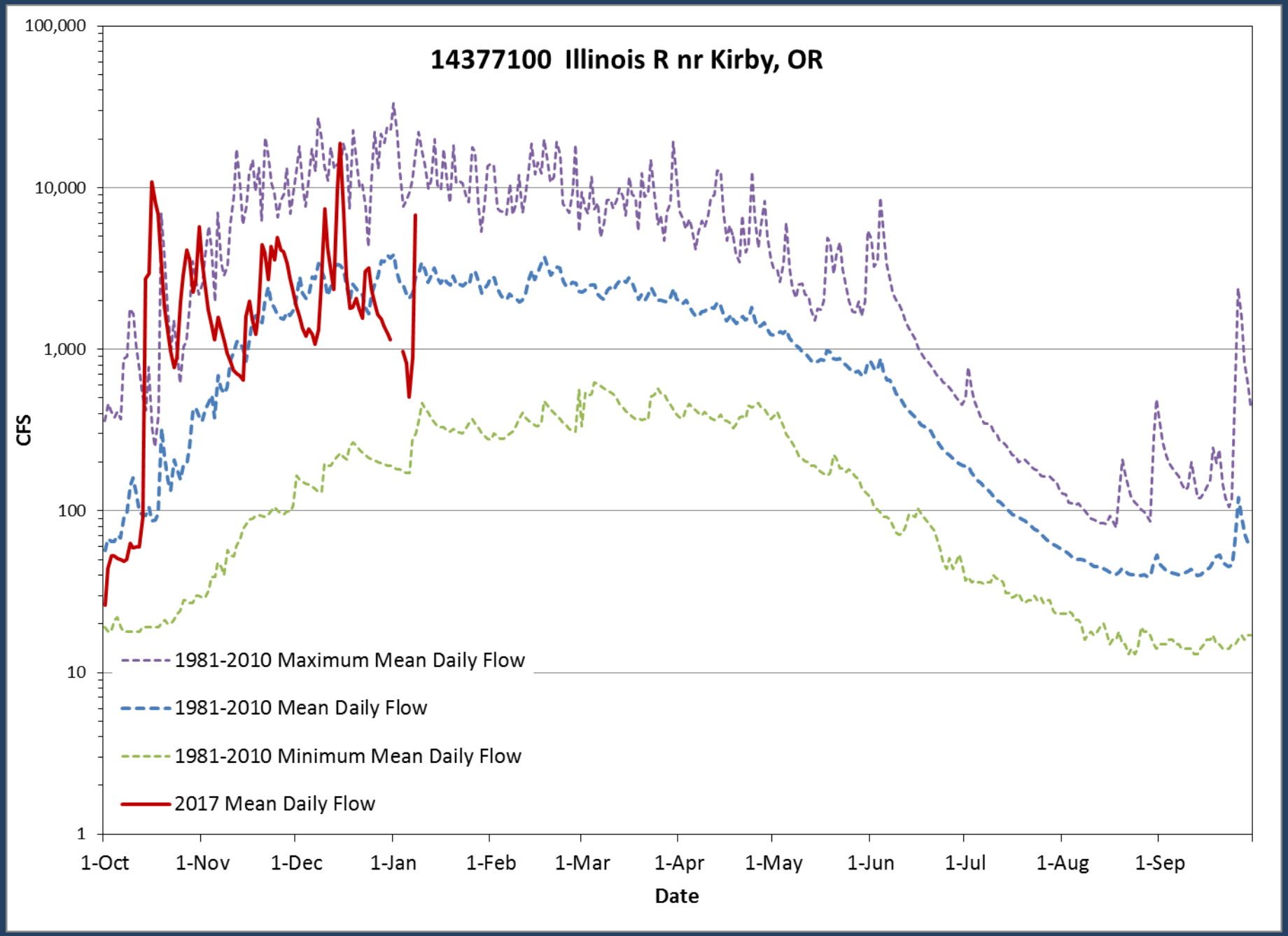
Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.

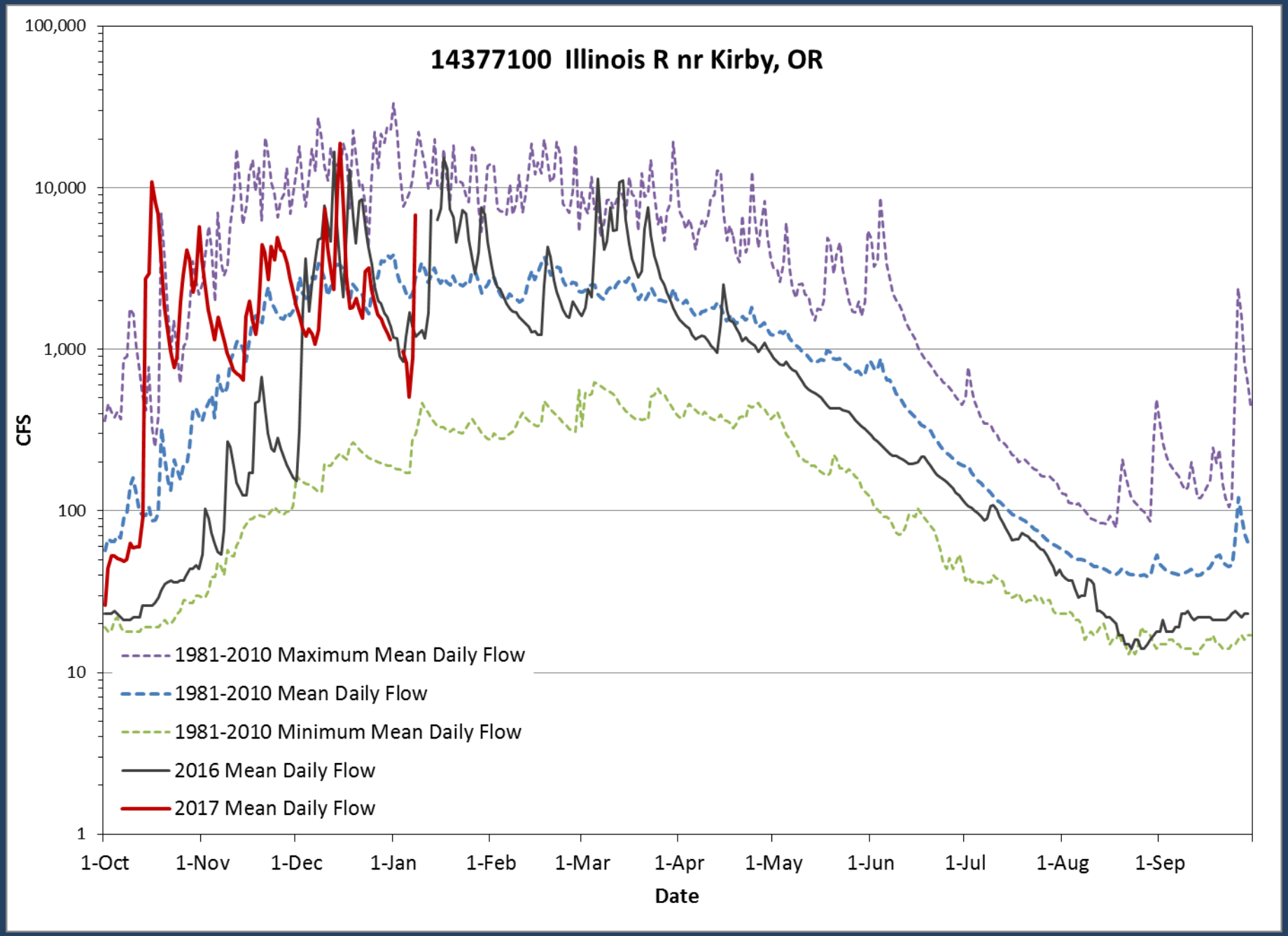
Percent of Average Streamflow
Month of December, 2015



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.

Basin	Water Year % of average through December, 2016	% of average for December	% of average for 01/07/2017	# of data points
North Coast	165%	108%	25%	4
Willamette	138%	103%	34%	10
Sandy	103%	75%	23%	3
Hood	80%	58%	11%	3
Deschutes	86%	71%	61%	9
John Day	59%	45%	31%	7
Umatilla	63%	56%	75%	5
Grande Ronde	153%	159%	171%	3
Powder	112%	121%	89%	4
Malheur	88%	78%	142%	2
Owyhee	69%	62%	31%	1
Malheur Lake	79%	80%	79%	3
Goose & Summer Lakes	65%	54%	207%	5
Klamath	83%	86%	41%	5
Rogue	147%	122%	48%	5
Umpqua	142%	135%	46%	4
South Coast	162%	94%	51%	2
Mid Coast	154%	98%	28%	5
West Side	**144%**	**105%**	**36%**	**33**
East Side	**85%**	**79%**	**85%**	**47**
State	**108%**	**89%**	**66%**	**80**


14377100 Illinois R nr Kirby, OR
100,000
10,000
1,000
100
10
1
CFS
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2017 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


14377100 Illinois R nr Kirby, OR
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CFS
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2016 Mean Daily Flow
2017 Mean Daily Flow
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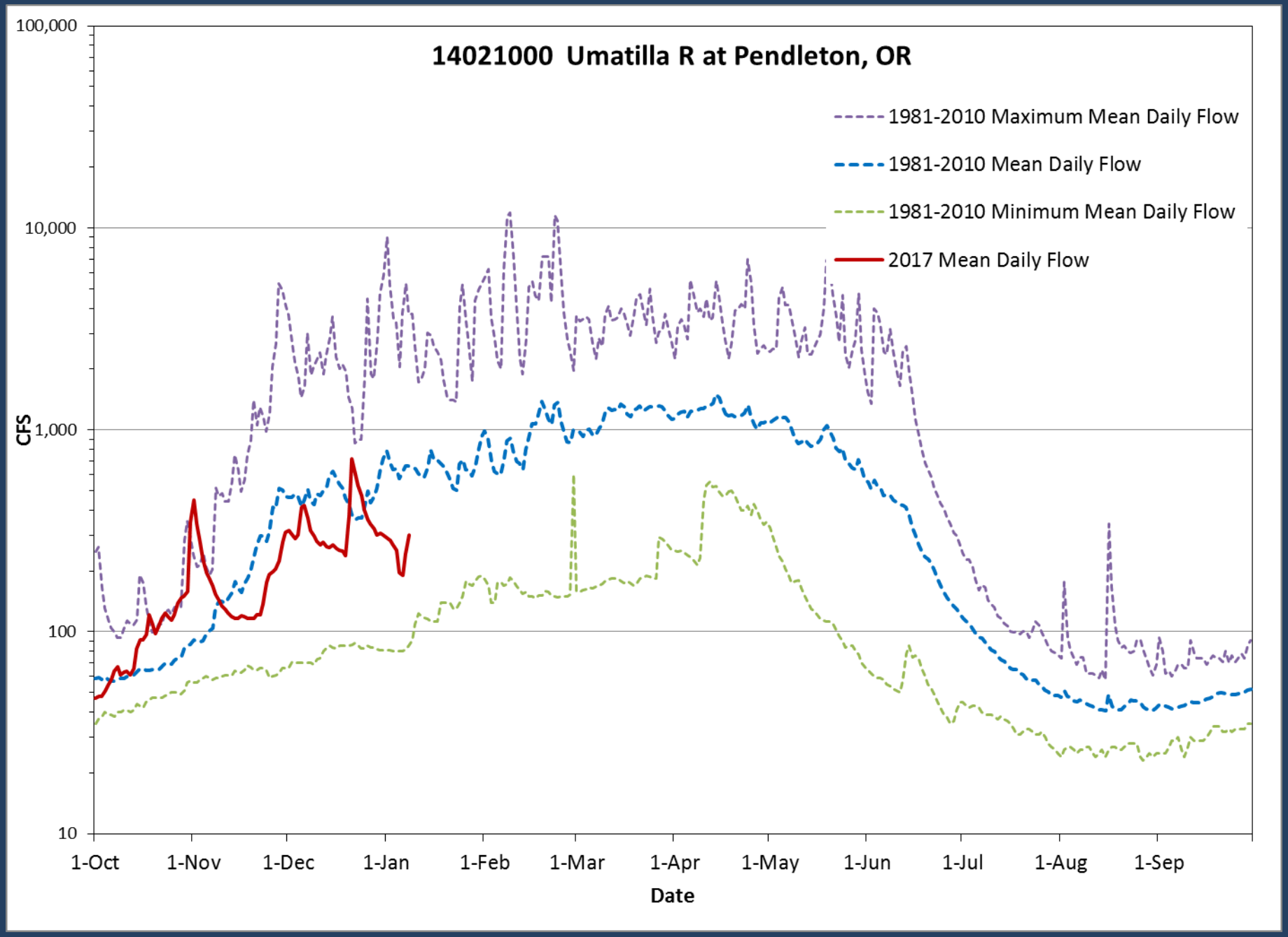
1-Sep
Date


14021000 Umatilla R at Pendleton, OR
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2017 Mean Daily Flow
100,000
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CFS
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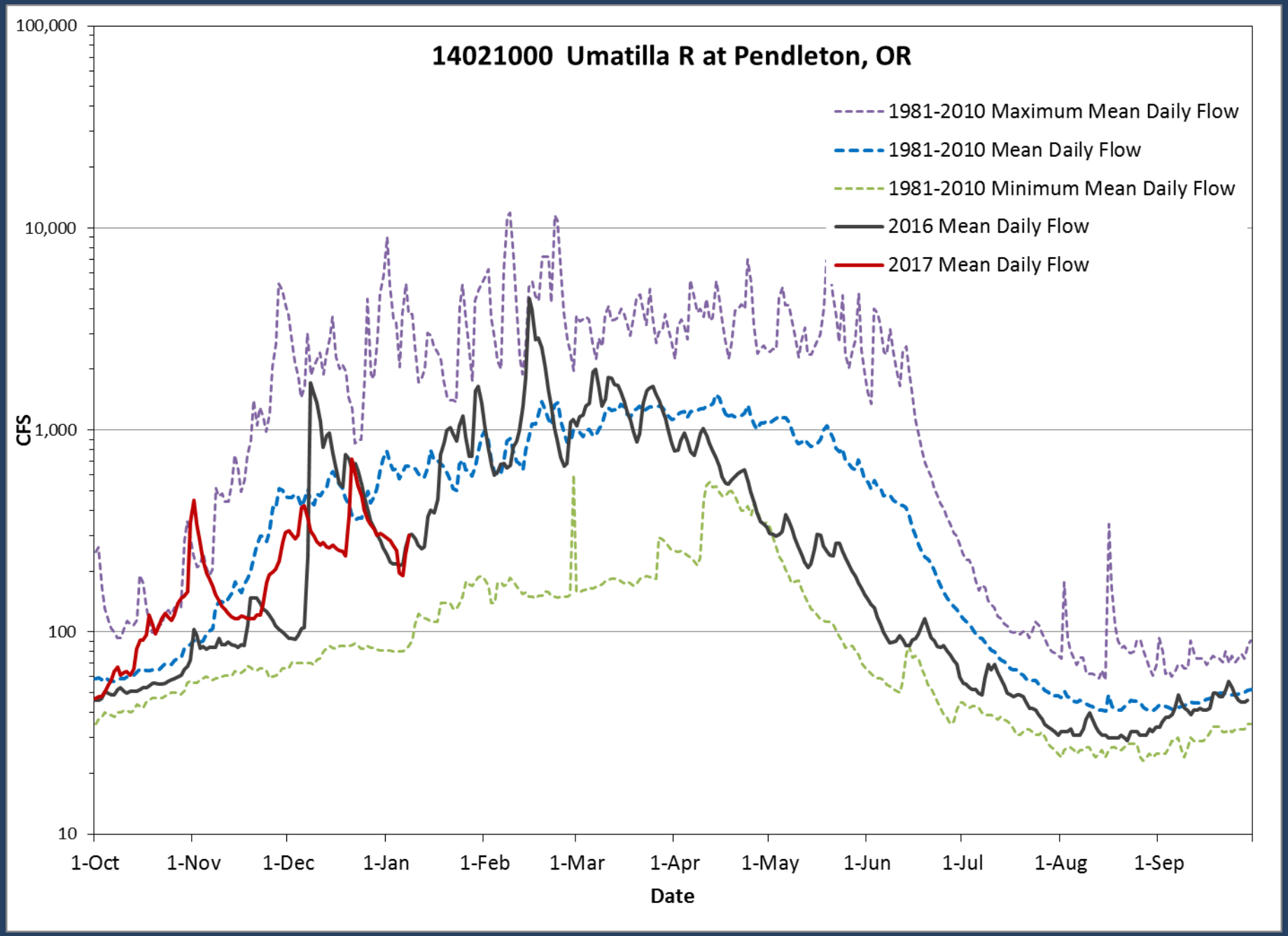
1-Sep
Date


14021000 Umatilla R at Pendleton, OR
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2016 Mean Daily Flow
2017 Mean Daily Flow
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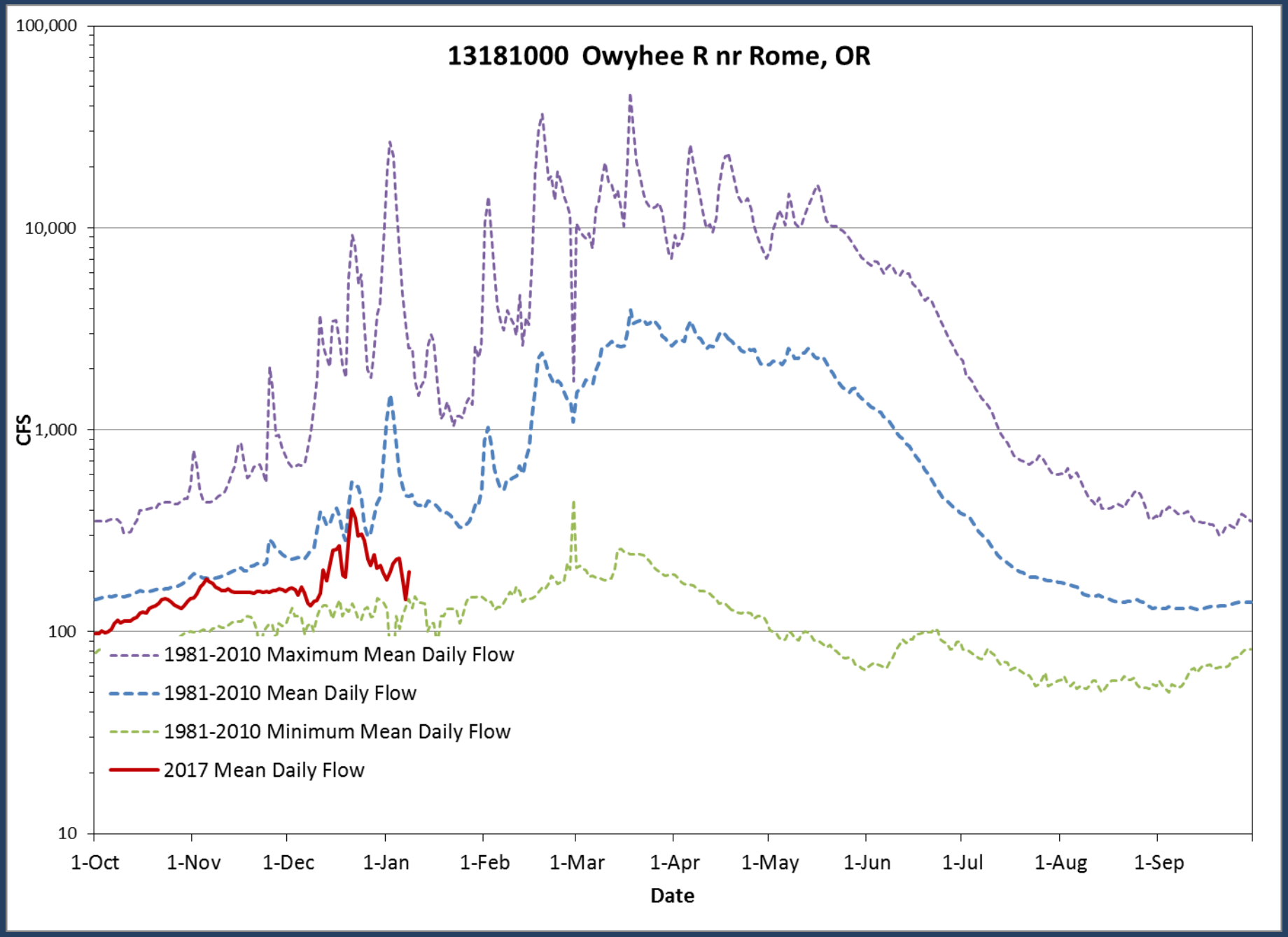
Date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CFS
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2017 Mean Daily Flow
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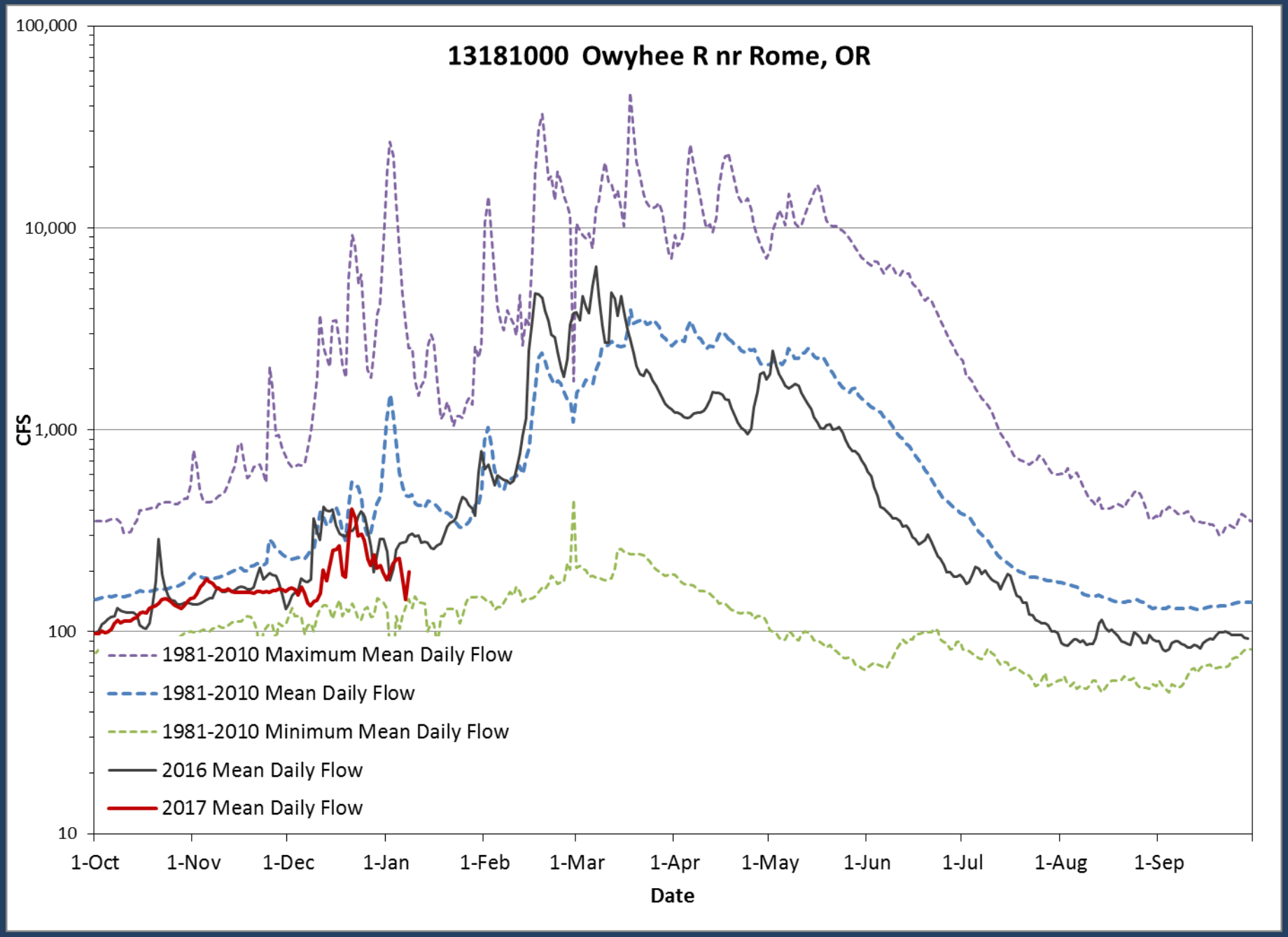
1-Sep
Date


13181000 Owyhee R nr Rome, OR
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CFS
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2016 Mean Daily Flow
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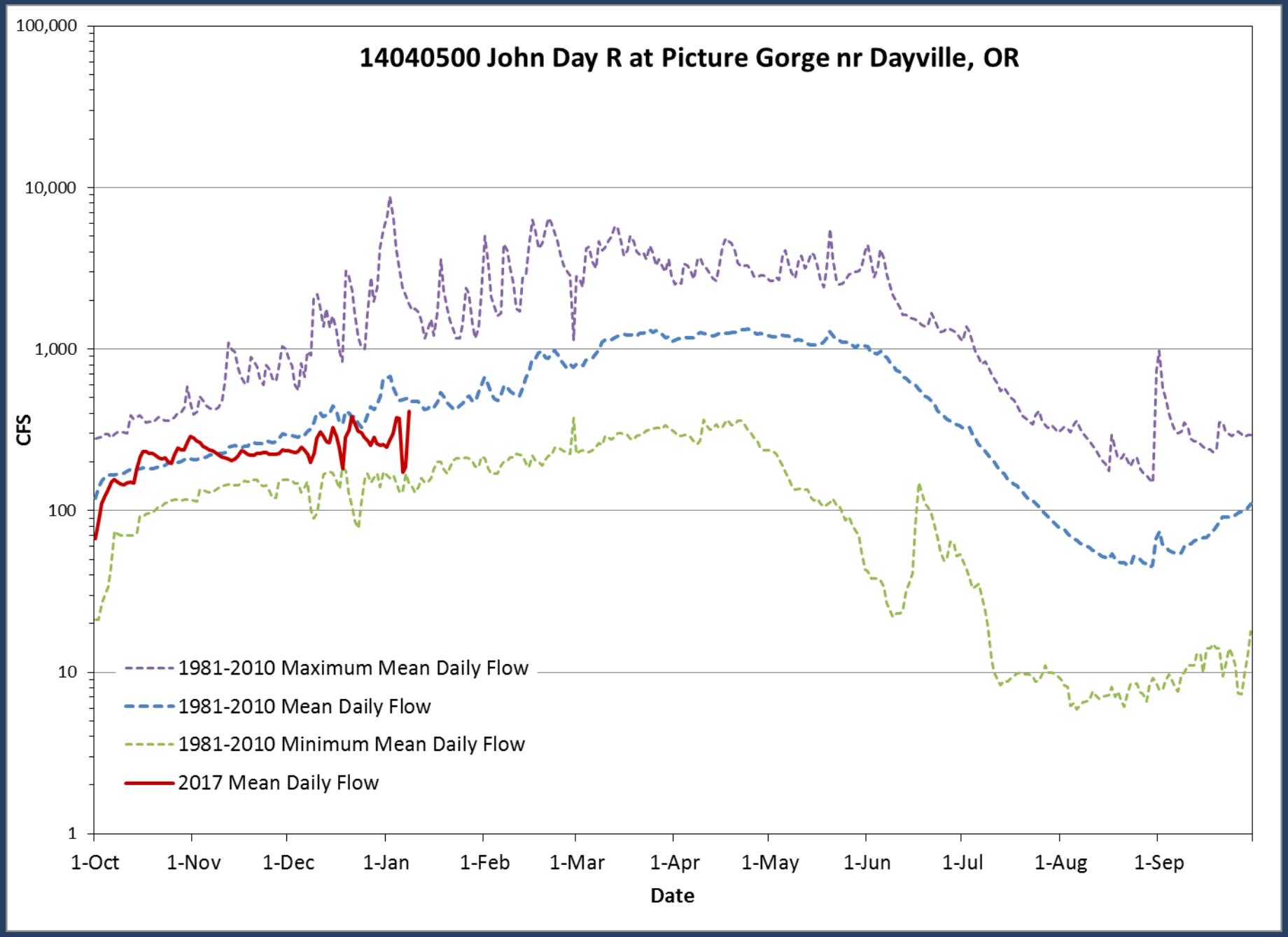
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CFS
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2017 Mean Daily Flow
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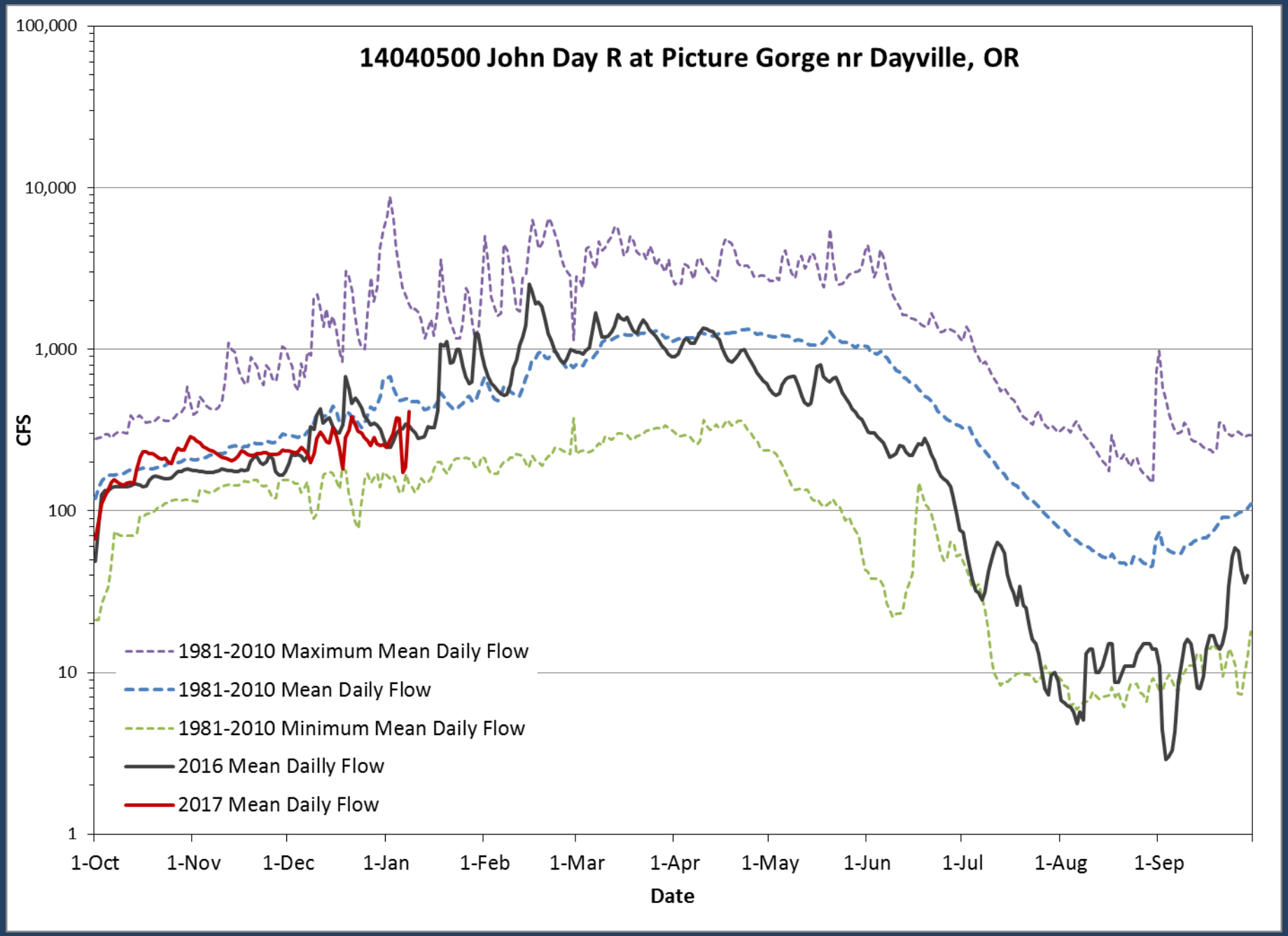
1-Sep
Date


14040500 John Day R at Picture Gorge nr Dayville, OR
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CFS
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1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2016 Mean Dailly Flow
2017 Mean Daily Flow
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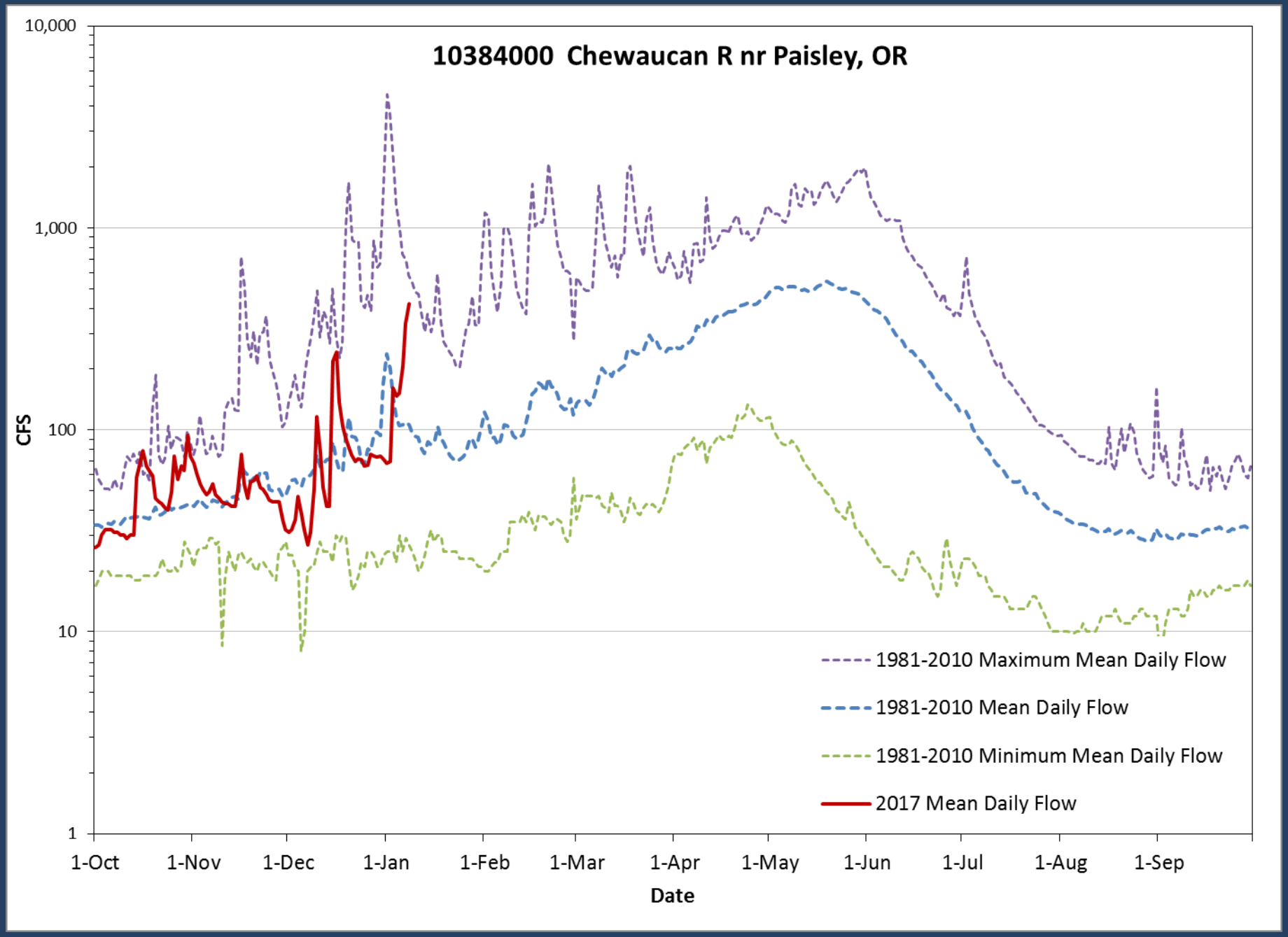
Date


10384000 Chewaucan R nr Paisley, OR
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CFS
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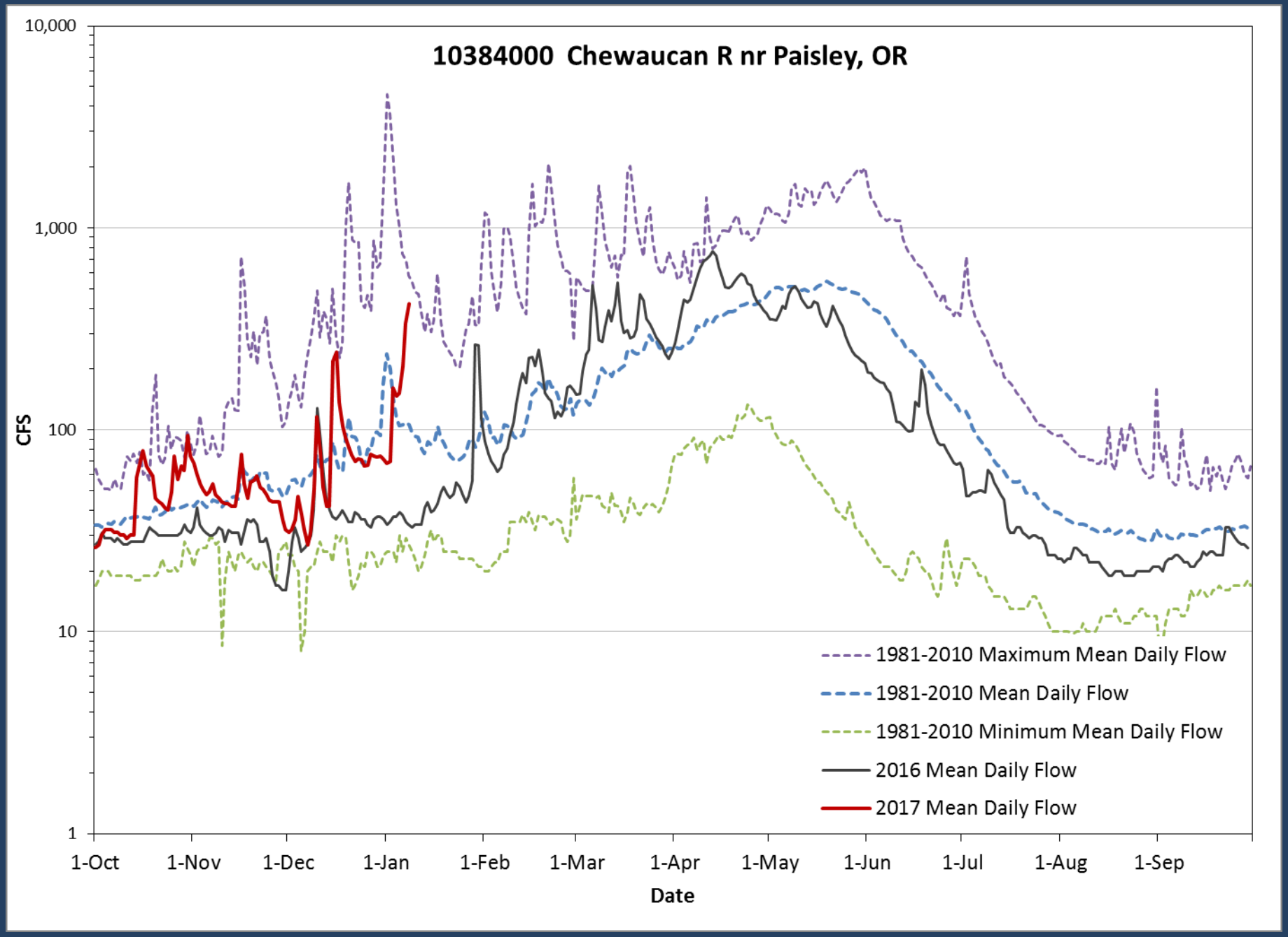
1-Sep
Date
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2017 Mean Daily Flow


10384000 Chewaucan R nr Paisley, OR
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CFS
1-Oct
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1-Dec
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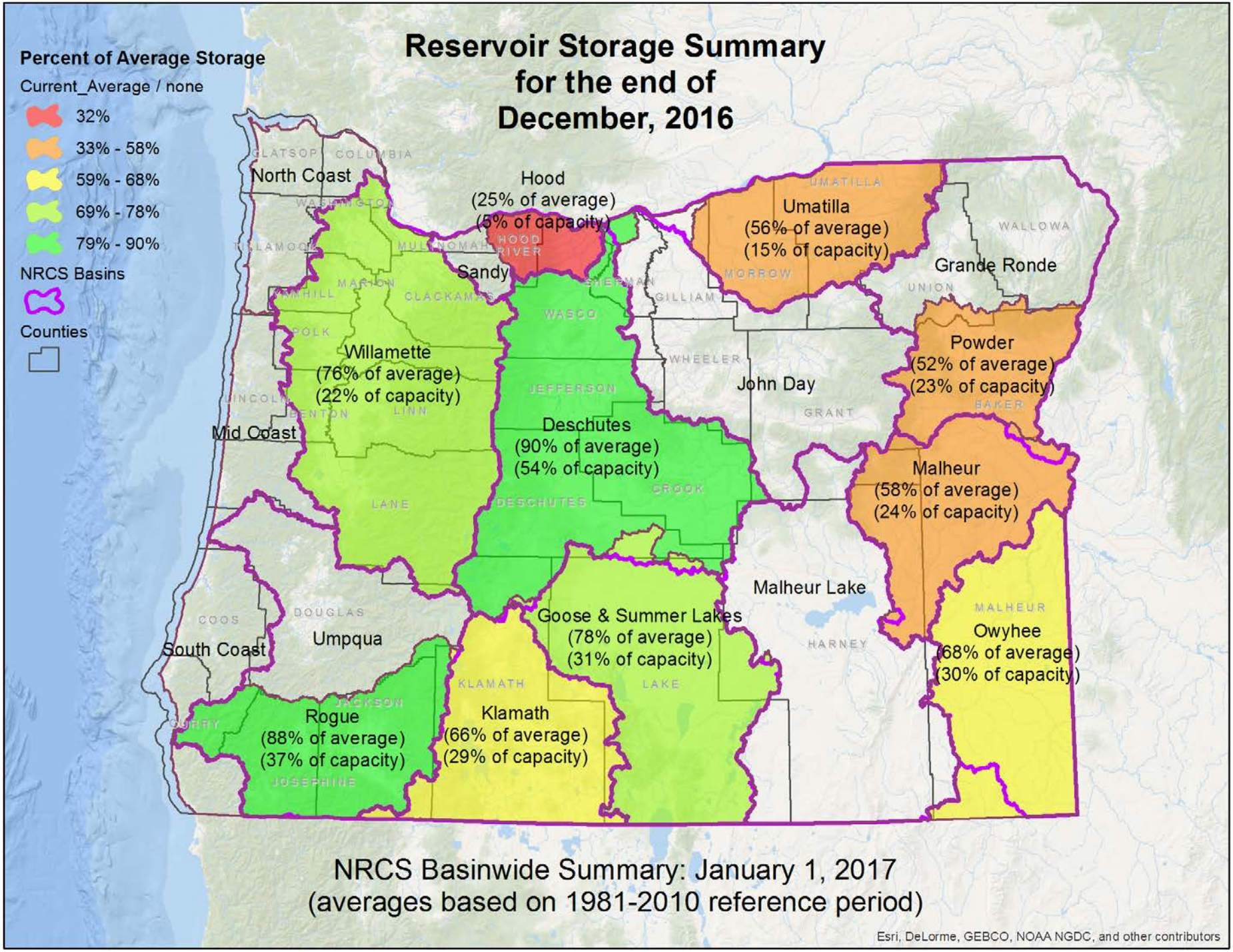
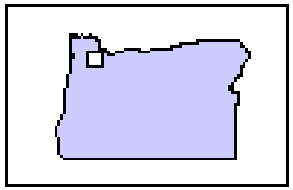
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Maximum Mean Daily Flow
1981-2010 Mean Daily Flow
1981-2010 Minimum Mean Daily Flow
2016 Mean Daily Flow
2017 Mean Daily Flow

Reservoir Storage Summary for the end of December, 2016



NRCS Basinwide Summary: January 1, 2017
(averages based on 1981-2010 reference period)

01/08/2017



SCLO 52 cfs

SCOO 100 cfs

DLLO 369 cfs

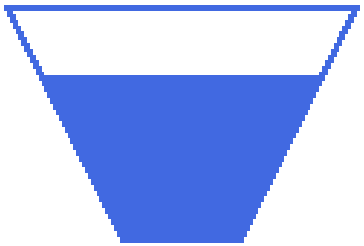
FRMO 1446 cfs

Portland

GSTO 207 cfs

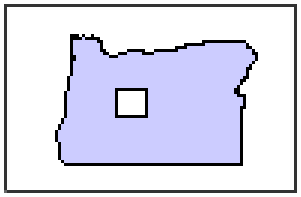
LEFO 135 cfs

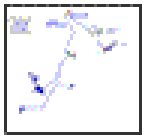
WSLO 1614 cfs



Scoggins
33228/53323
62% Full

01/08/2017





Deschutes ESA

CULO 944 cfs

CROO 1216 cfs

Haystack
4907/5600
88% Full

Ochoco
20100/44247
45% Full

CRSO 749 cfs

Prineville

MLCO 10 cfs

CAPO 167 cfs

OCRO 6 cfs

OCHO 3 cfs

CRCO 0 cfs

CRPO 110 cfs

PRVO 84 cfs

DEBO 1618 cfs

Bend

Crane Prairie
39174/55300
71% Full

CRAO 178 cfs

BENO 529 cfs

Prineville
63751/148640
43% Full

LAPO 147 cfs

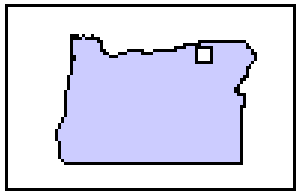
Wickiup
119720/200000
60% Full

WICO 98 cfs

Crescent Lake
53205/86900
61% Full

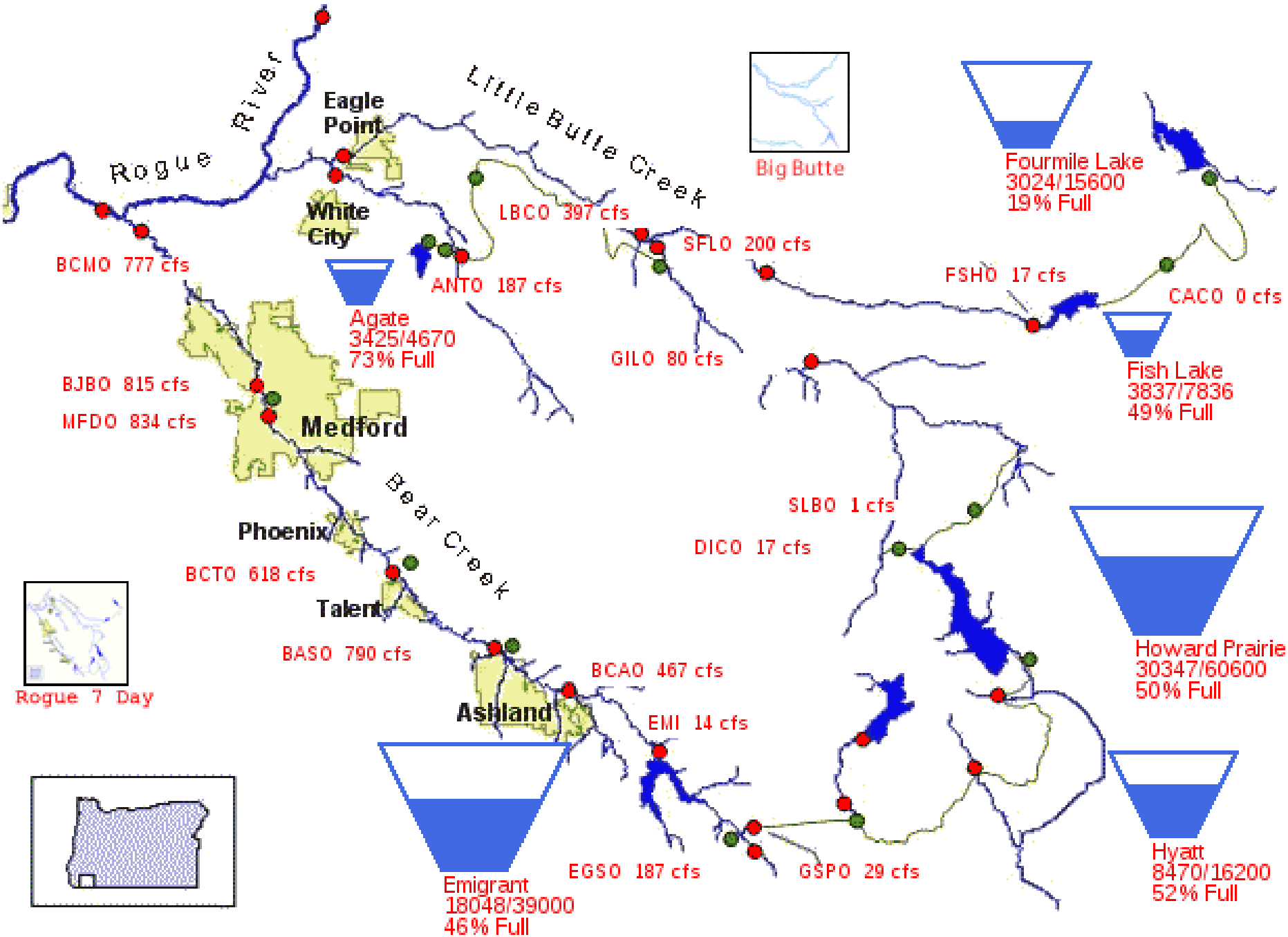
CREO 22 cfs

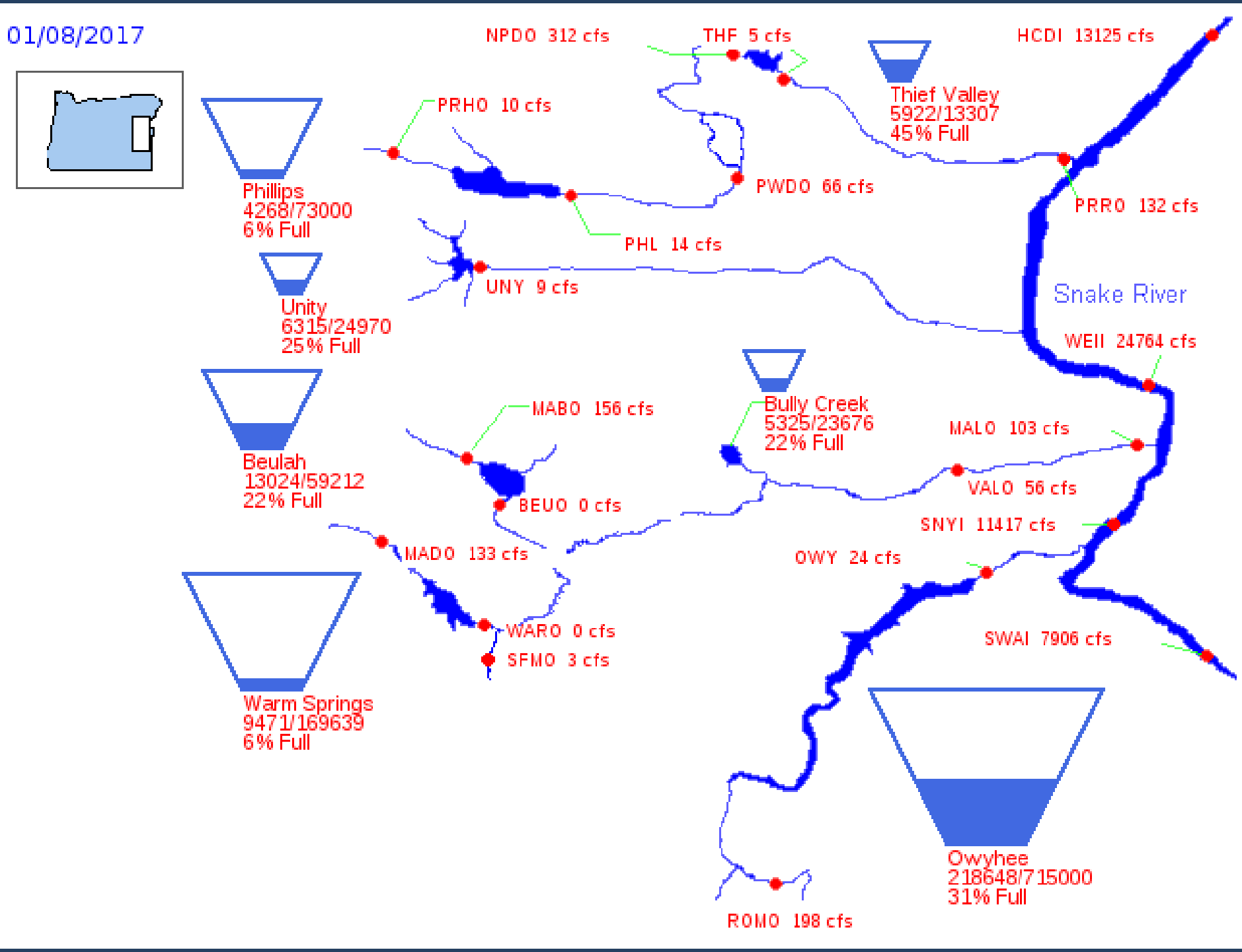
01/08/2017



WEPO 0 cfs
UMAO 1109 cfs
WEUO 0 cfs
SBEO MISSING cfs
Cold Springs
3379/38000
9% Full
CSRO 0 cfs
UMTO 370 cfs
Hermiston
CSAO 0 cfs
FCSO 0 cfs
FURO 0 cfs
MAXO 0 cfs
DLEO 0 cfs
UMDO 228 cfs
FCEO 0 cfs
ALNO 0 cfs
WESO 0 cfs
UMUO 330 cfs
WCRO 11 cfs
YOKO 320 cfs
PDTO 297 cfs
Pendleton
BIRO 9 cfs
MCKO 10 cfs
MYKO 169 cfs
McKay
12465/65534
19% Full

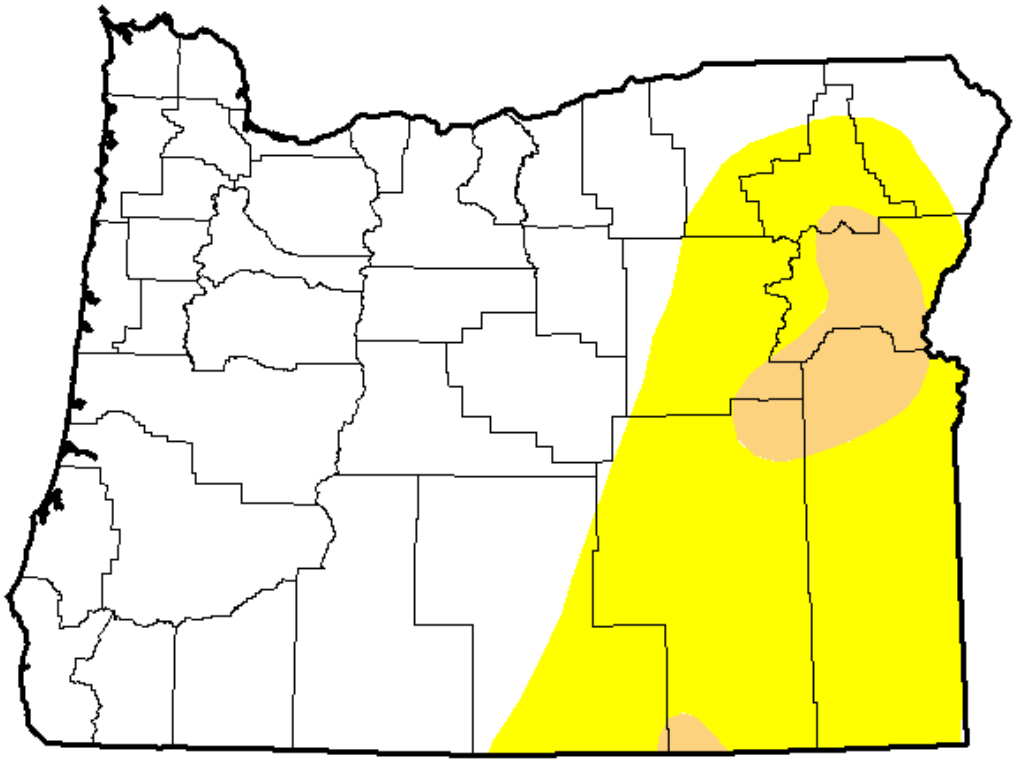
01/08/2017


Rogue River
Eagle Point
Little Butte Creek
White City
Big Butte
Fourmile Lake
3024/15600
19% Full
LBCO 397 cfs
SFLO 200 cfs
BCMO 777 cfs
ANTO 187 cfs
FSHO 17 cfs
CACO 0 cfs
Agate
3425/4670
73% Full
GILO 80 cfs
Fish Lake
3837/7836
49% Full
BJBO 815 cfs
MFDO 834 cfs
Medford
SLBO 1 cfs
Bear Creek
Phoenix
DICO 17 cfs
BCTO 618 cfs
Talent
Howard Prairie
30347/60600
50% Full
BASO 790 cfs
BCAO 467 cfs
Ashland
EMI 14 cfs
Rogue 7 Day
Hyatt
8470/16200
52% Full
EGSO 187 cfs
GSPO 29 cfs
Emigrant
18048/39000
46% Full


01/08/2017
NPDO 312 cfs
THF 5 cfs
HCDI 13125 cfs
Thief Valley
5922/13307
45% Full
PRHO 10 cfs
PWDO 66 cfs
PRRO 132 cfs
Phillips
4268/73000
6% Full
PHL 14 cfs
UNY 9 cfs
Unity
6315/24970
25% Full
Snake River
WEII 24764 cfs
Bully Creek
5325/23676
22% Full
MABO 156 cfs
MALO 103 cfs
Beulah
13024/59212
22% Full
VALO 56 cfs
BEUO 0 cfs
SNYI 11417 cfs
MADO 133 cfs
OWY 24 cfs
WARO 0 cfs
SWAI 7906 cfs
SFMO 3 cfs
Warm Springs
9471/169639
6% Full
Owyhee
218648/715000
31% Full
ROMO 198 cfs

Thank You

U.S. Drought Monitor
Oregon



January 3, 2017

(Released Thursday, Jan. 5, 2017)

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	65.31	34.69	5.29	0.00	0.00	0.00
Last Week 12/27/2016	65.31	34.69	5.29	0.00	0.00	0.00
3 Months Ago 10/4/2016	0.00	100.00	50.28	12.30	0.00	0.00
Start of Calendar Year 1/3/2017	65.31	34.69	5.29	0.00	0.00	0.00
Start of Water Year 9/27/2016	0.00	100.00	50.59	12.30	0.00	0.00
One Year Ago 1/5/2016	14.52	85.48	76.99	44.33	6.35	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

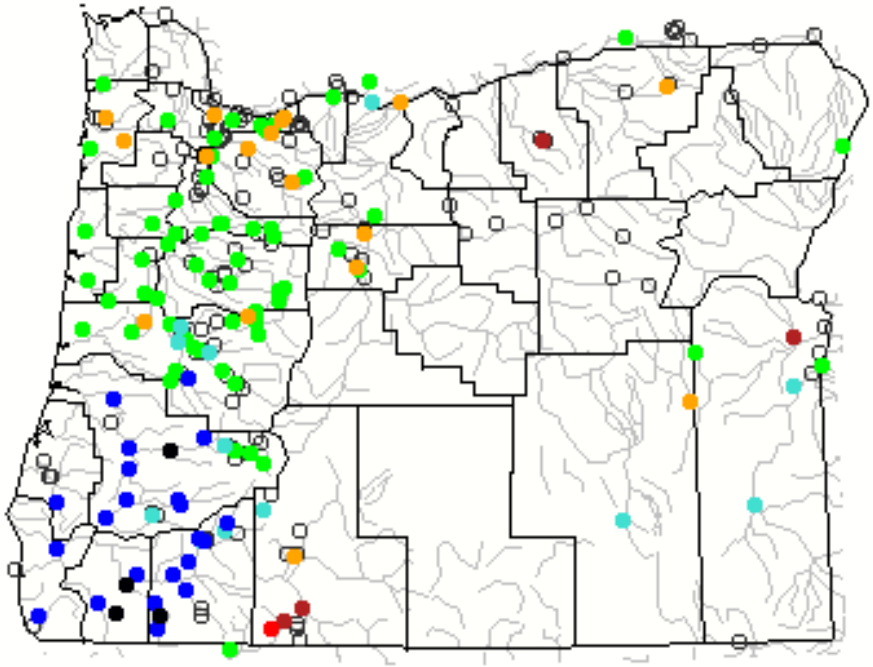
Author:
David Miskus
NOAA/NWS/NCEP/CPC

http://droughtmonitor.unl.edu/

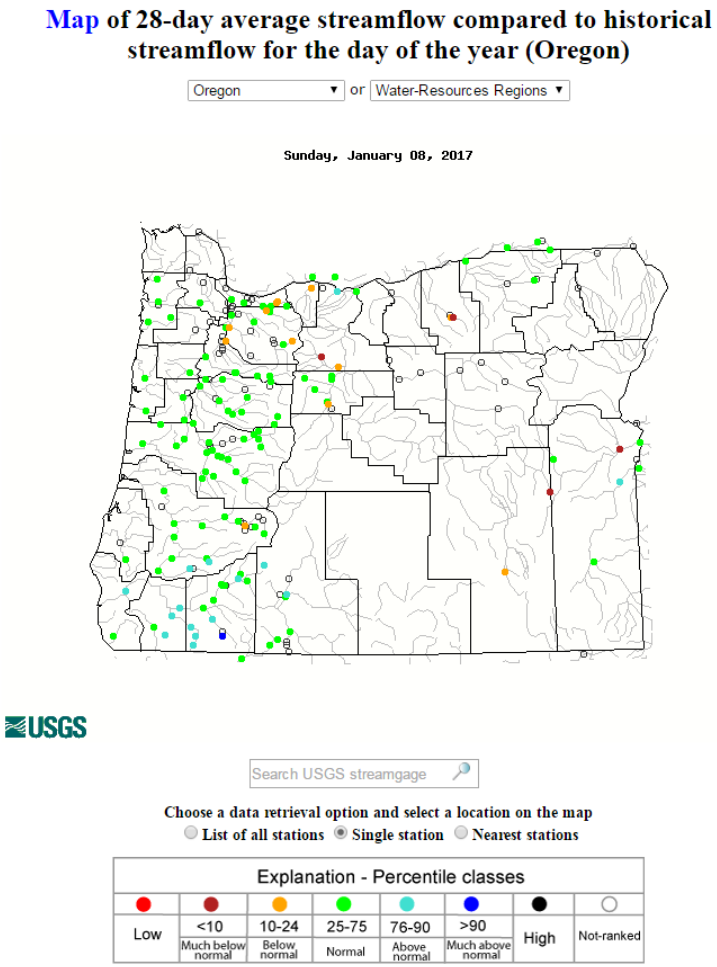
Daily Streamflow Conditions

Select a site to retrieve data and station information.

Monday, January 09, 2017 15:30ET



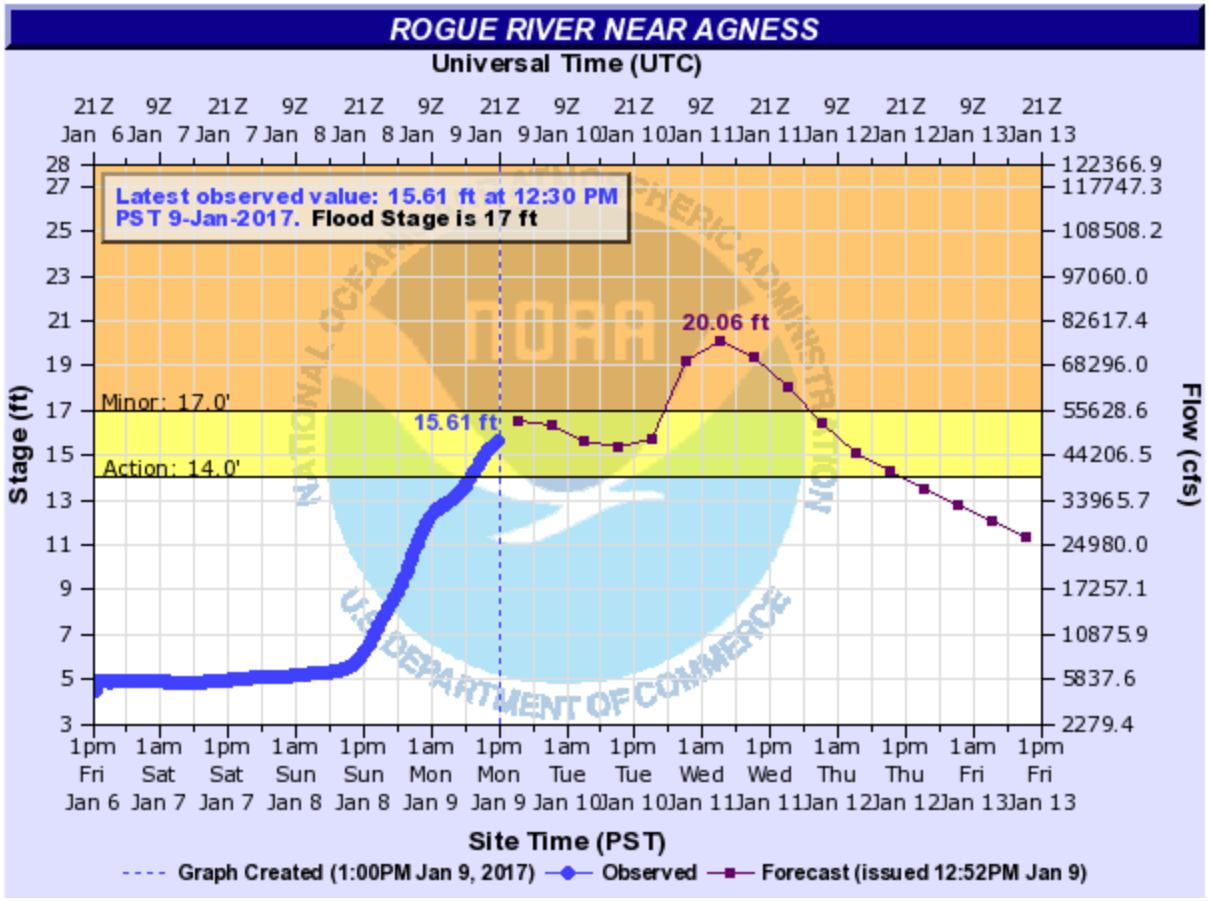
USGS Current Water Data for Oregon



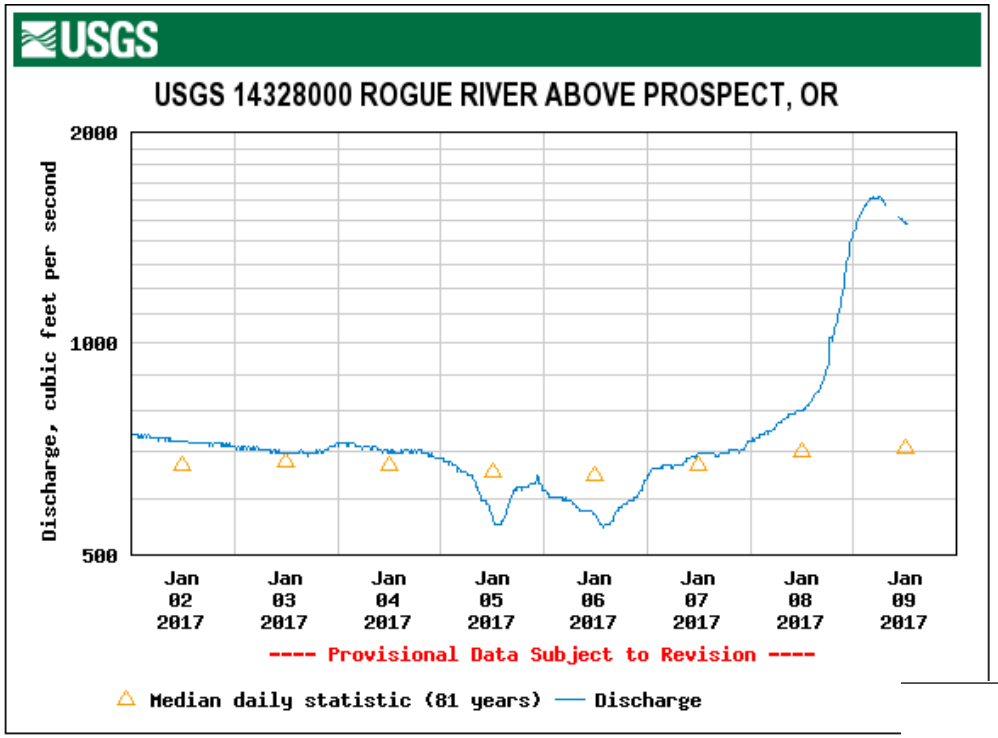
Map of 28-day average USGS streamflow compared to historical streamflow for the day of the year (Oregon).

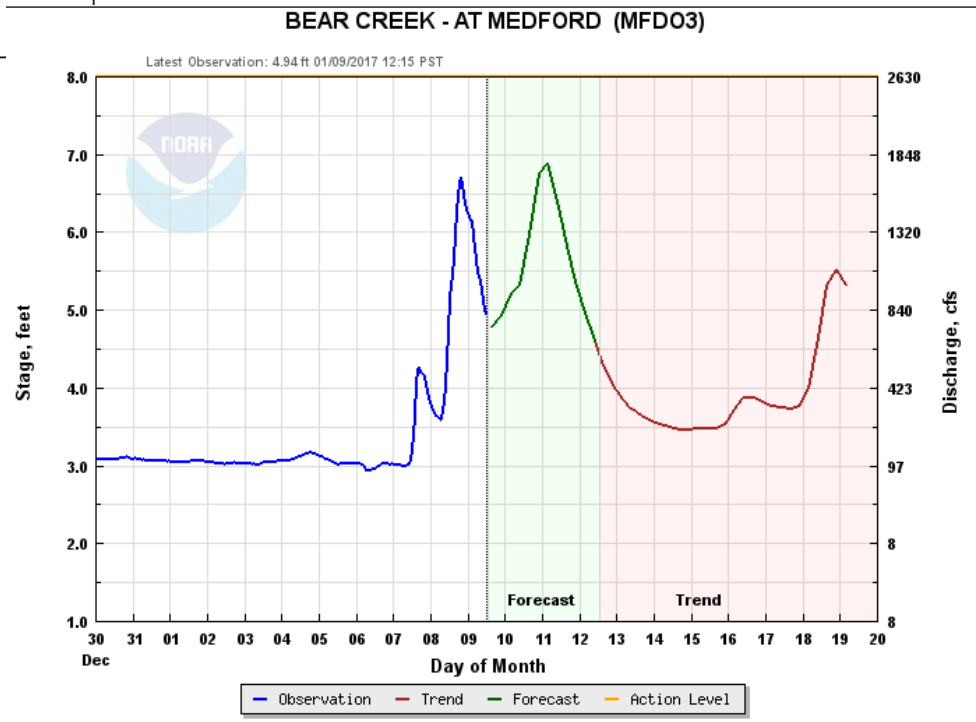
Most sites percentile class is “normal” or slightly above in parts of Southern Oregon or below normal in parts of Eastern Oregon

NWS Hydrologic Predication Page
Rogue River near Agness

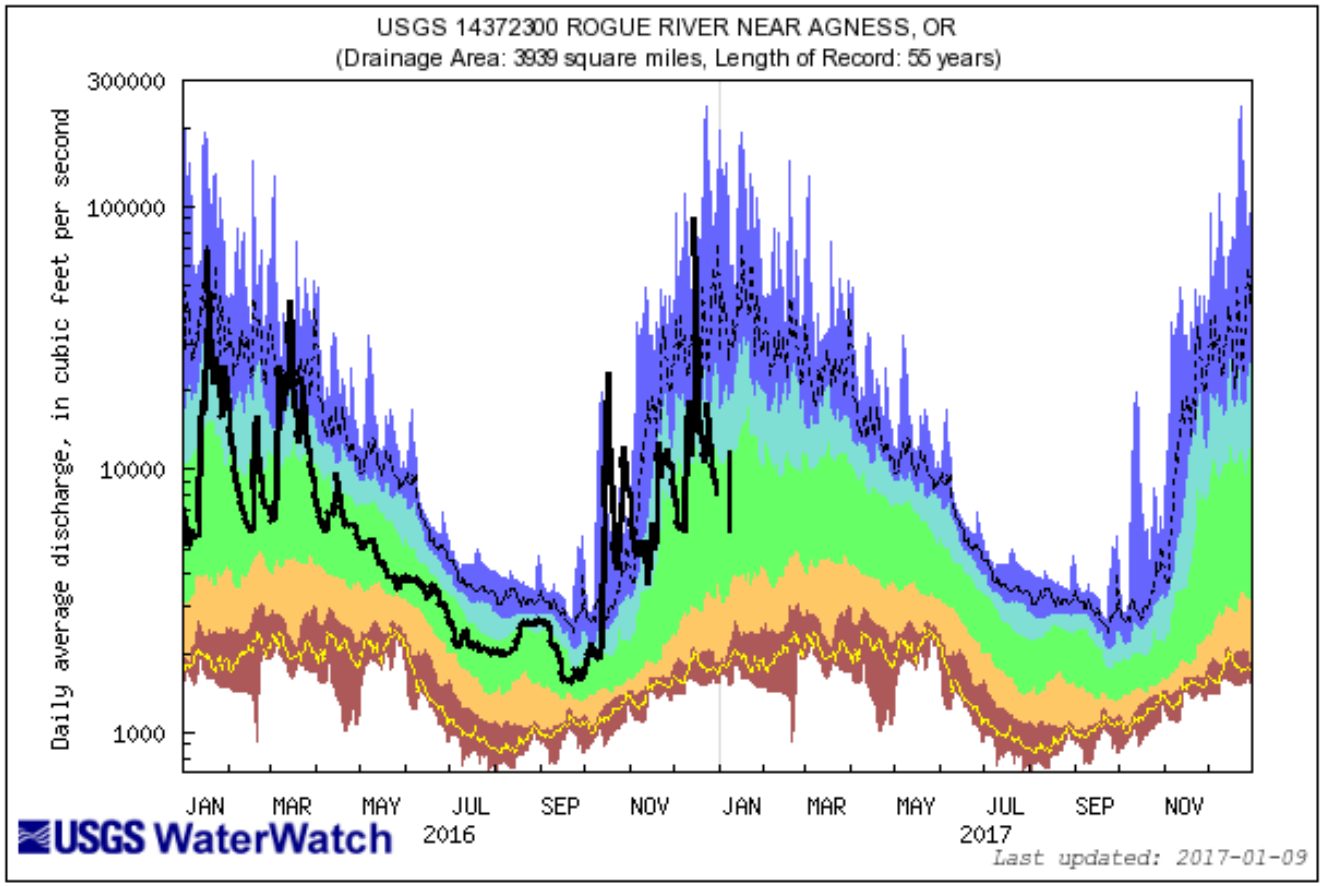


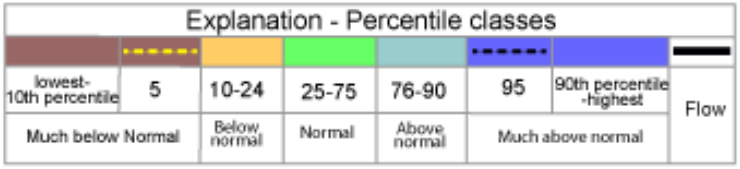
Rogue River Headwater site and Example of Inflow site





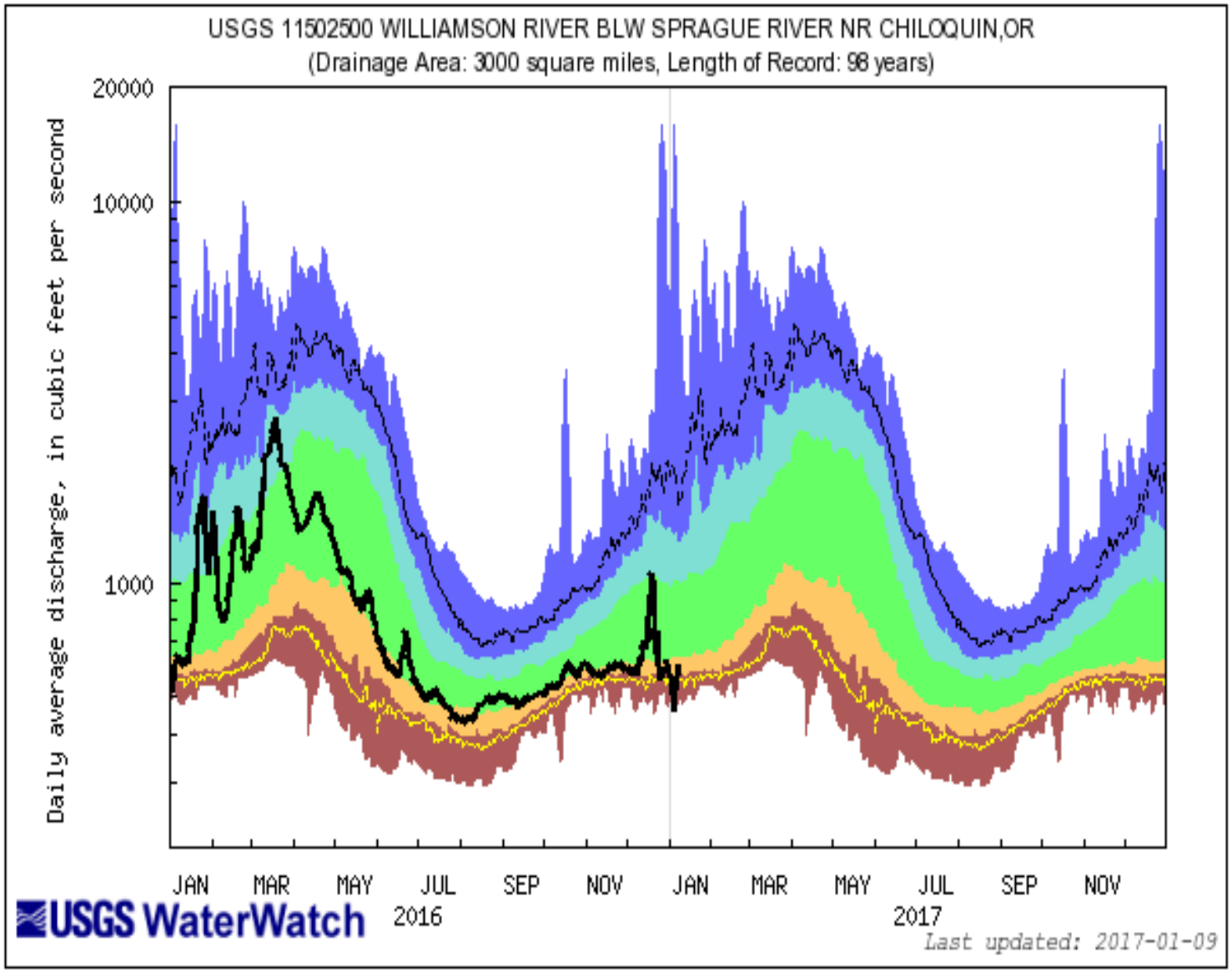
Jan 2016-Jan 2017 Rogue River Agness



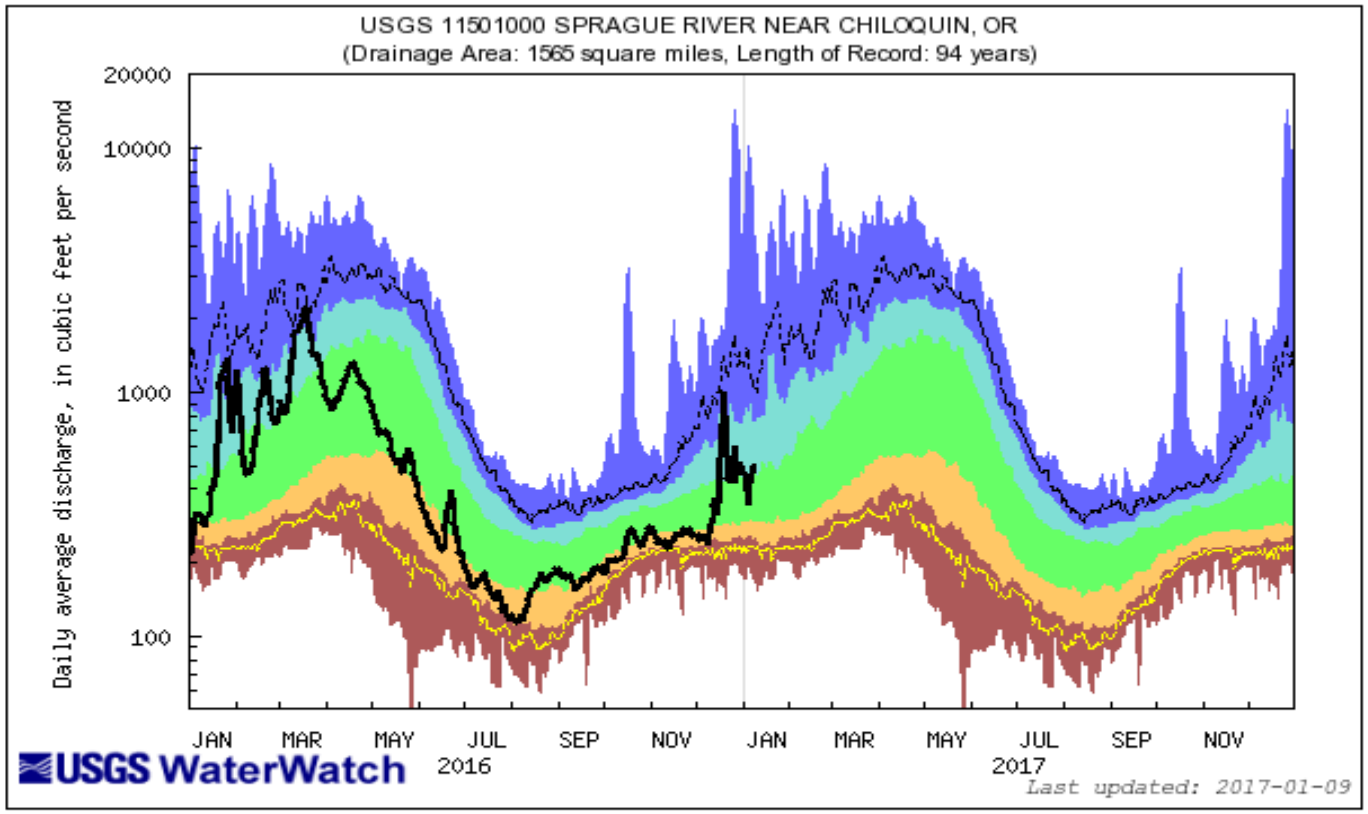


Cont.

Jan 2016-Jan 2017 Klamath

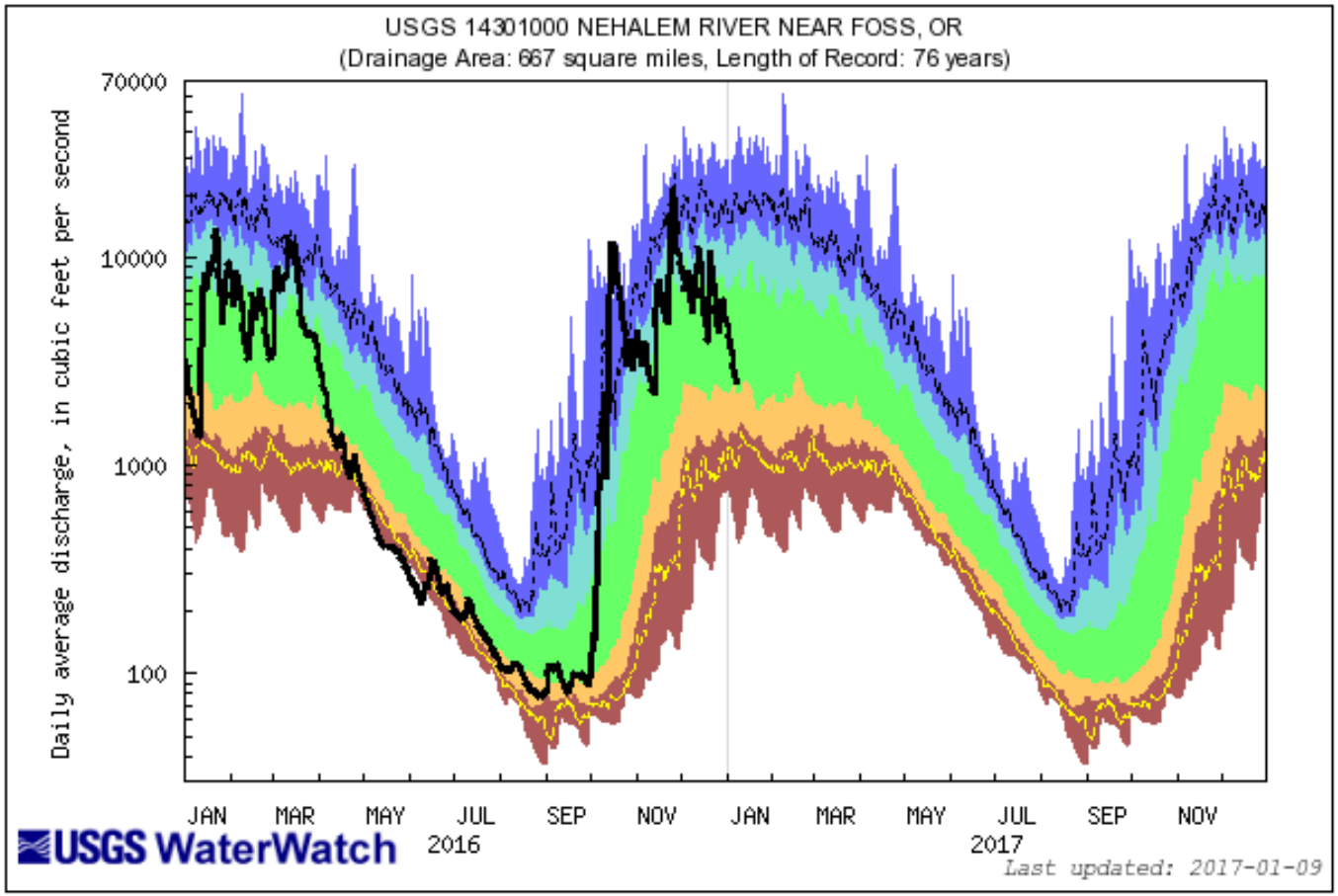


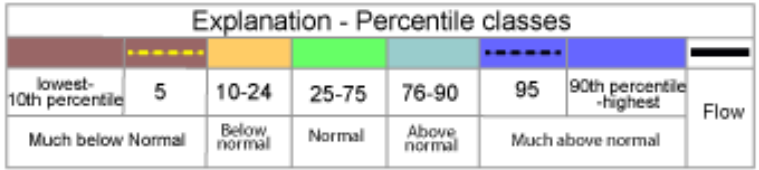
Cont. Jan 2016-Jan 2017 Klamath



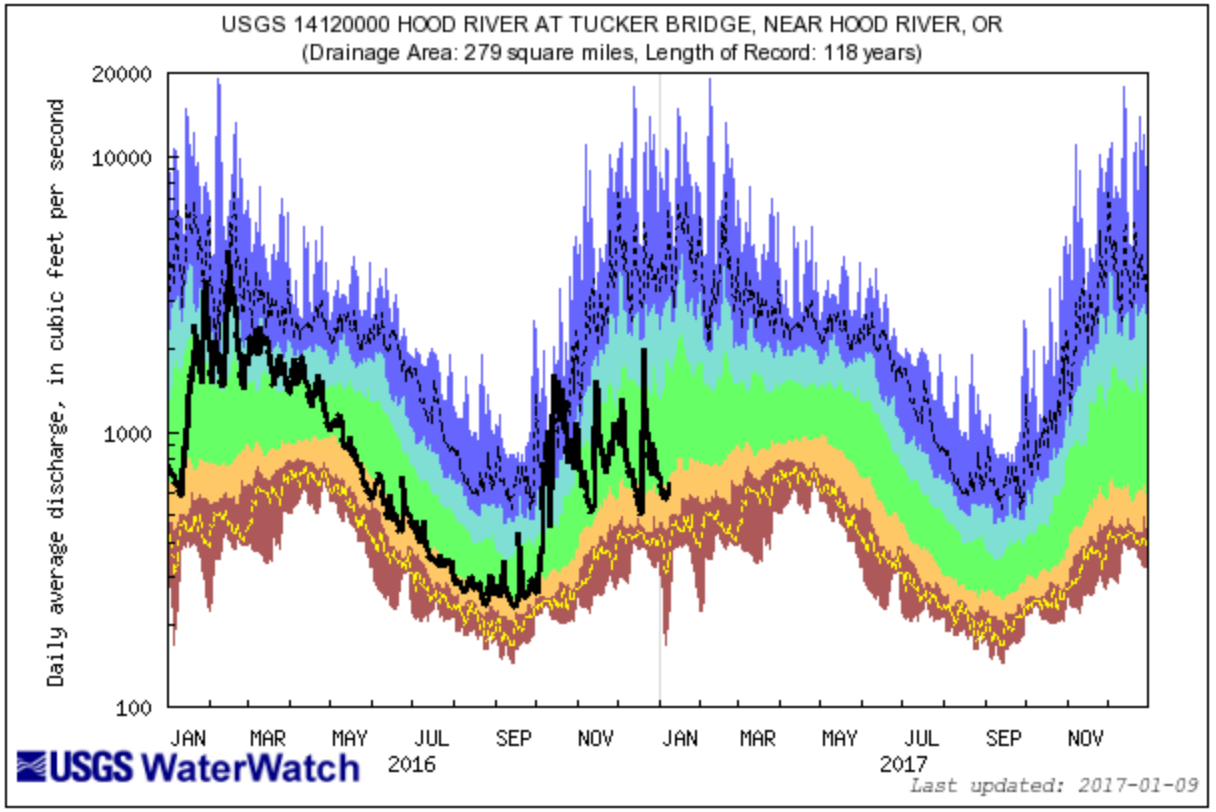
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal		Below normal	Normal	Above normal	Much above normal		

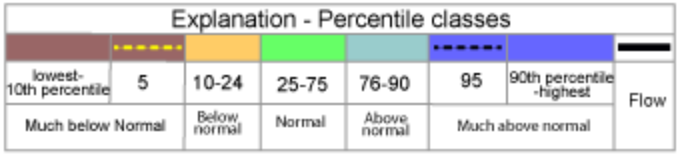
Cont. Jan 2016-Jan 2017 North Coast





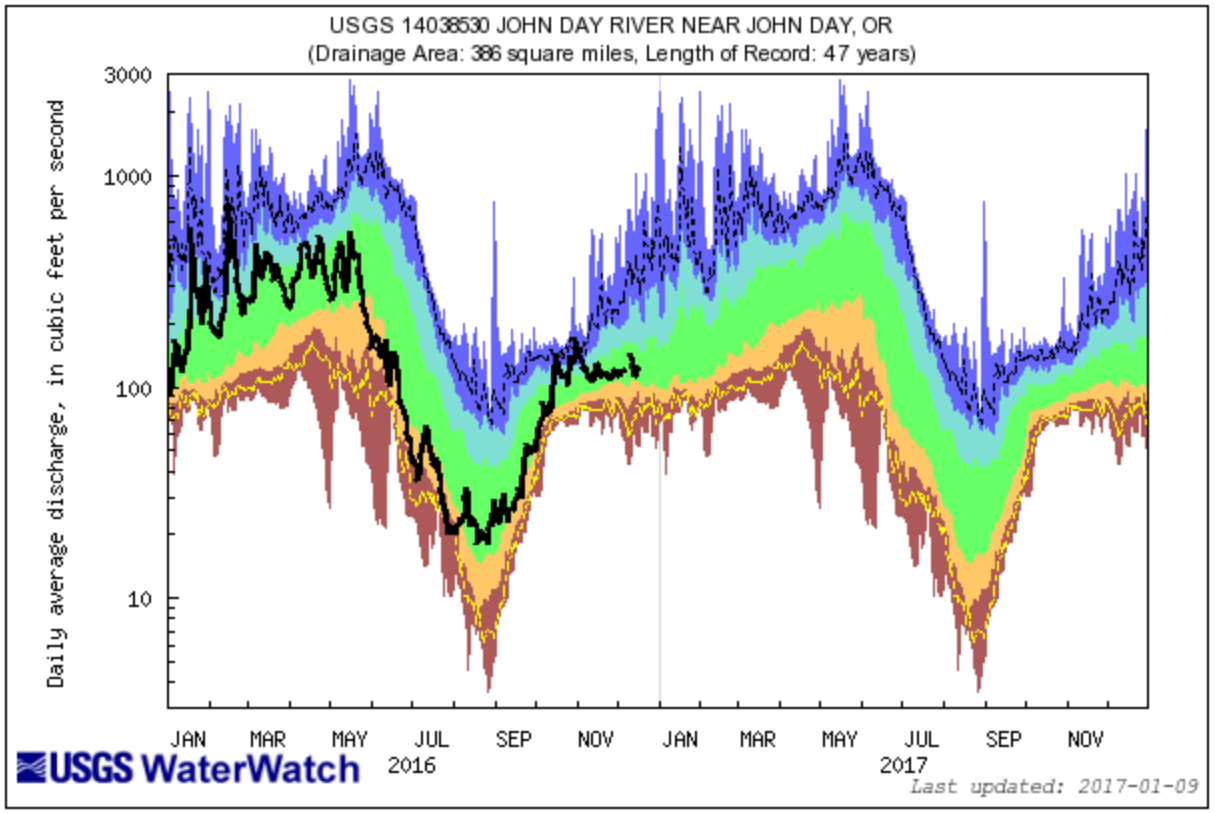
Cont. Jan 2016-Jan 2017 Hood River

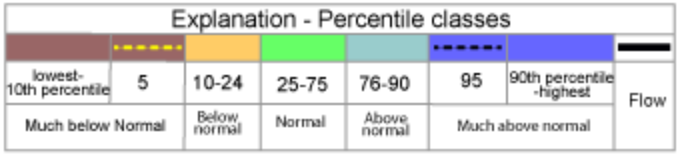




Cont.: The Year so Far

Jan 2016-Jan 2017 John Day





US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR DECEMBER 2016

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 Dec.: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	34	57	-3	69
*)Deep Creek above Adel	Lake County	39	51	63	60
*)Chewaucan River near Paisley	Lake County	75	99	50	106
Williamson River near Chiloquin	Klamath	676	78	14	84
Owyhee River near Rome	Owyhee	216	61	34	69
*)NF Malheur River near Beulah	Malheur	58	92	0	100
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	1,224	77	-1	99
Umatilla River nr Gibbon	Umatilla Lower John Day	142	71	39	86
John Day River at Service Crk	Upper John Day	643	58	25	72
*)Little Deschutes River nr LaPine	Upper Deschutes	90	63	-17	102
Hood River nr Hood River	Lower Deschutes Mt.Hood	847	68	4	96
Willamette River at Salem	Willamette	47,830	109	43	124
Wilson River near Tillamook	North Coast	2,390	96	-12	154
Umpqua River near Elkton	Rogue/Umpqua	20,120	140	185	151
Rogue River near Agness	Rogue/Umpqua	14,730	155	102	179
SF Coquille River at Powers	South Coast	1,827	97	-1	174
Chetco River near Brookings	South Coast	4,826	87	8	150

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

1/9/2017

Water Availability Report linked below

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

Coast, Willamette, Rogue and Umpqua above normal.

East Side sites lower (precipitation held in snow pack?)