Oregon Water Supply Availability Committee

June 14, 2016

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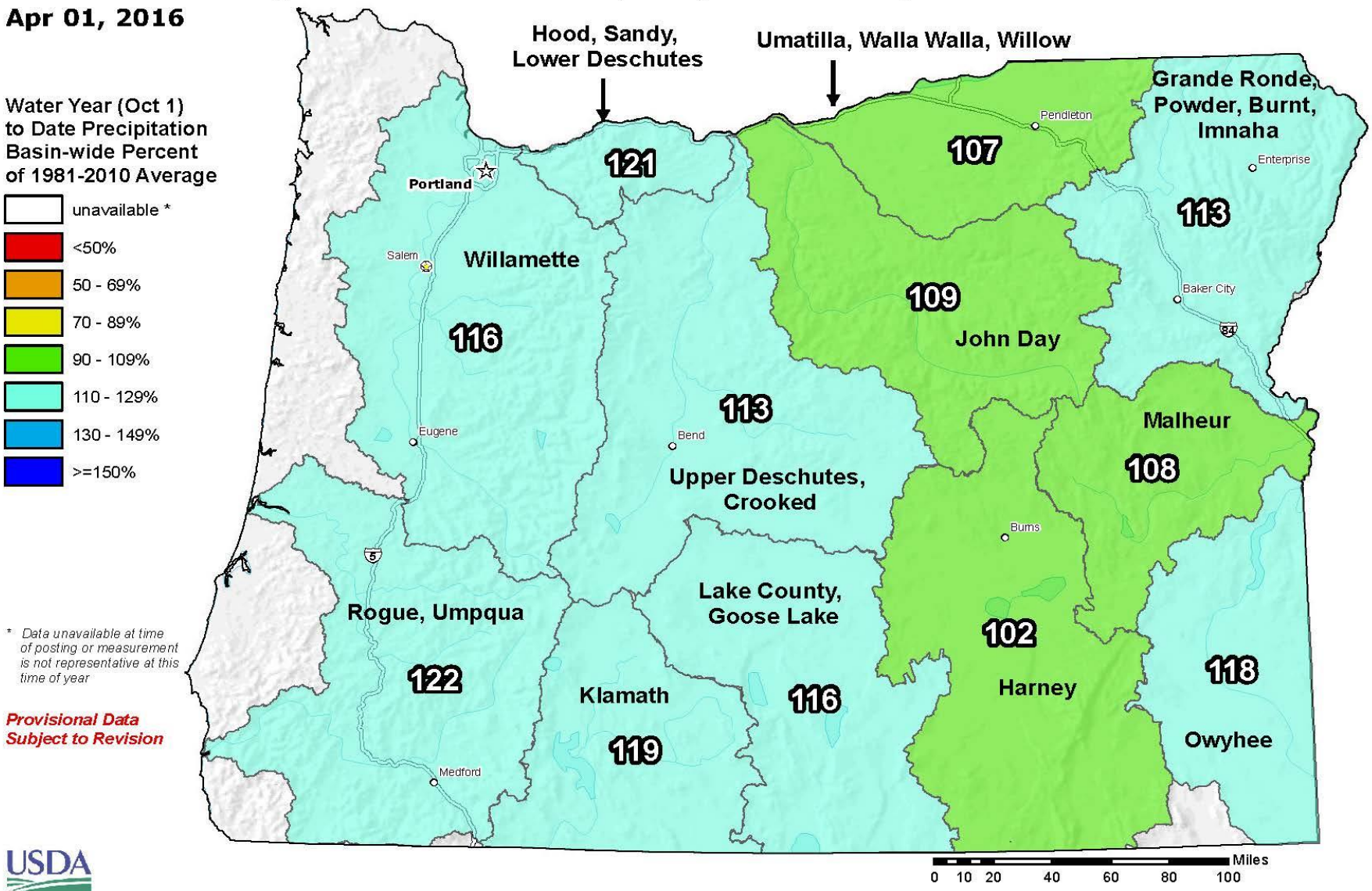
503-414-3271
http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/

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

Apr 01, 2016

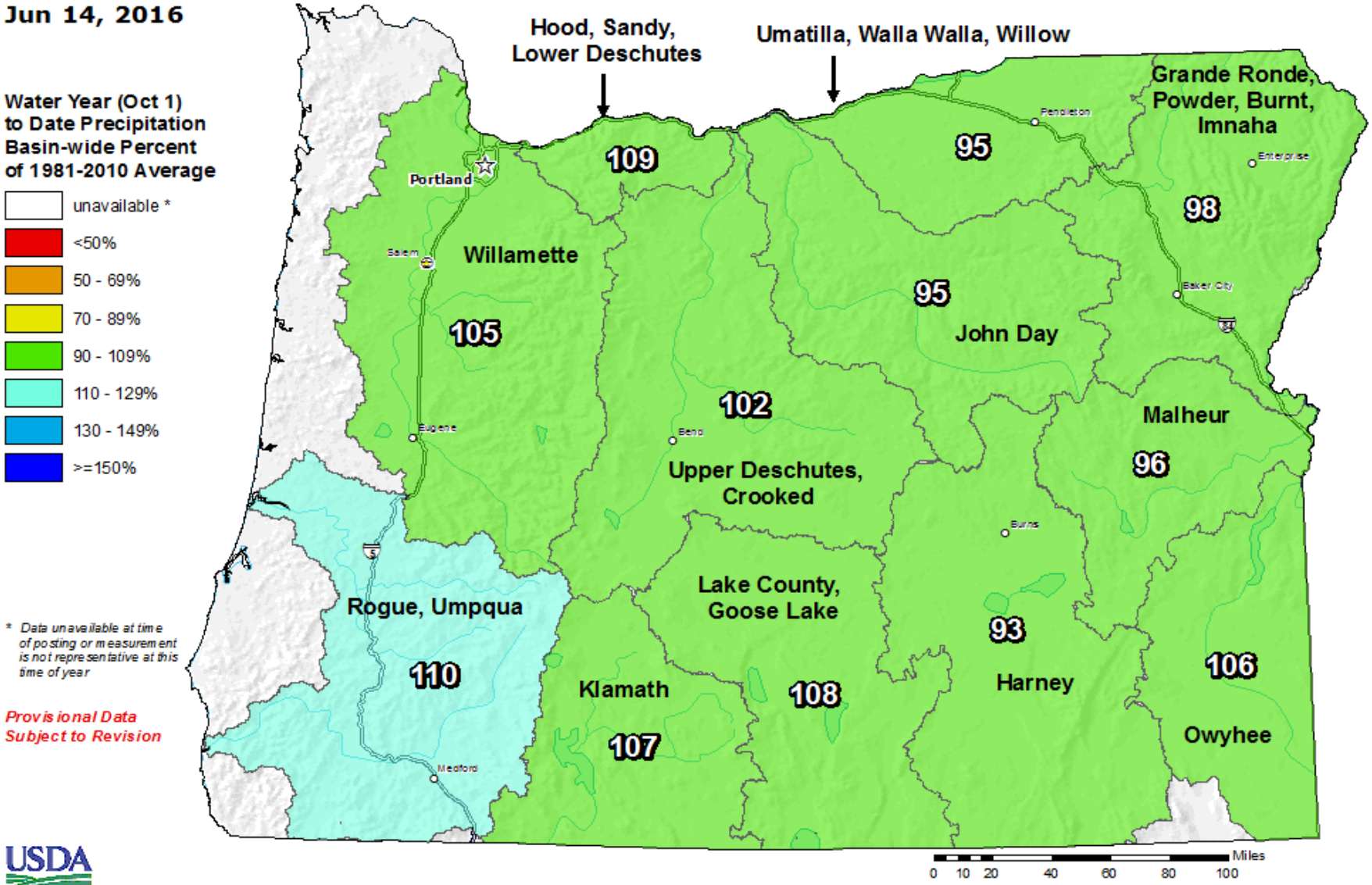


The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

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

Jun 14, 2016



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

Provisional Data Subject to Revision

USDA NRCS

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:
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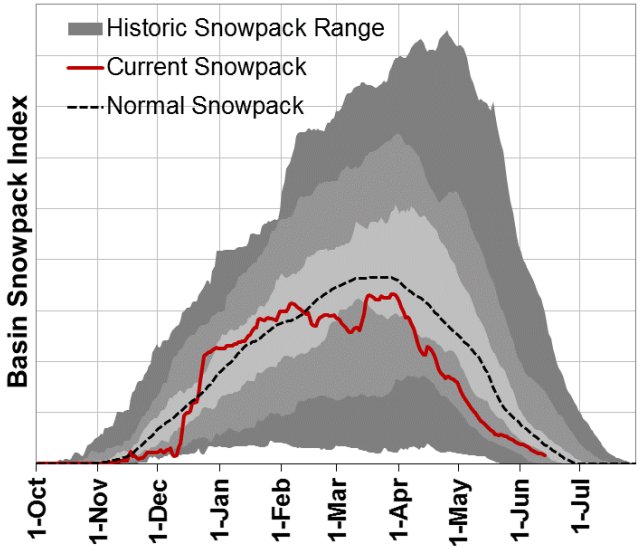
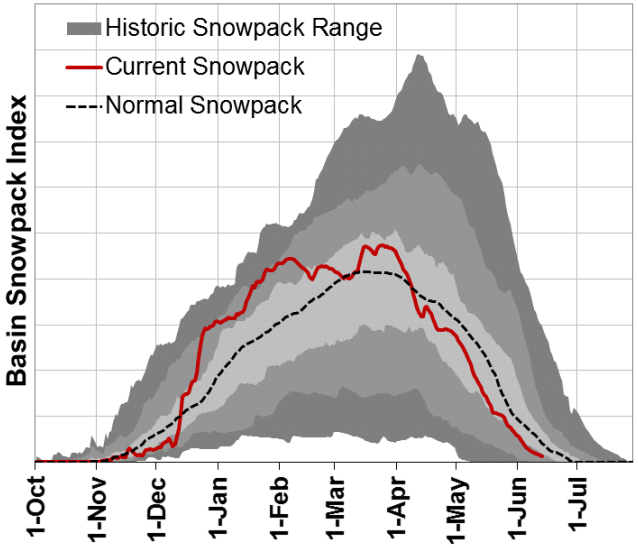
NRCS Natural Resources Conservation Service

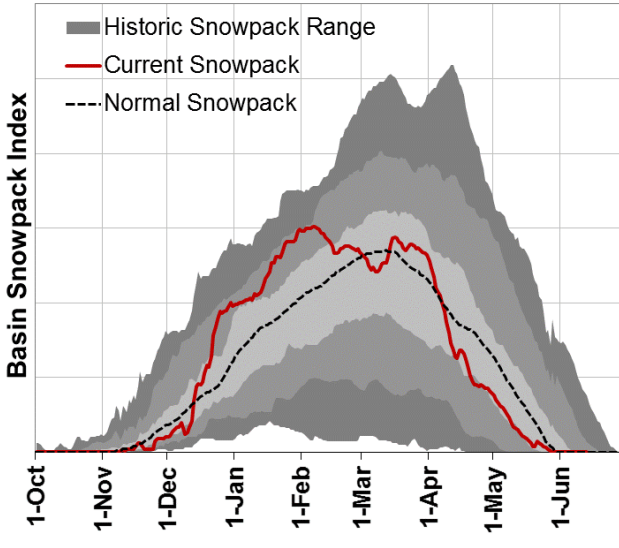
Willamette



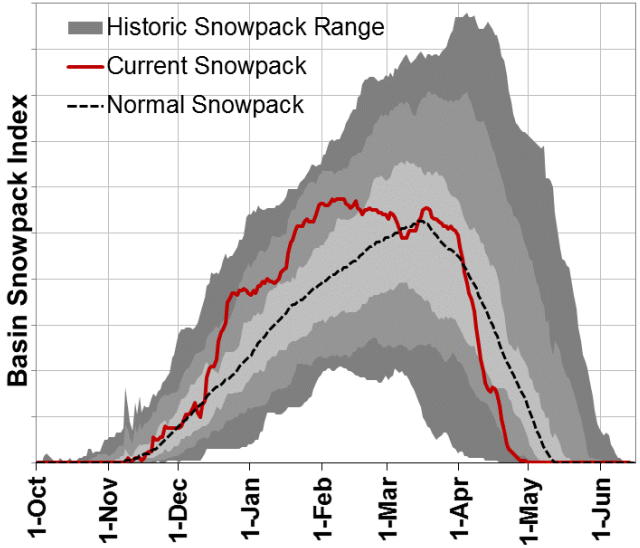
Rogue/Umpqua



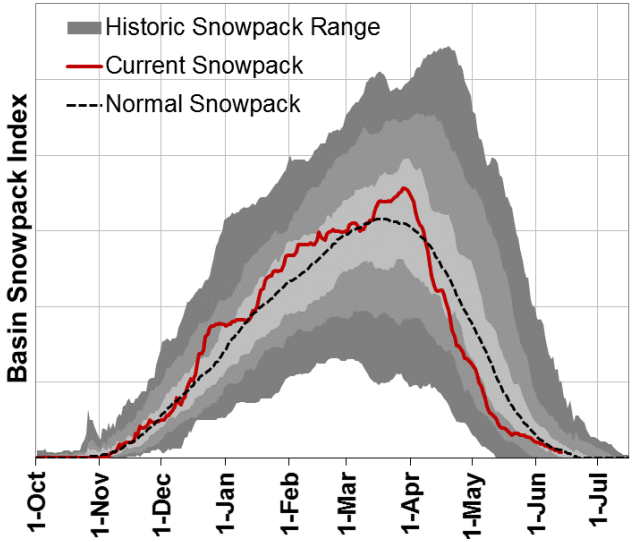
Klamath



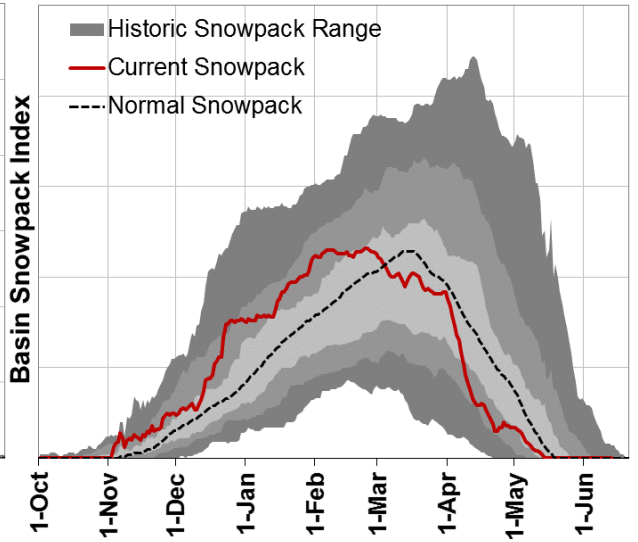
John Day



Grande Ronde/Powder/Burnt



Owyhee



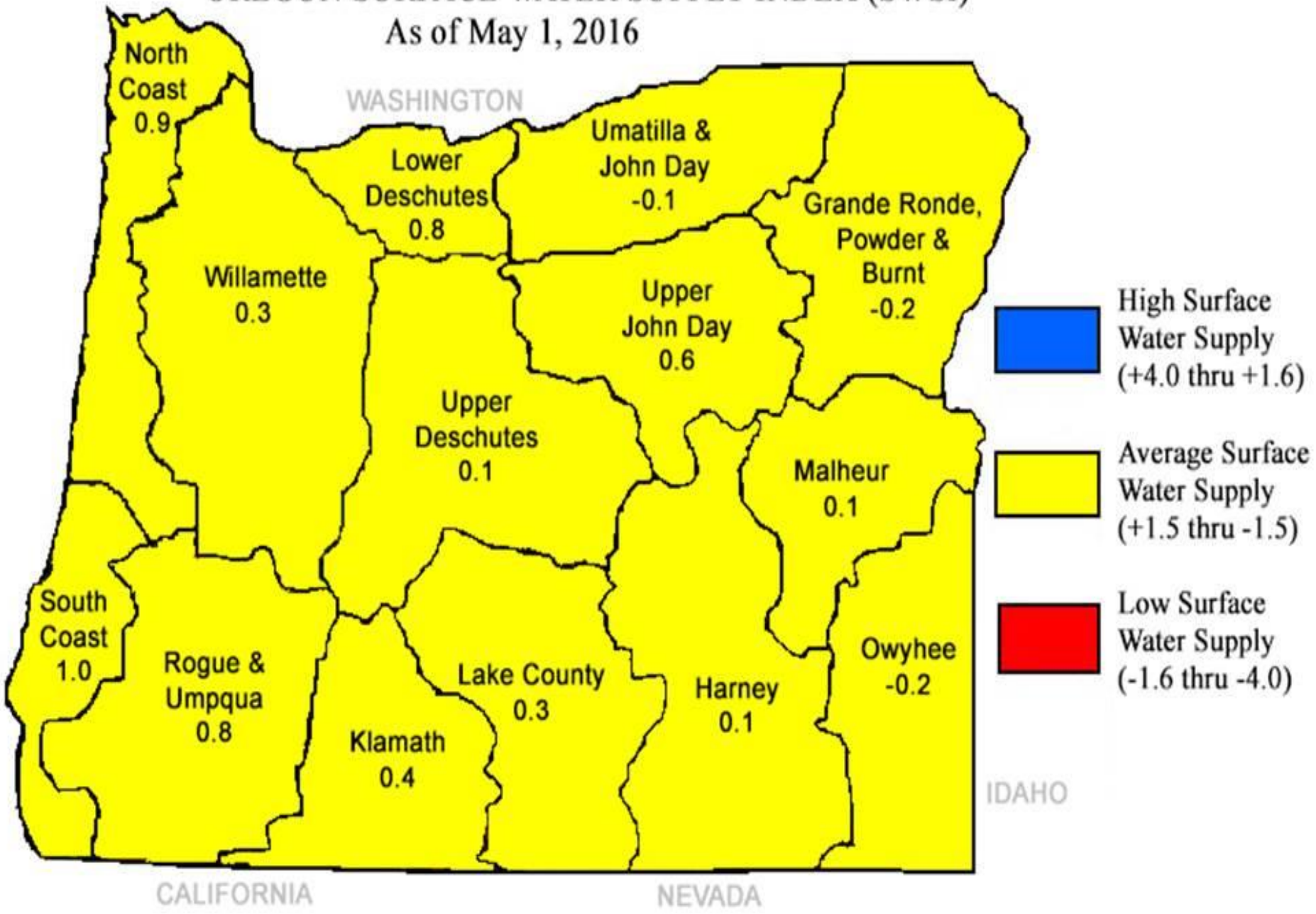
SUMMARY OF FORECASTS for WY2016

BASIN	Jan 1 - 50%	Feb 1 - 50%	Mar 1 - 50%	Apr 1 - 50%	May 1 - 50%	Jun 1 - 50%	Reduction Jun 1 -Apr 1
OWYHEE AND MALHEUR BASINS	129	141	104	96	72	51	44
GRANDE RONDE, POWDER, BURNT AND IMNAHA BASINS	111	110	104	111	90	62	48
UMATILLA, WALLA WALLA AND WILLOW BASINS	118	107	98	104	89	67	38
JOHN DAY BASIN	122	123	102	104	88	67	37
UPPER DESCHUTES AND CROOKED BASINS	125	133	116	116	85	76	41
HOOD, SANDY AND LOWER DESCHUTES BASINS	111	102	99	102	92	70	32
WILLAMETTE BASIN	114	108	100	103	93	85	18
ROGUE AND UMPQUA BASINS	121	125	106	121	90	74	47
KLAMATH BASIN	110	108	84	89	76	85	5
LAKE COUNTY AND GOOSE LAKE BASINS	115	131	100	102	83	72	30
HARNEY BASIN	130	152	109	91	70	49	42

NRCS Natural Resources Conservation Service

OREGON SURFACE WATER SUPPLY INDEX (SWSI)

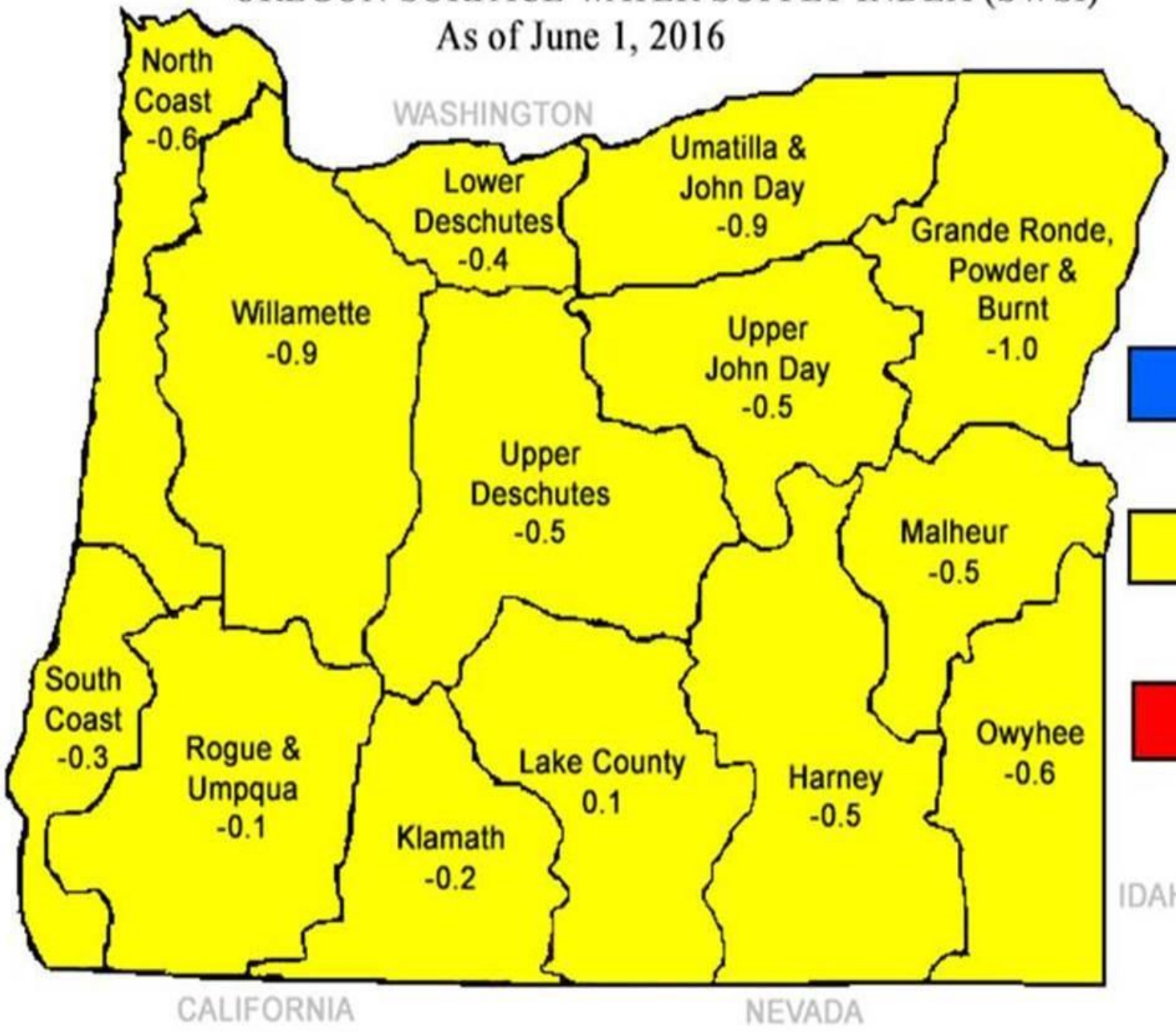
As of May 1, 2016



NRCS Natural Resources Conservation Service

OREGON SURFACE WATER SUPPLY INDEX (SWSI)

As of June 1, 2016



High Surface Water Supply (+4.0 thru +1.6)

Average Surface Water Supply (+1.5 thru -1.5)

Low Surface Water Supply (-1.6 thru -4.0)

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June 14, 2016

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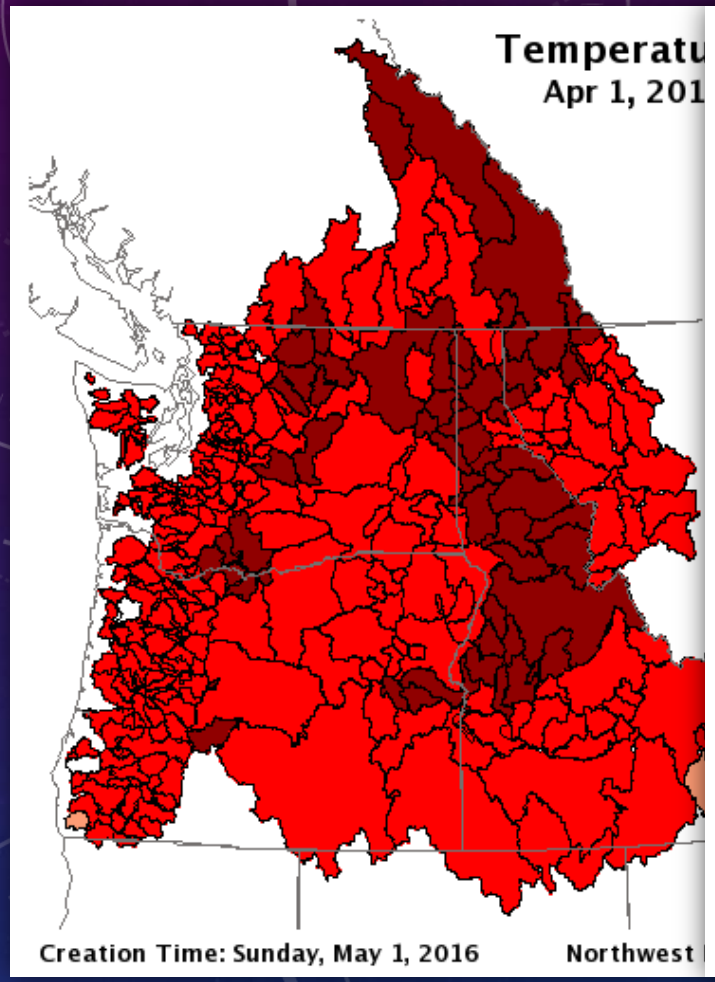
Thank you!

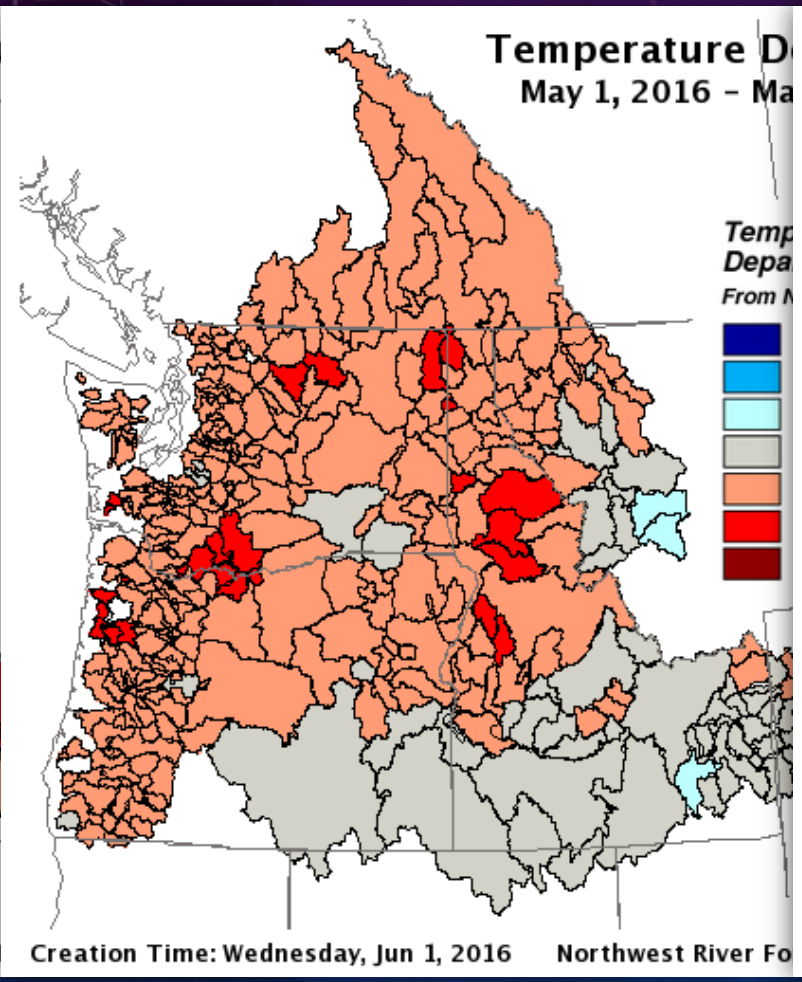
OBSERVED TEMPERATURES

NOAA NORTHWEST RIVER FORECAST CENTER

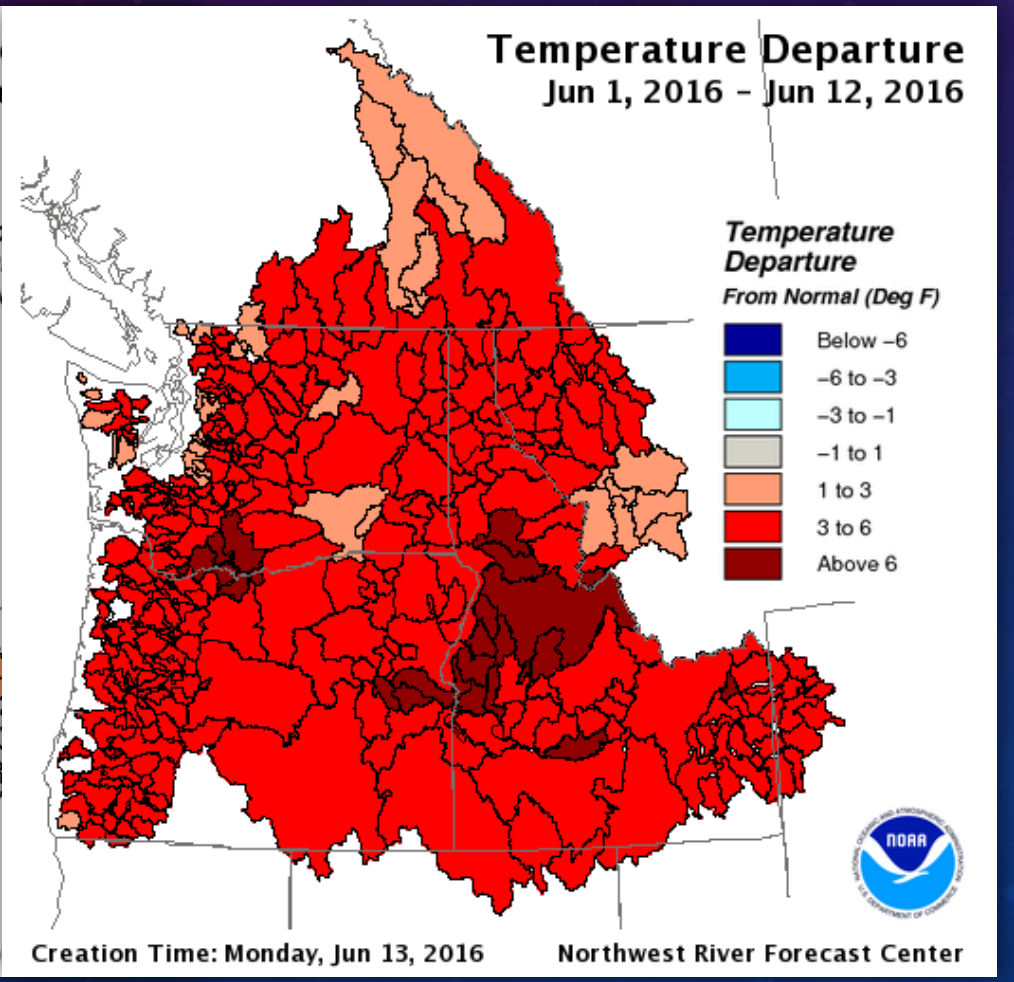
APRIL



MAY



JUNE



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

OBSERVED TEMPERATURES

NOAA NORTHWEST RIVER FORECAST CENTER

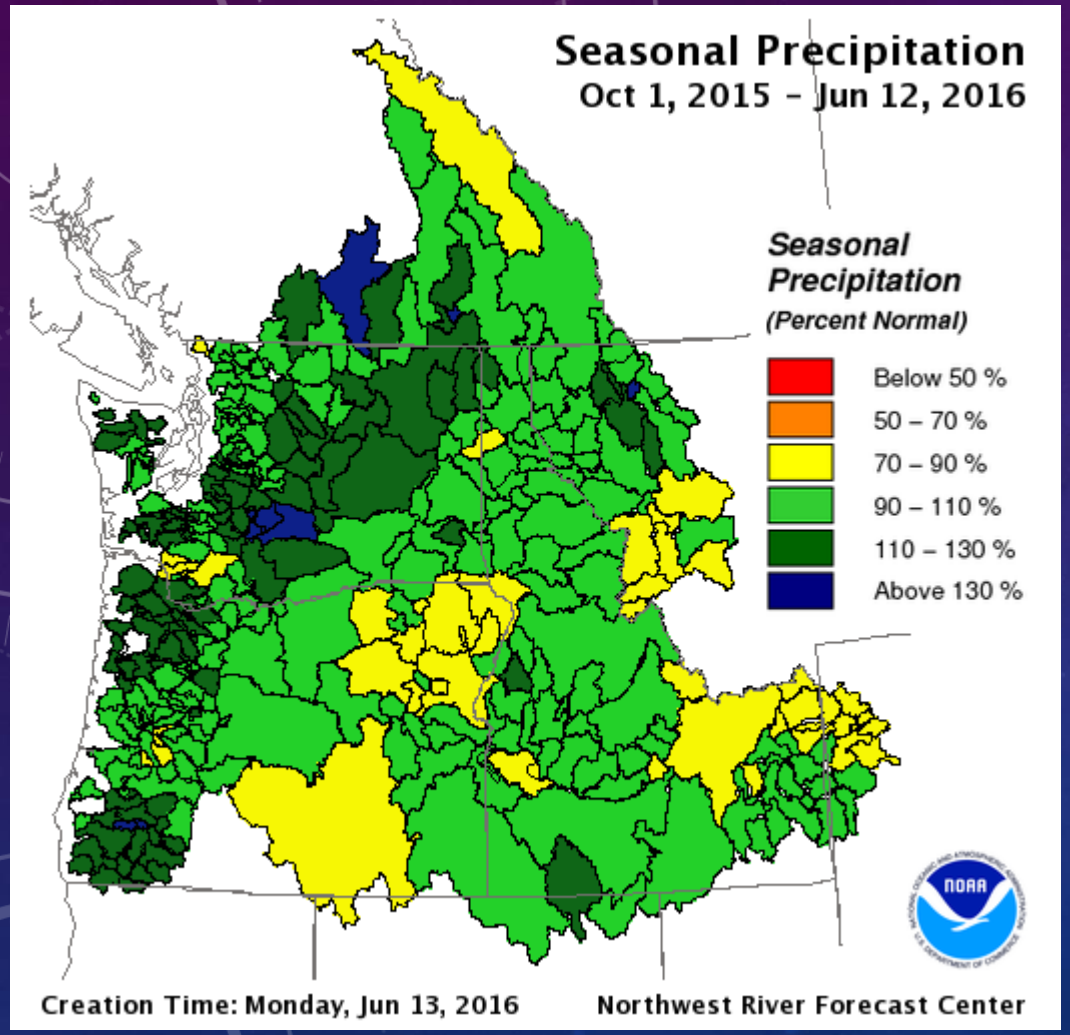
DIVISION NAME	June 1 - 12	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May
Malheur-Owyhee-Boise River Basins	4.2	5.4	-3.5	-0.1	0.6	4.1	1.6	4.5	0.1
Grande Ronde River Basin	4.5	5.6	-2.5	1.3	2.2	5.5	1.4	5.2	1.4
Middle Columbia Lower Tribs	4.8	5.1	-3.0	0.4	0.7	4.7	1.1	5.3	2.0
Coastal River Basins	4.8	4.9	-1.5	1.7	2.5	4.7	1.6	5.0	2.8
Clackamas River Basin	4.2	4.3	-2.7	0.9	1.0	4.2	1.1	4.7	1.8
Willamette River Basin abv Harrisburg	3.9	4.2	-2.4	1.0	1.0	4.0	0.9	4.4	1.7
Santiam River Basin	4.1	4.6	-2.2	1.1	1.1	4.2	1.0	4.6	1.9
Coquille River Basin	4.7	4.6	-2.2	1.2	1.5	4.2	1.5	4.7	2.2
Umpqua River Basin	4.7	4.9	-2.2	0.7	1.4	4.4	1.4	4.9	2.0
Rogue-Illinois River Basins	4.4	4.7	-2.4	0.5	1.2	4.1	1.2	4.8	1.7

www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=6

OBSERVED PRECIPITATION

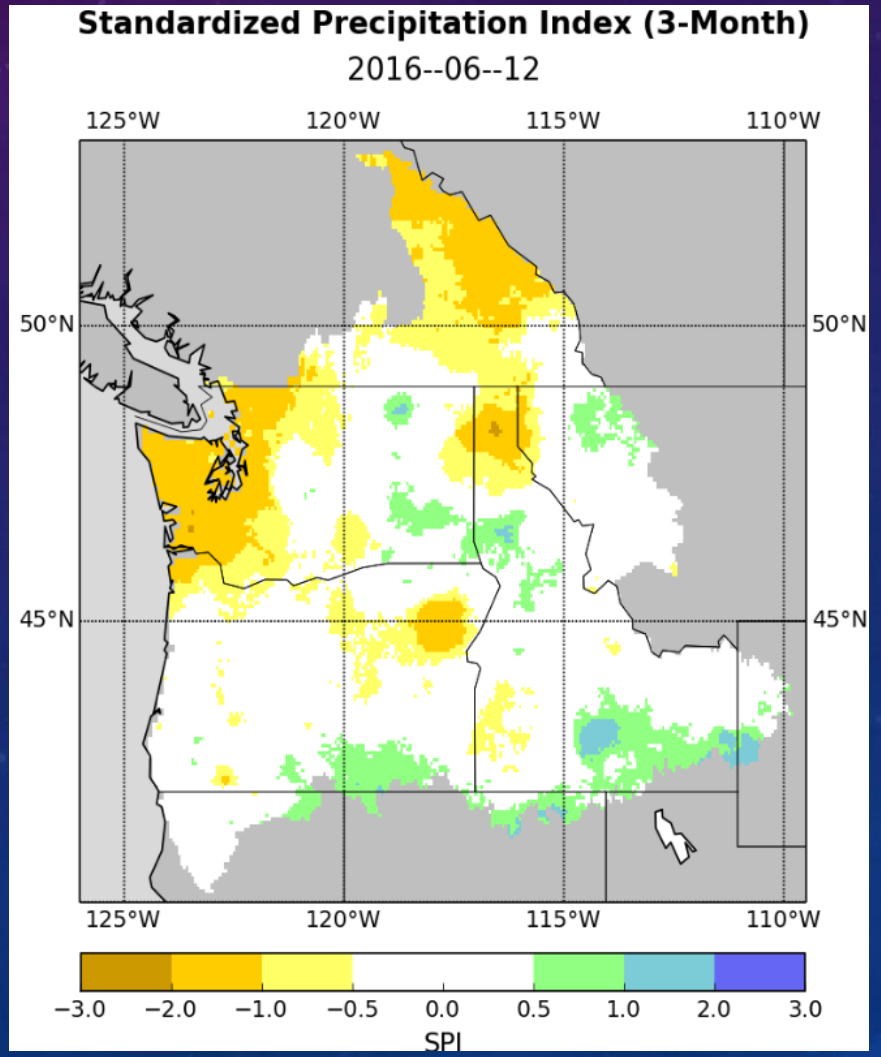
NOAA NORTHWEST RIVER FORECAST CENTER
& WESTERN REGIONAL CLIMATE CENTER

WATER YEAR PERCENT OF AVERAGE



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

3 MONTH SPI AS OF JUNE 12

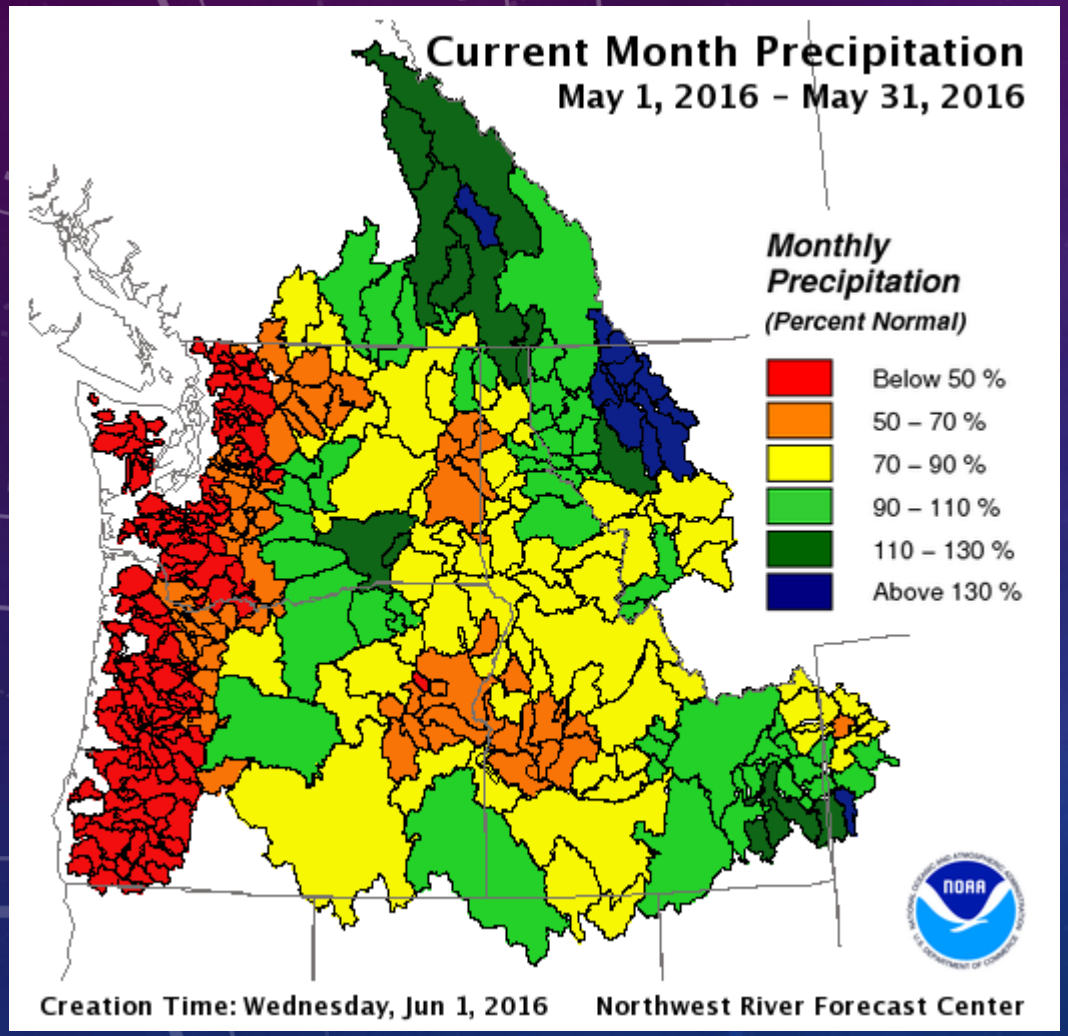


www.hydro.washington.edu/forecast/monitor_west/drought.shtml

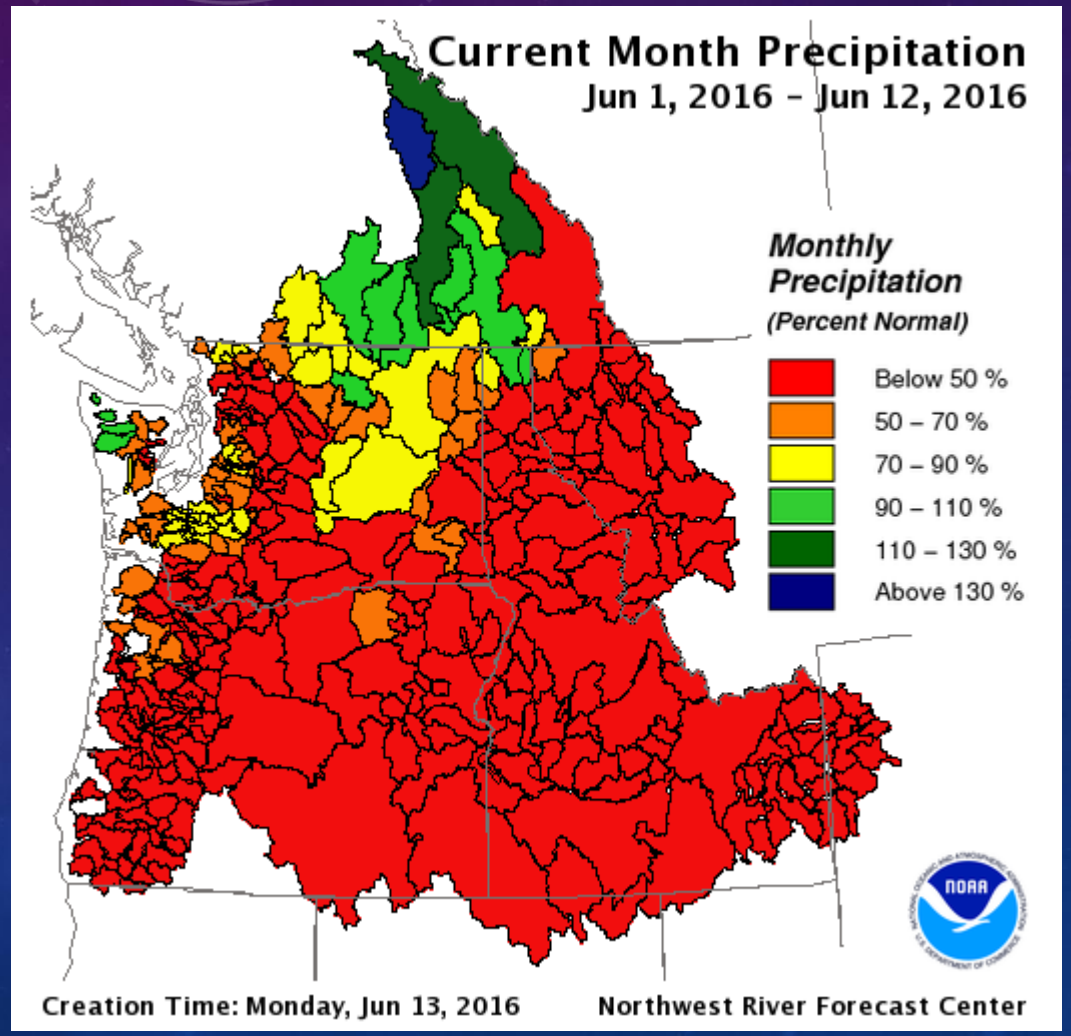
OBSERVED PRECIPITATION

NOAA NORTHWEST RIVER FORECAST CENTER

MAY



JUNE 1 - 12



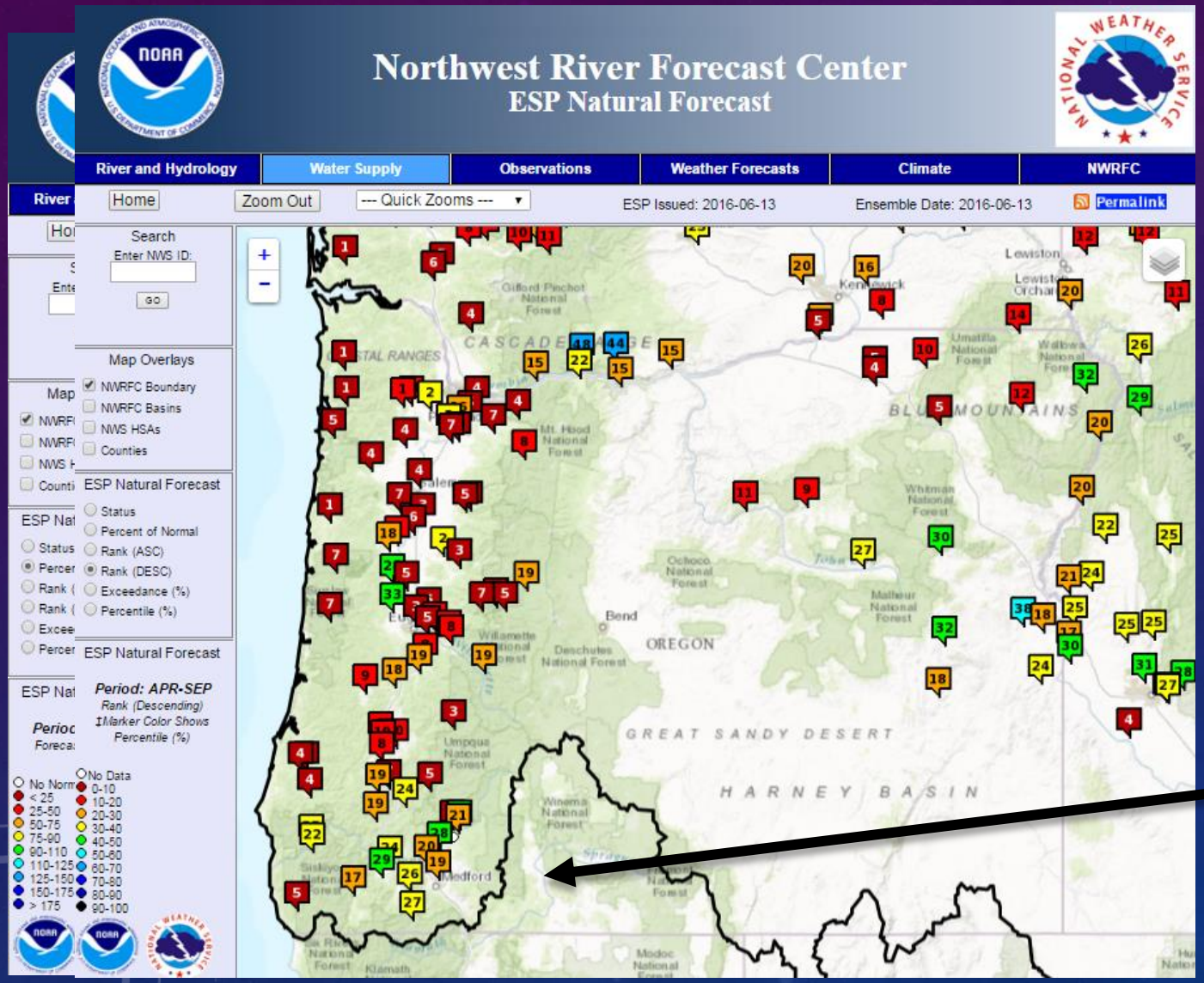
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

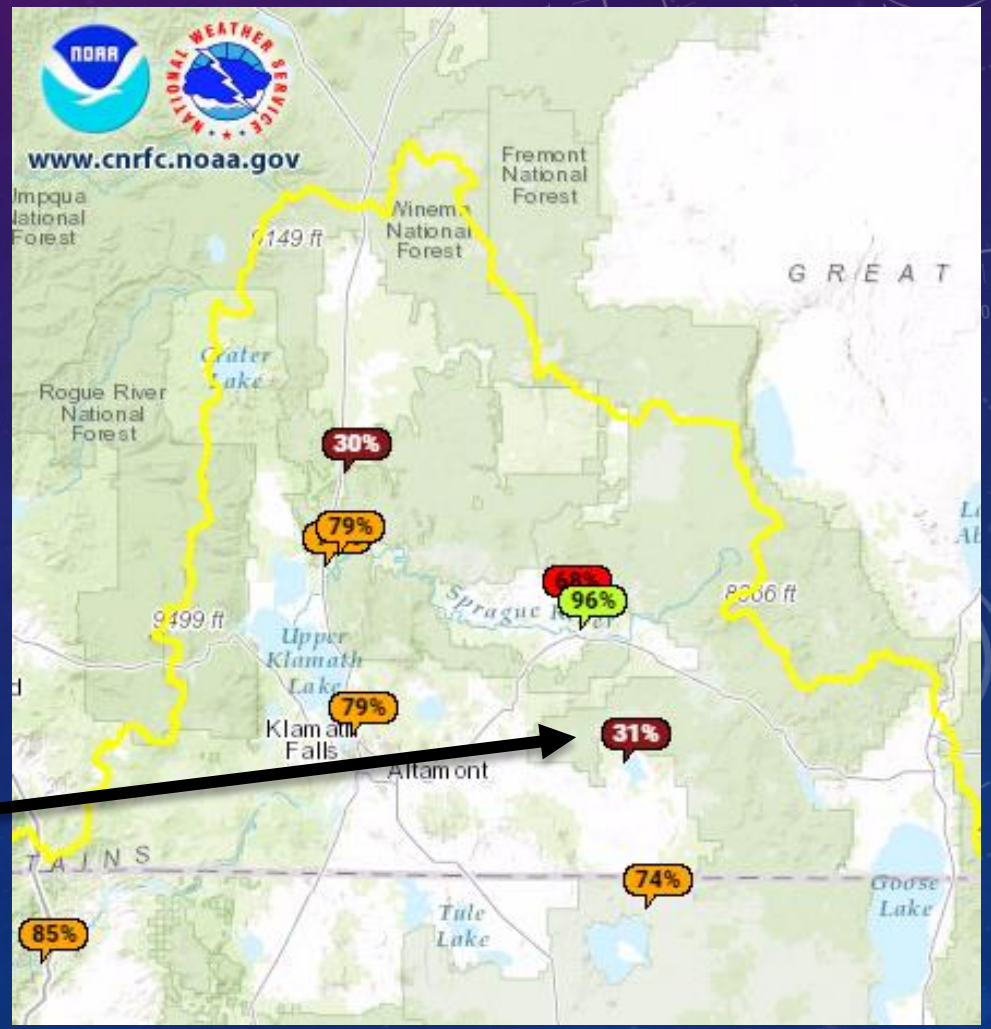
WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC & CALIFORNIA-NEVADA RFC

www.nwrfc.noaa.gov/natural/index.html?version=20151001v2

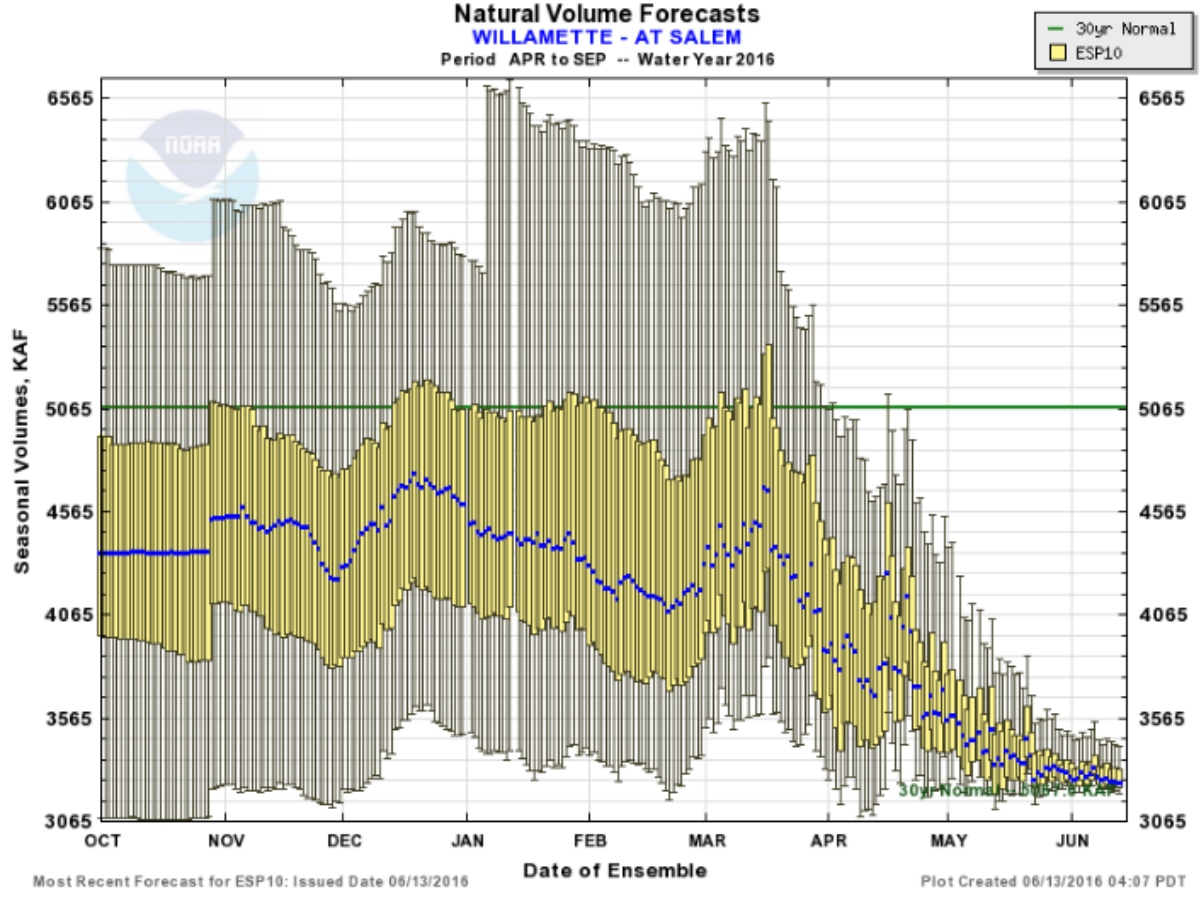
www.cnrfc.noaa.gov/water_resources_update.php

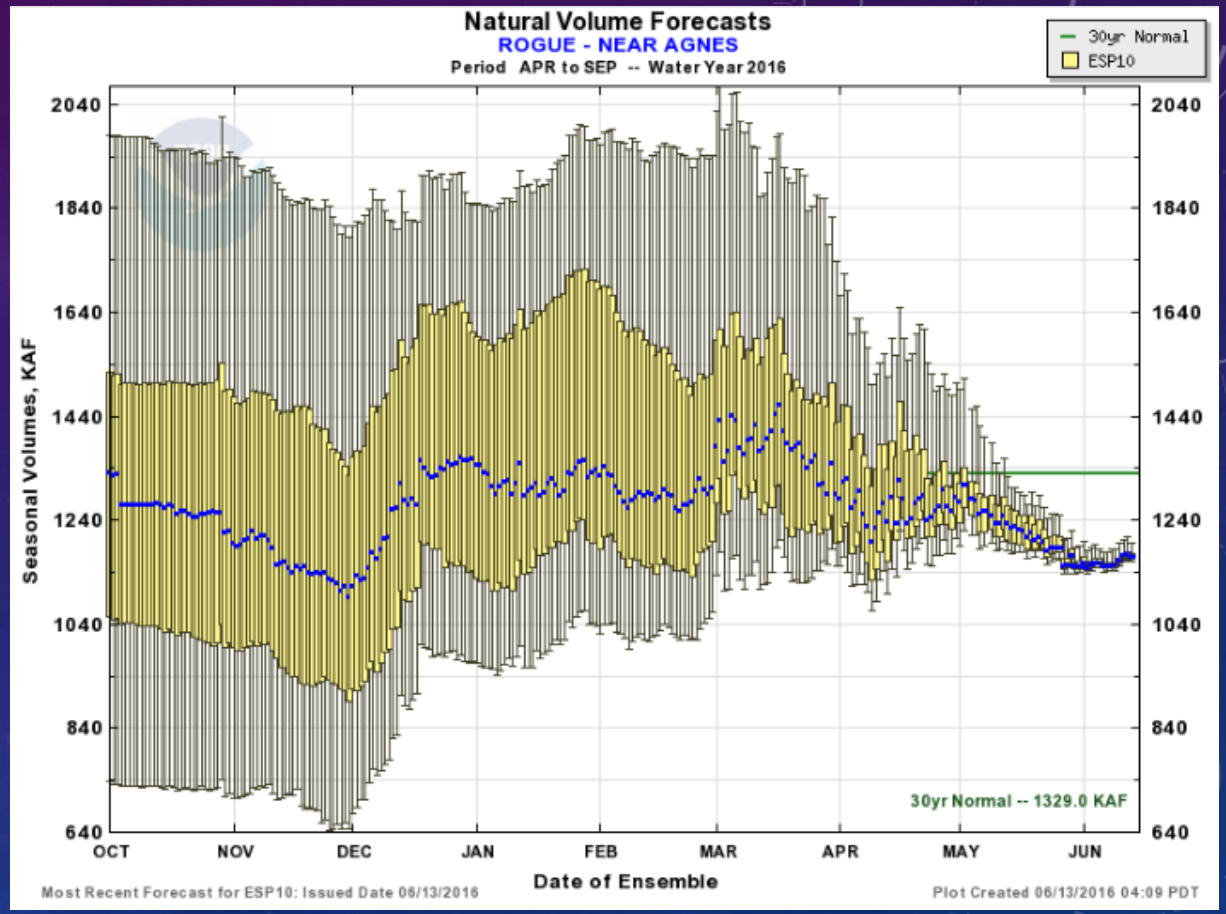




WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC



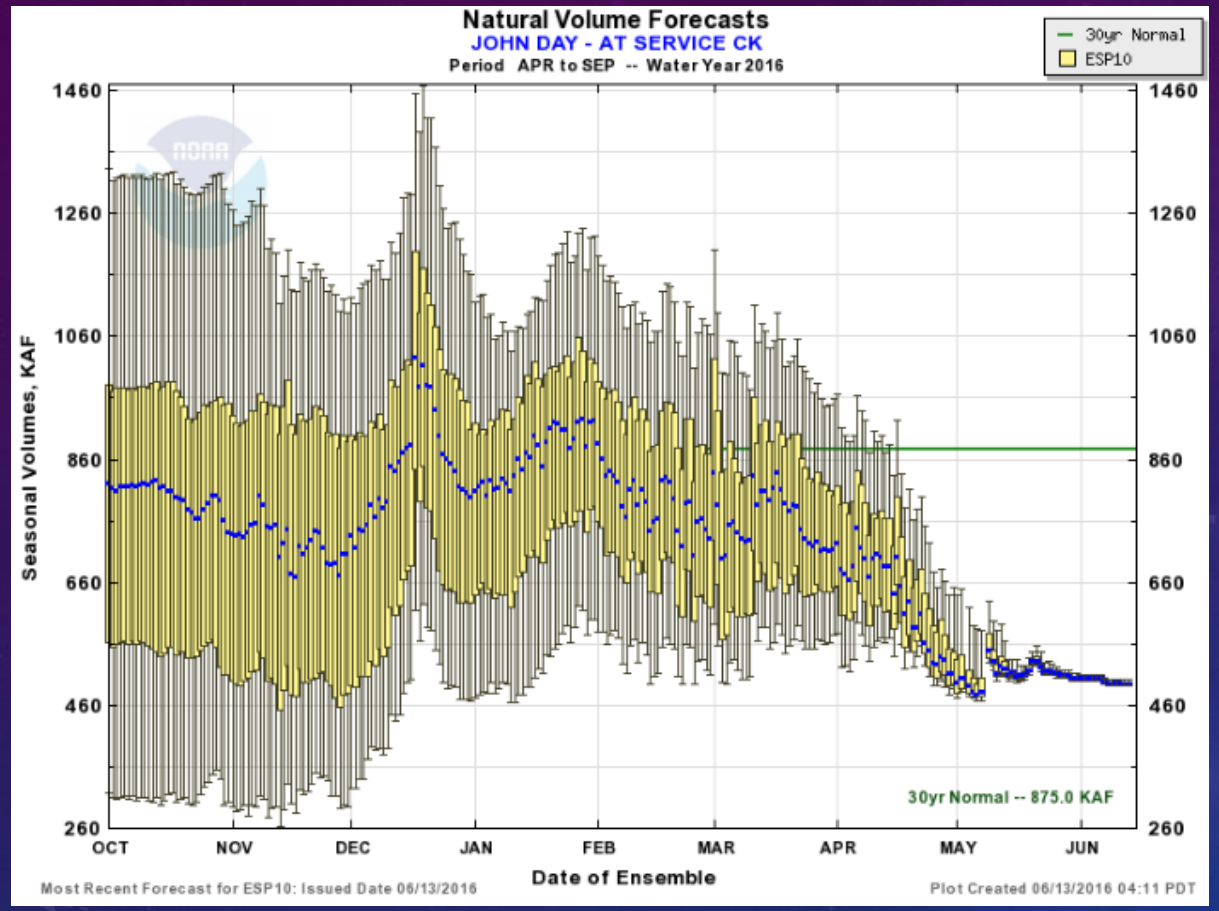


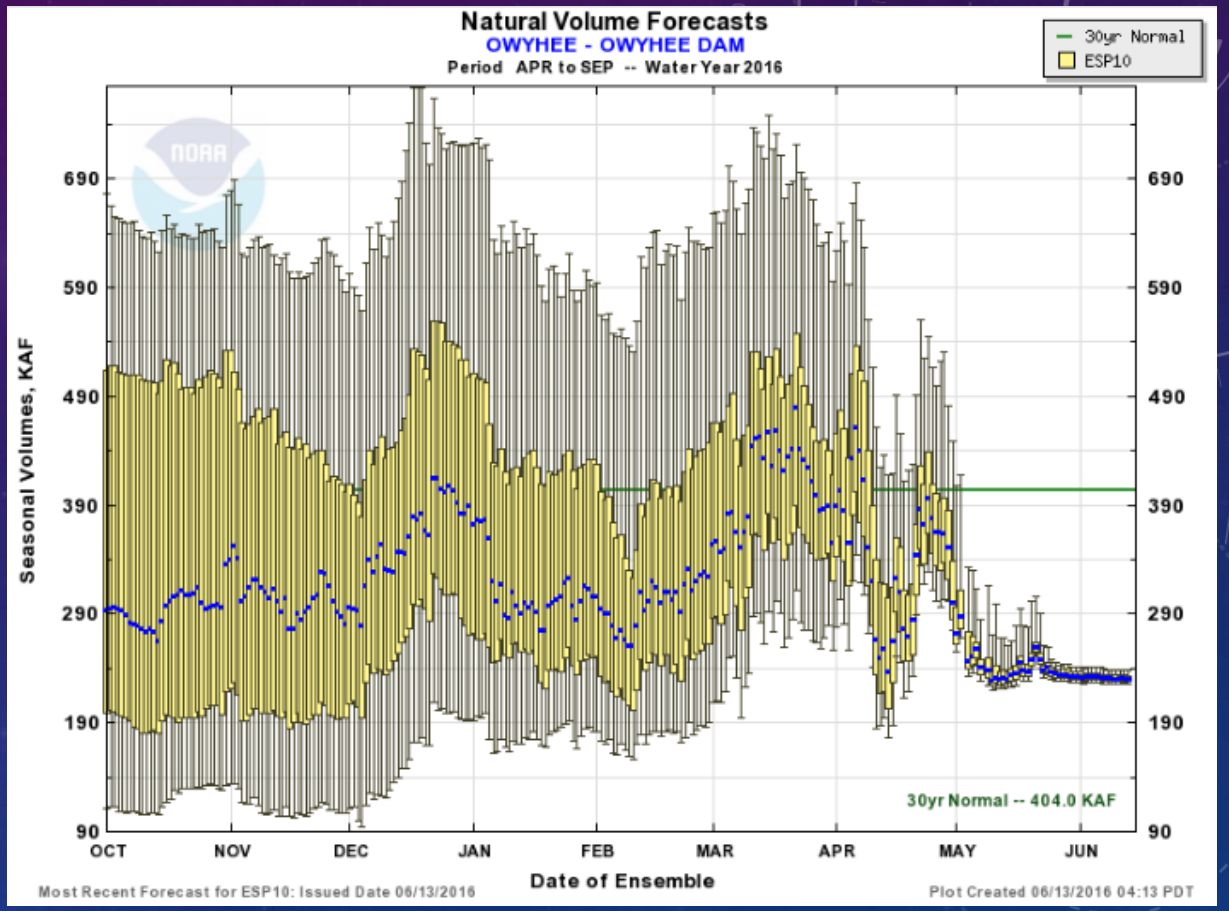
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	3201	3254	64	3429	5067
APR-JUL	2837	2855	63	2921	4496
JAN-SEP	11322	11375	93	11550	12226

Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1160	1171	88	1196	1329
APR-JUL	1003	1006	87	1016	1158
JAN-SEP	3971	3982	127	4007	3132

WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC

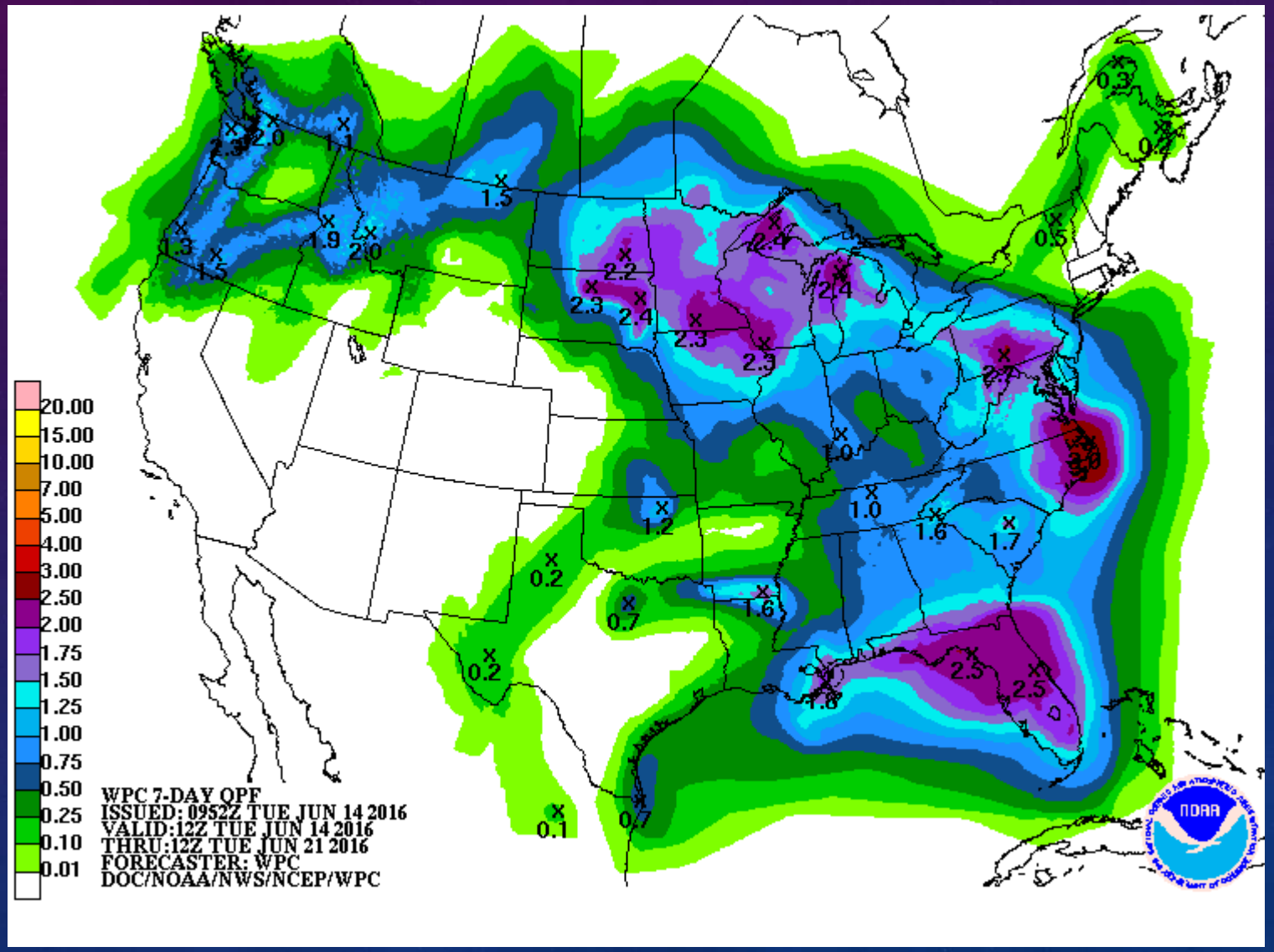




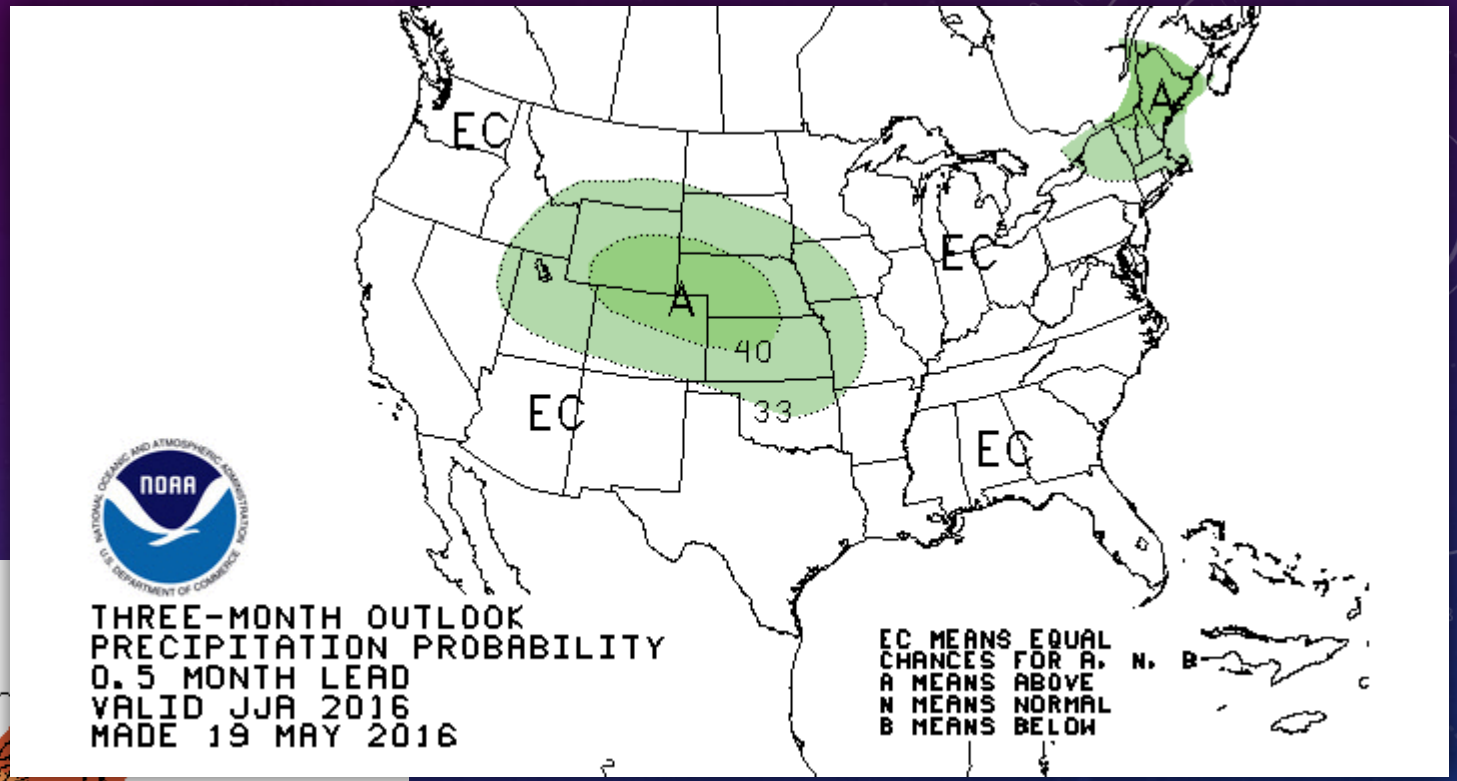
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	492	495	57	501	875
APR-JUL	463	465	56	467	828
JAN-SEP	1145	1148	83	1155	1388

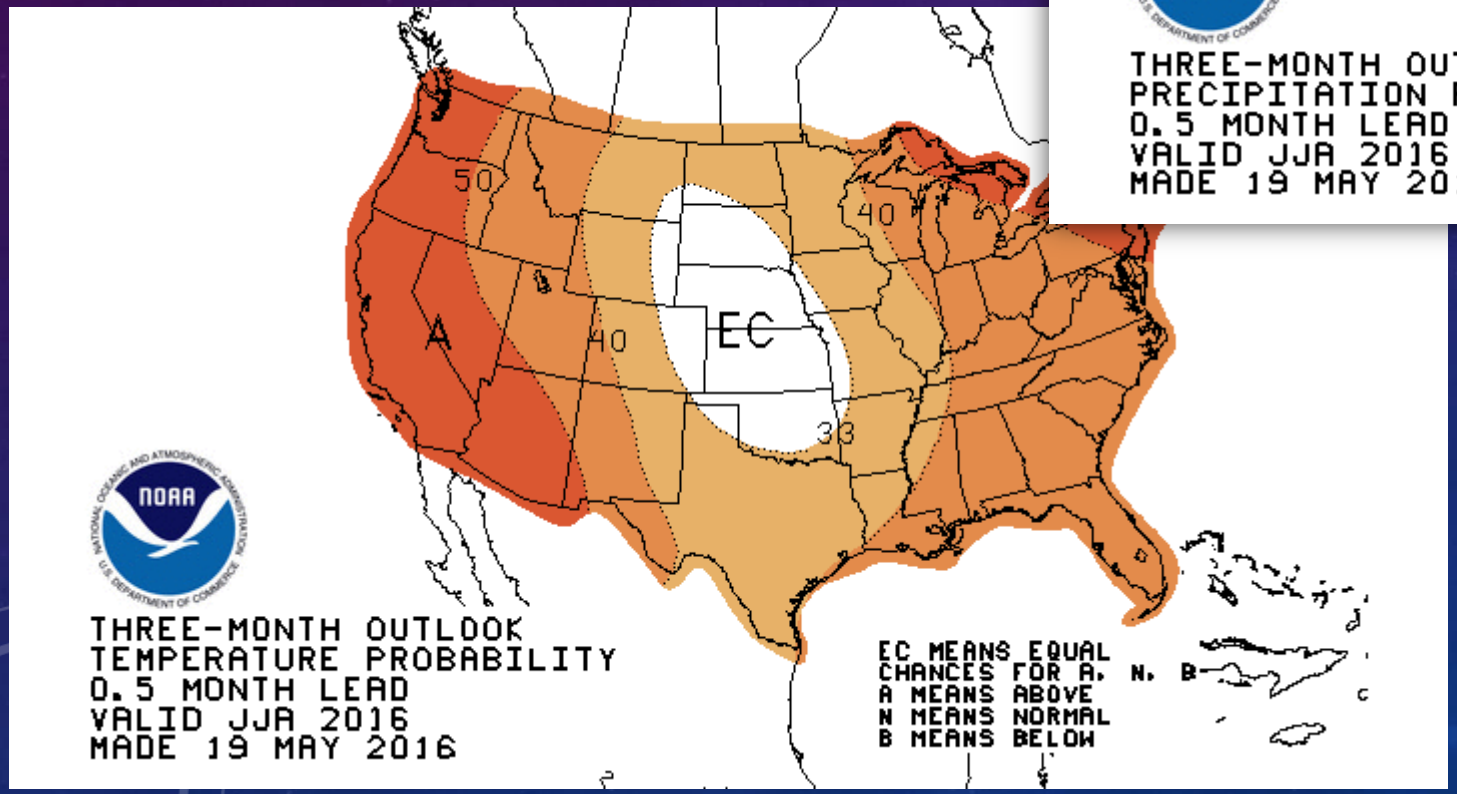
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	226	230	57	238	404
APR-JUL	201	202	54	205	374
JAN-SEP	555	560	79	568	705

7 DAY PRECIPITATION TOTAL
NOAA NWS WEATHER PREDICTION CENTER



3 MONTH OUTLOOK
JUNE – JULY – AUGUST



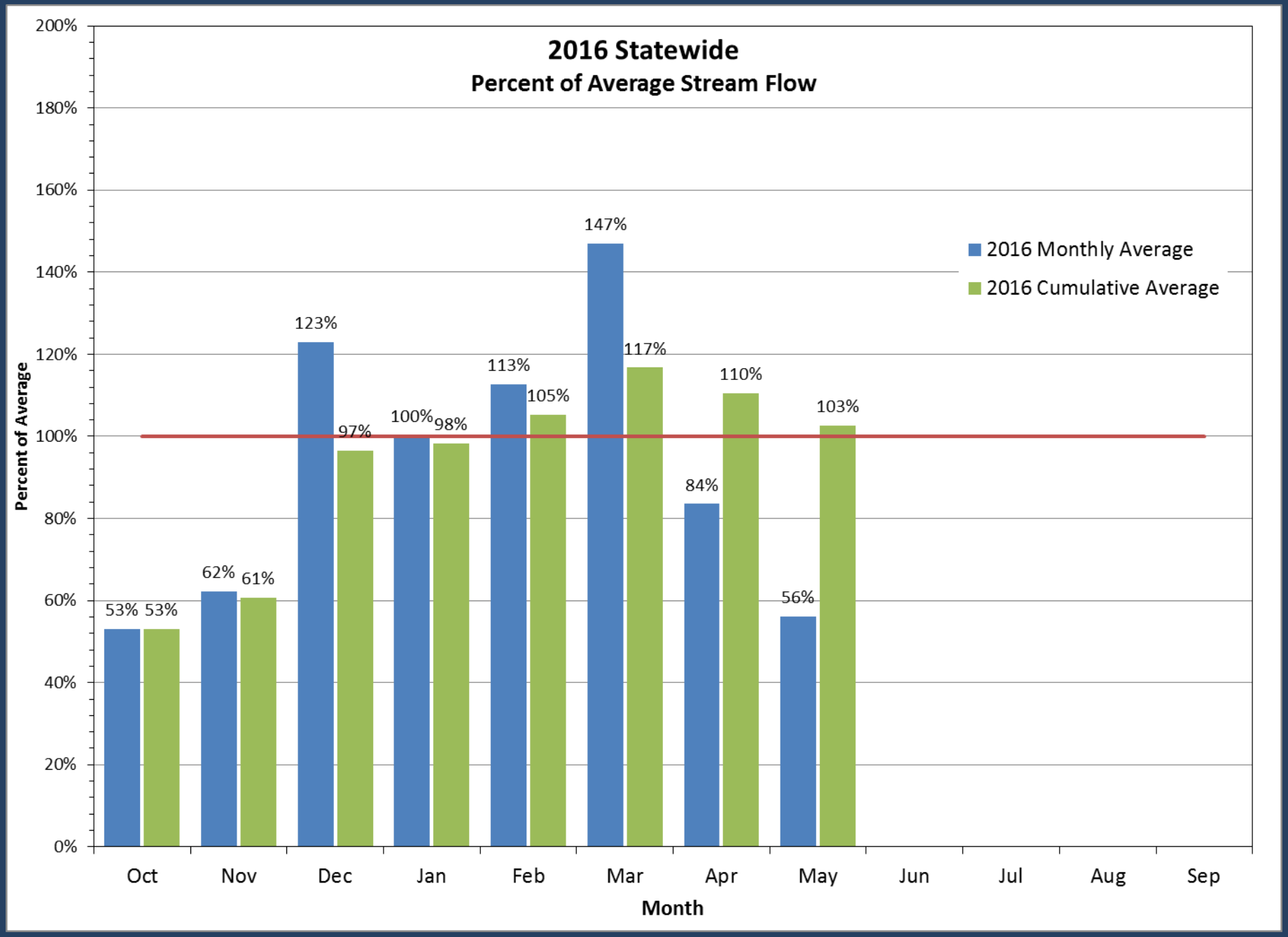


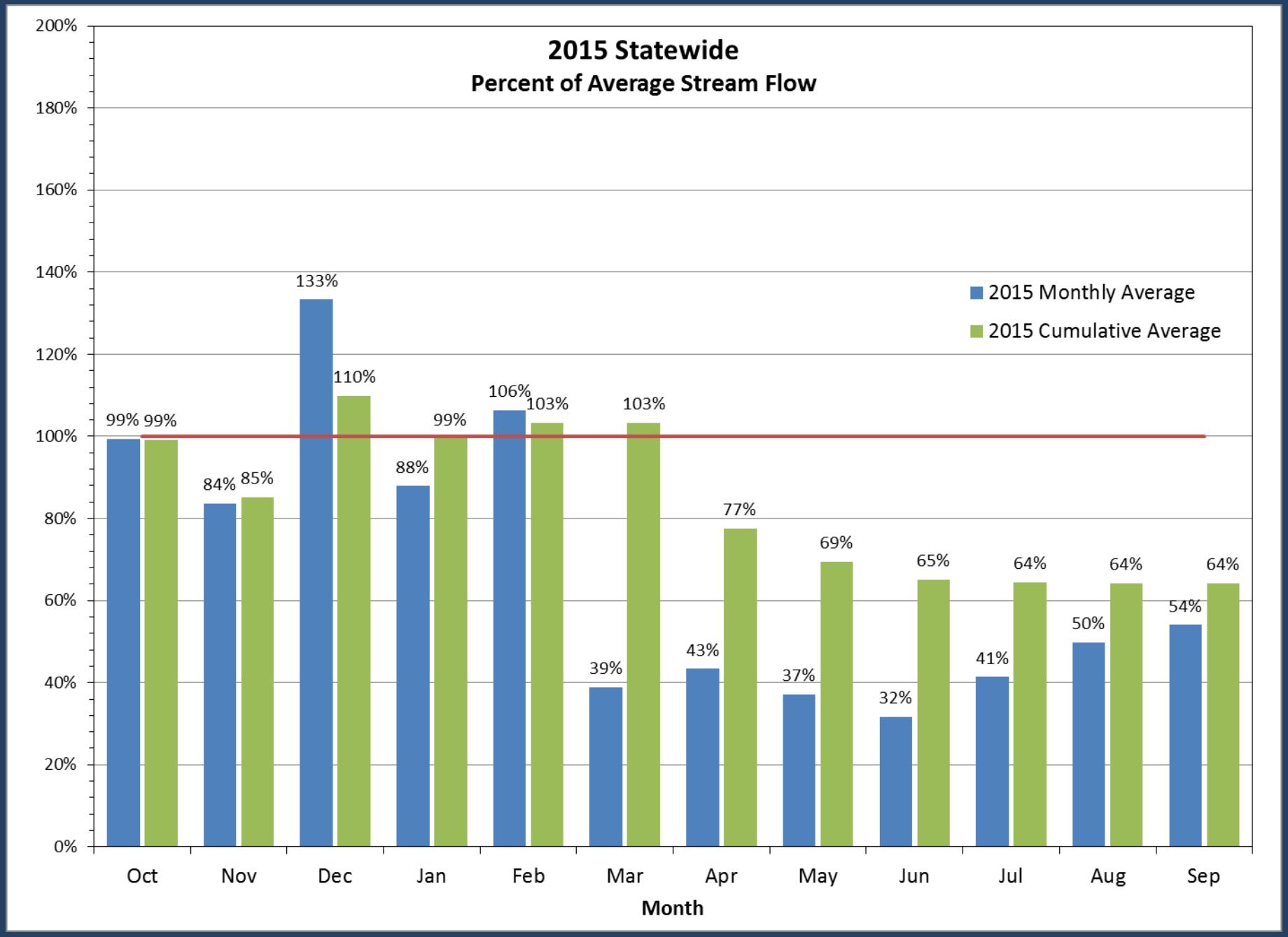
Streamflow Conditions

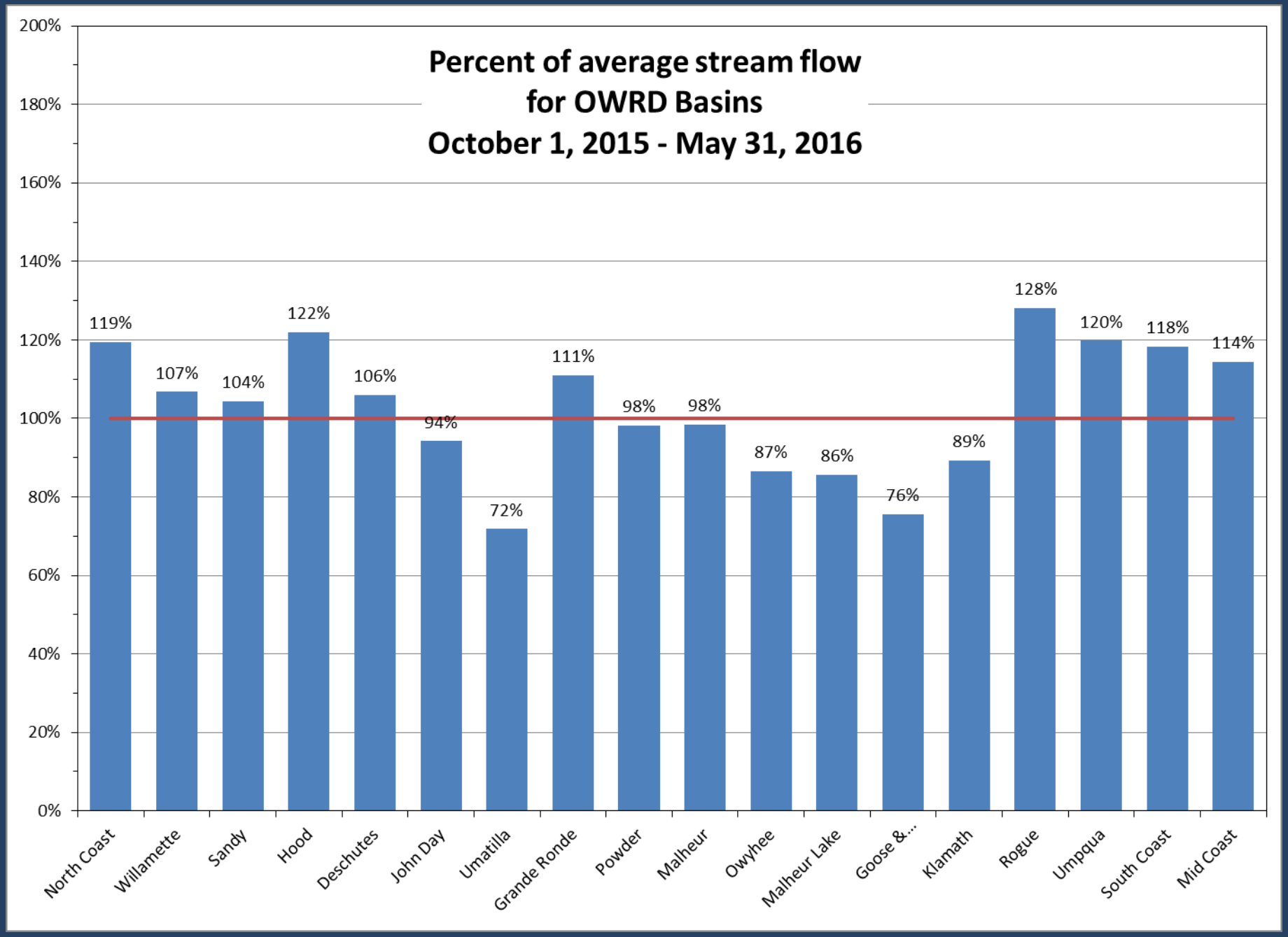
June 14, 2016

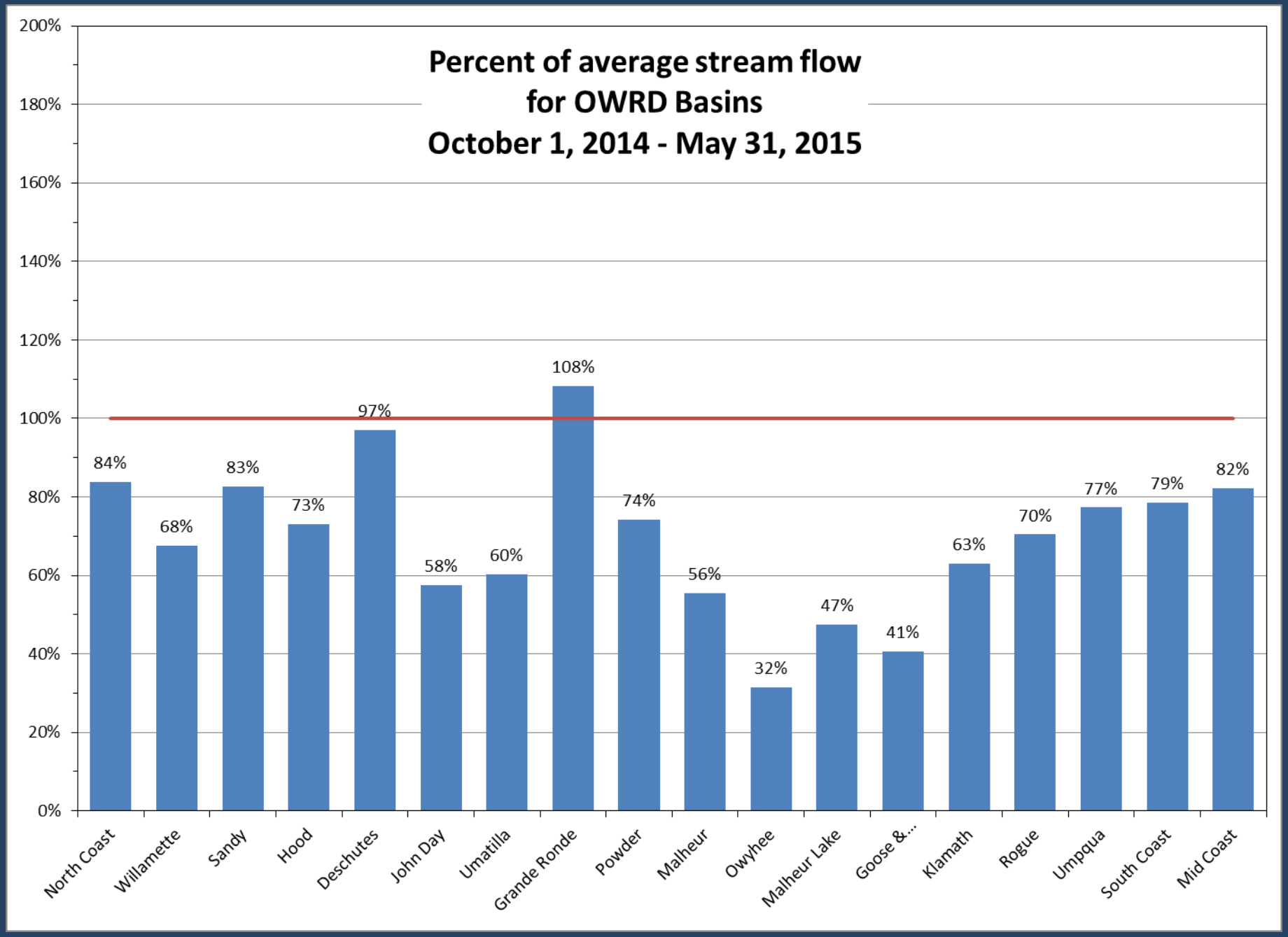
Ken Stahr

Oregon Water Resources Department


2016 Statewide
Percent of Average Stream Flow
2016 Monthly Average
2016 Cumulative 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
53%
53%
62%
61%
123%
97%
100%
98%
113%
105%
147%
117%
84%
110%
56%
103%


2015 Statewide
Percent of Average Stream Flow
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
2015 Monthly Average
2015 Cumulative Average
99%
99%
84%
85%
133%
110%
88%
99%
106%
103%
39%
103%
43%
77%
37%
69%
32%
65%
41%
64%
50%
64%
54%
64%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Month


Percent of average stream flow
for OWRD Basins
October 1, 2015 - May 31, 2016
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
119%
107%
104%
122%
106%
94%
72%
111%
98%
98%
87%
86%
76%
89%
128%
120%
118%
114%
North Coast
Willamette
Sandy
Hood
Deschutes
John Day
Umatilla
Grande Ronde
Powder
Malheur
Owyhee
Malheur Lake
Goose &...
Klamath
Rogue
Umpqua
South Coast
Mid Coast


Percent of average stream flow
for OWRD Basins
October 1, 2014 - May 31, 2015
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
84%
68%
83%
73%
97%
58%
60%
108%
74%
56%
32%
47%
41%
63%
70%
77%
79%
82%
North Coast
Willamette
Sandy
Hood
Deschutes
John Day
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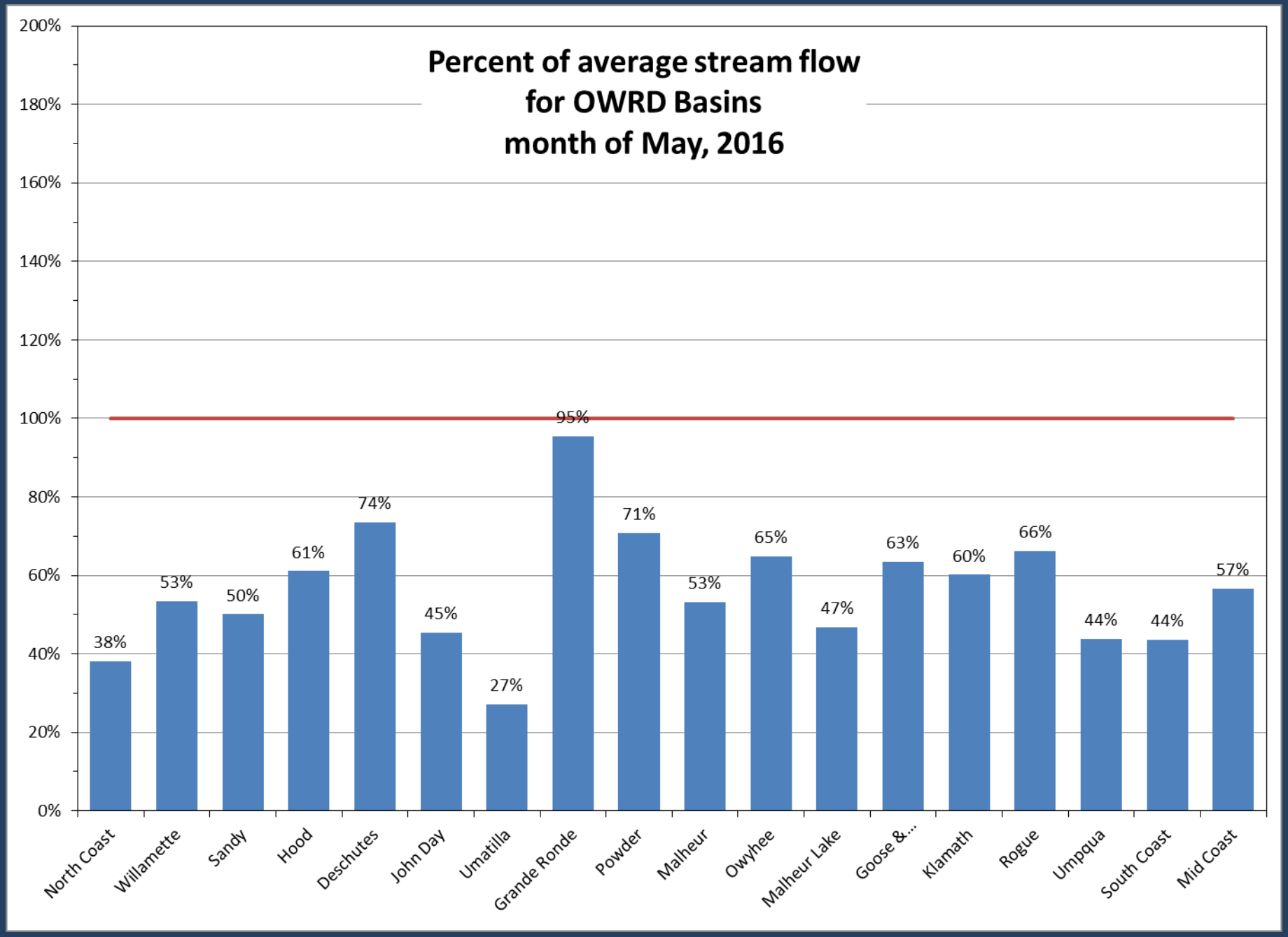
Umpqua
South Coast
Mid Coast


Percent of average stream flow
for OWRD Basins
month of May, 2016
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
38%
53%
50%
61%
74%
45%
27%
95%
71%
53%
65%
47%
63%
60%
66%
44%
44%
57%
North Coast
Willamette
Sandy
Hood
Deschutes
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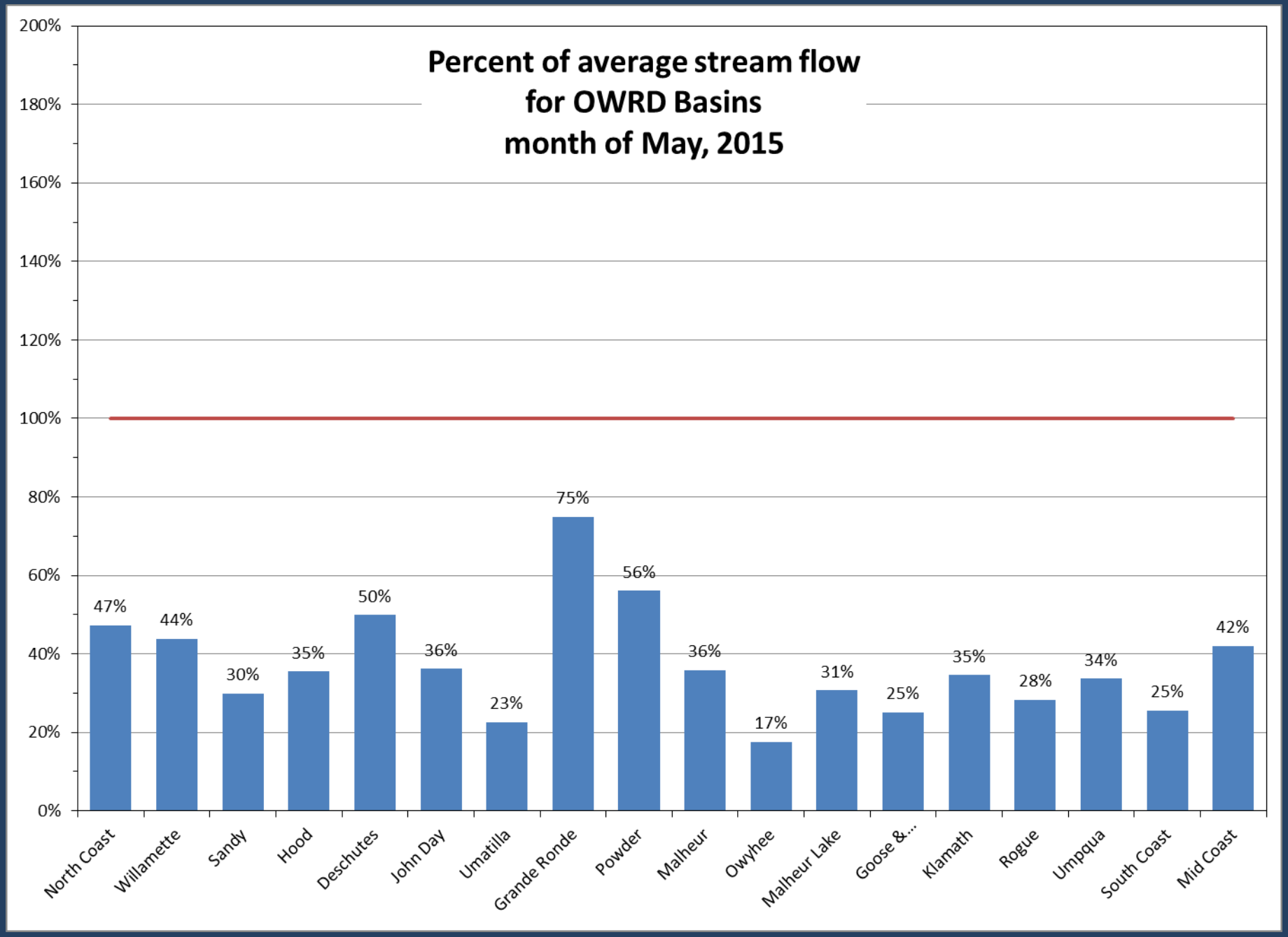
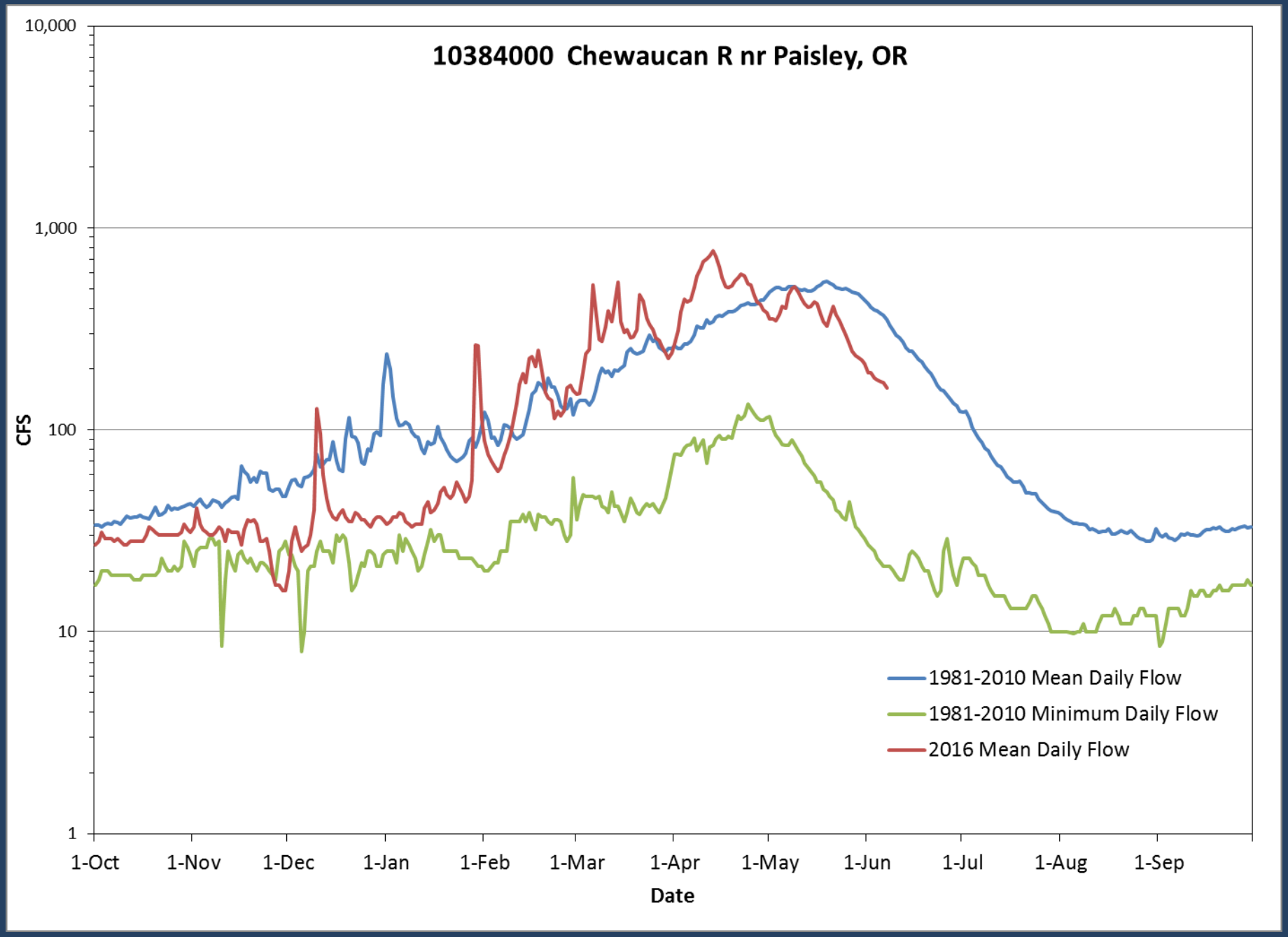
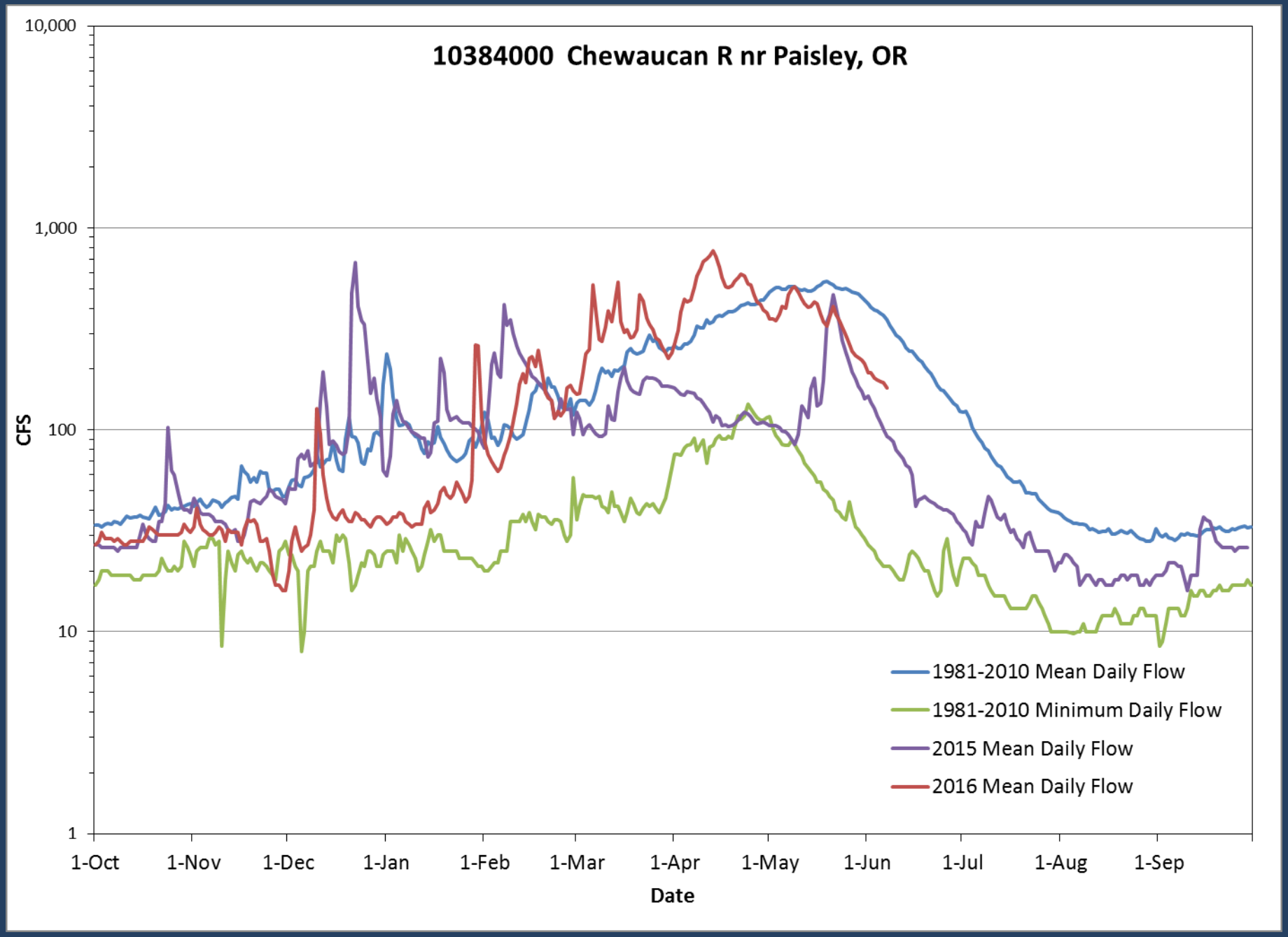
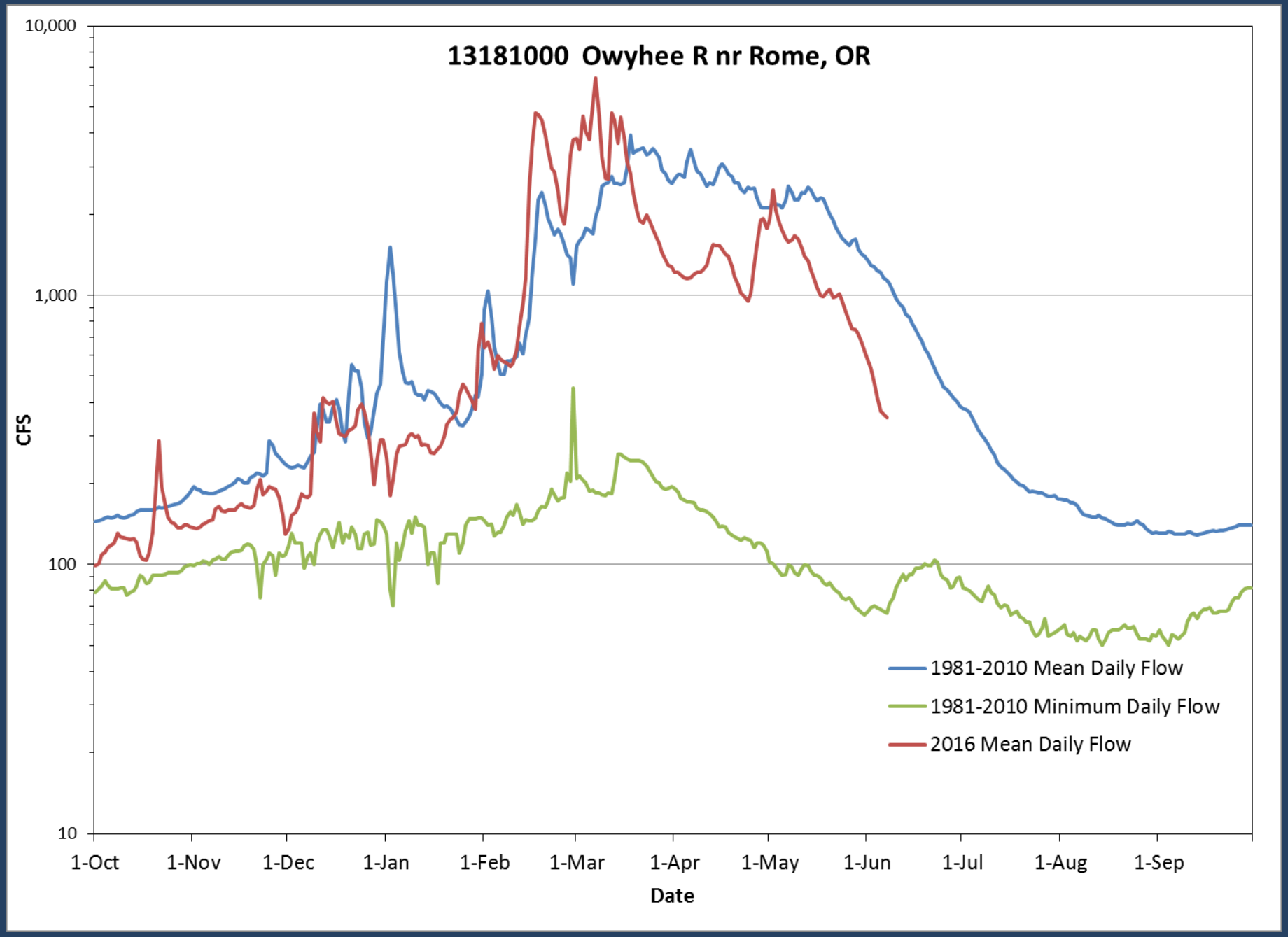
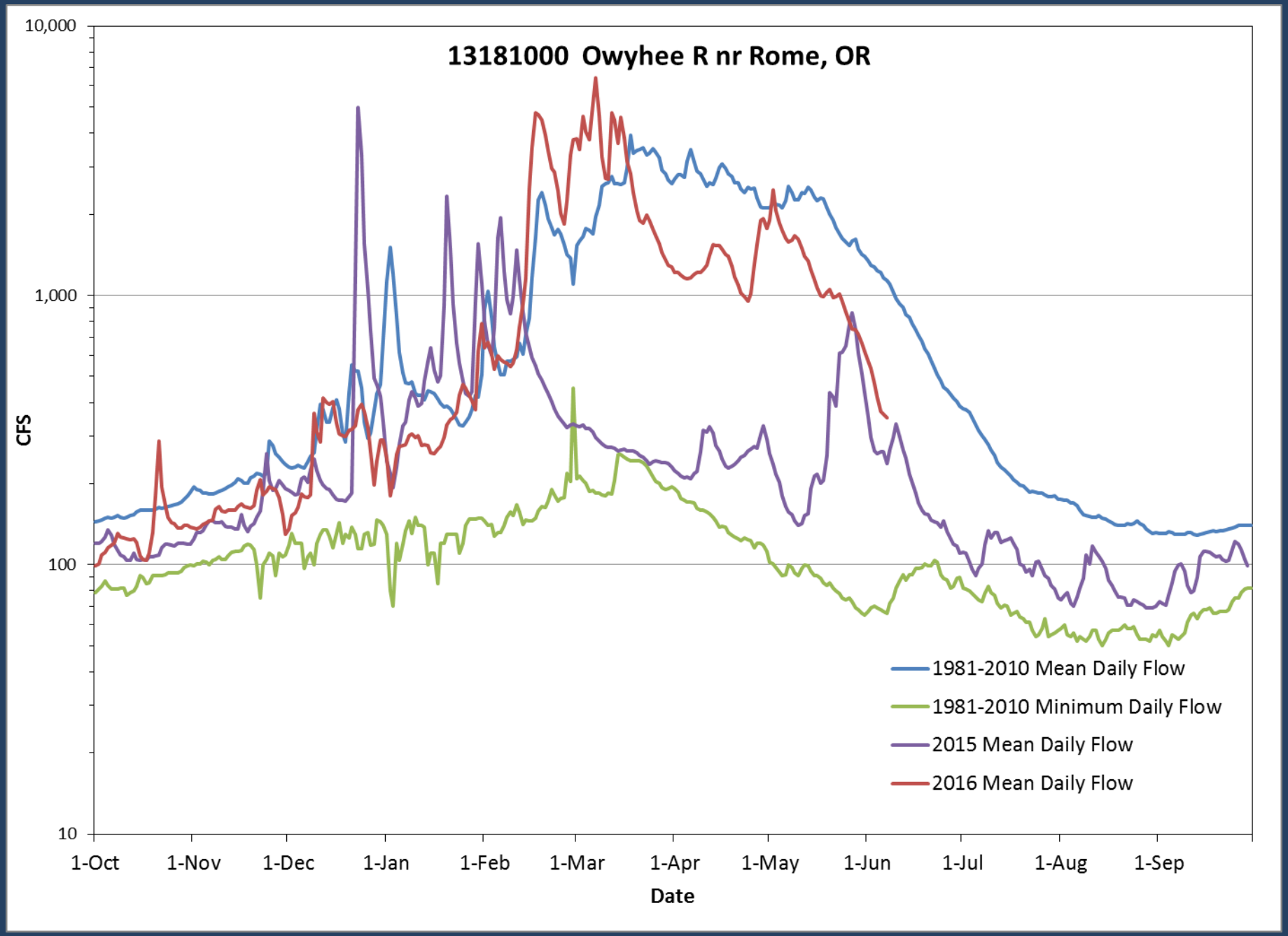
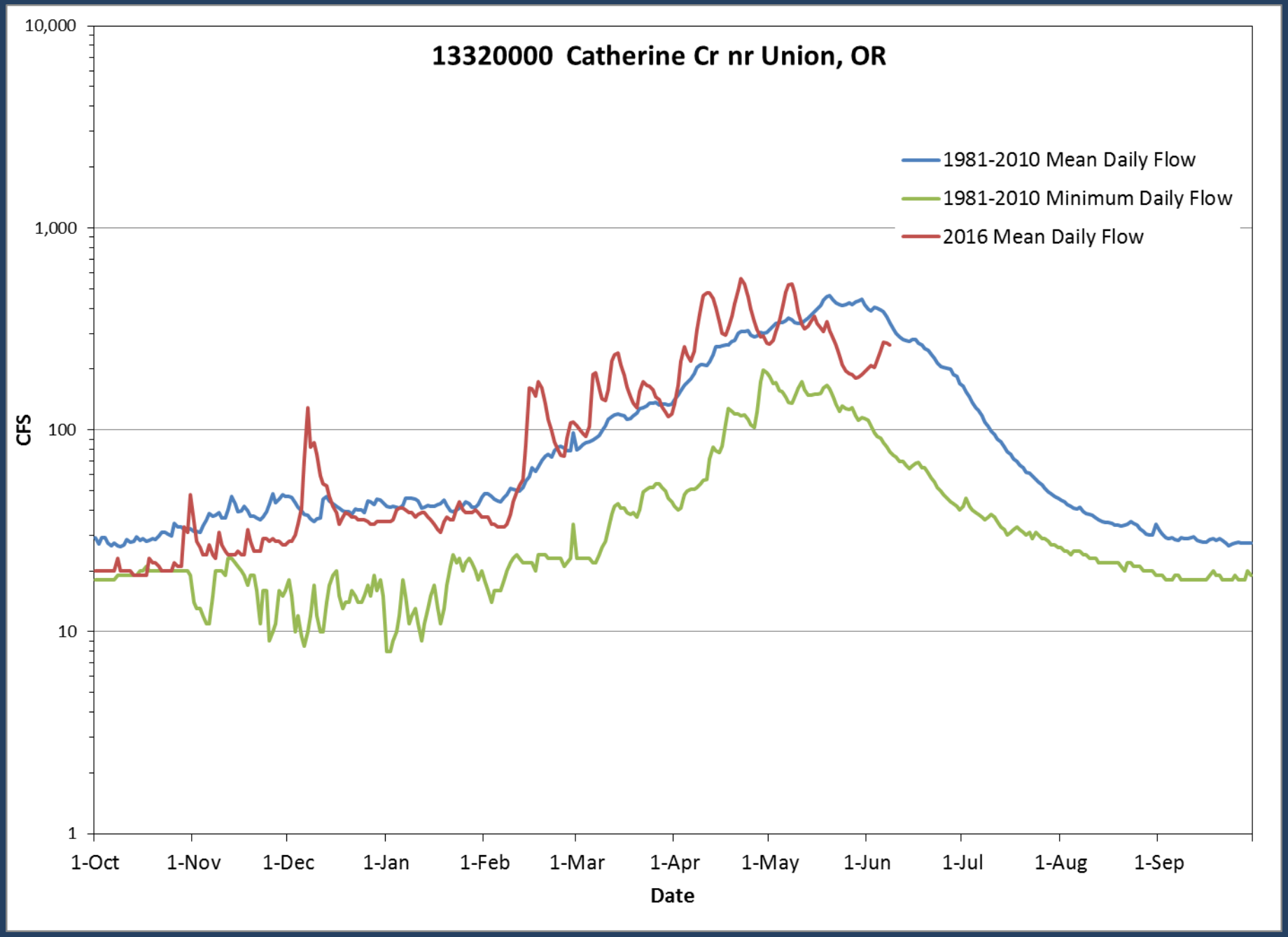

Percent of average stream flow
for OWRD Basins
month of May, 2015
200%
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
47%
44%
30%
35%
50%
36%
23%
75%
56%
36%
17%
31%
25%
35%
28%
34%
25%
42%
North Coast
Willamette
Sandy
Hood
Deschutes
John Day
Umatilla
Grande Ronde
Powder
Malheur
Owyhee
Malheur Lake
Goose &...
Klamath
Rogue
Umpqua
South Coast
Mid Coast

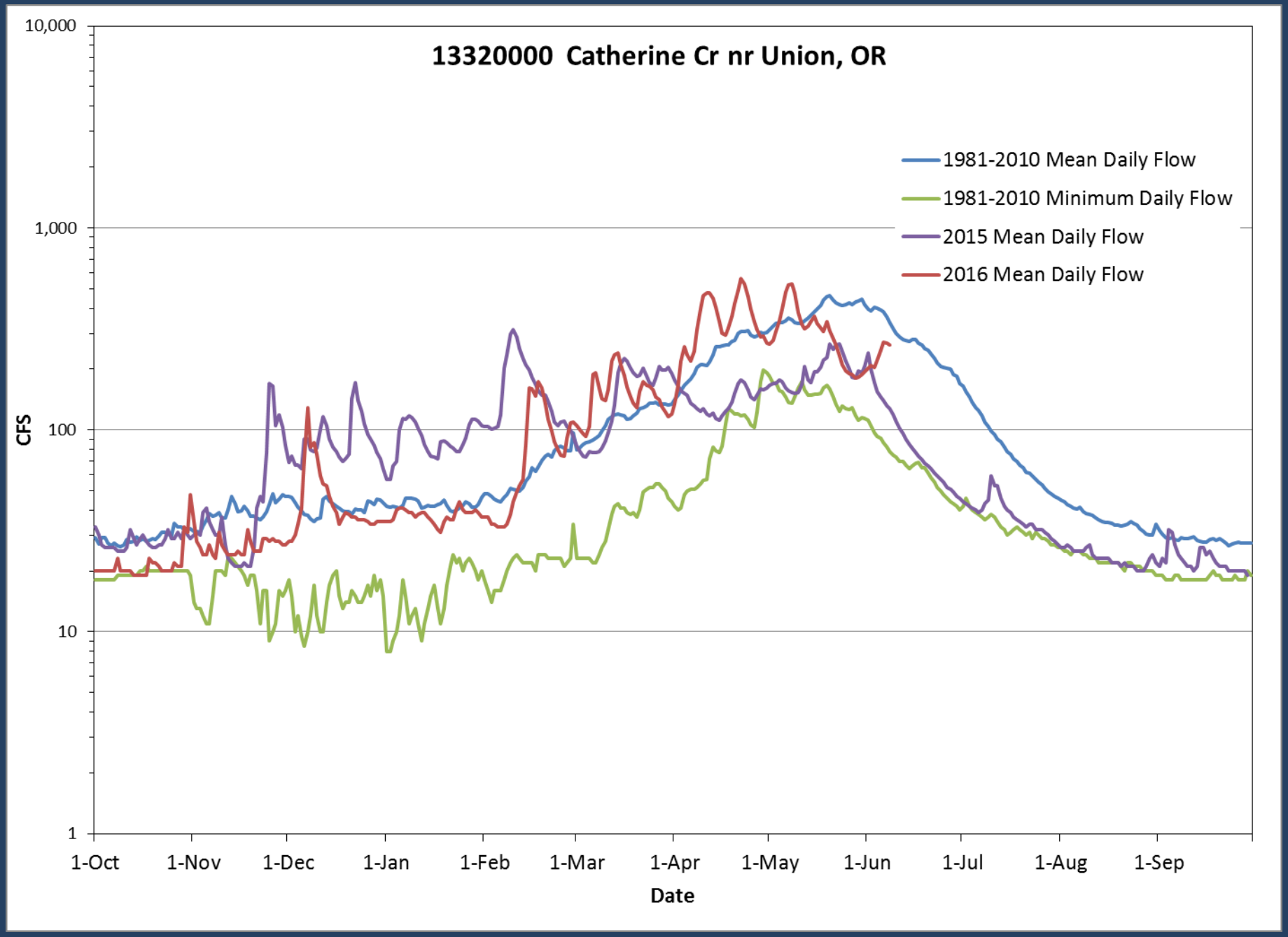

10384000 Chewaucan R nr Paisley, OR
10,000
1,000
100
10
1
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow

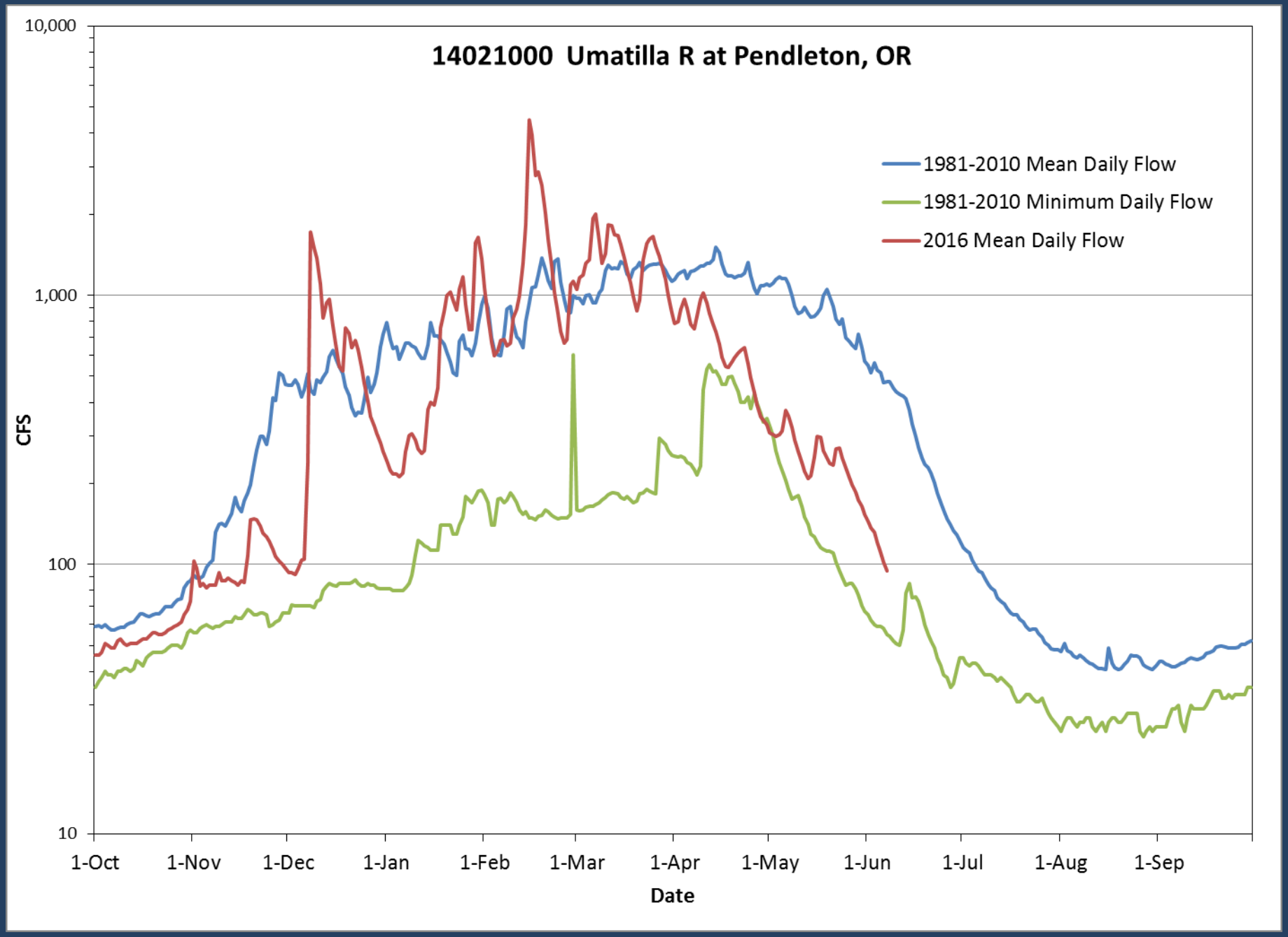

10384000 Chewaucan R nr Paisley, OR
10,000
1,000
100
10
1
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

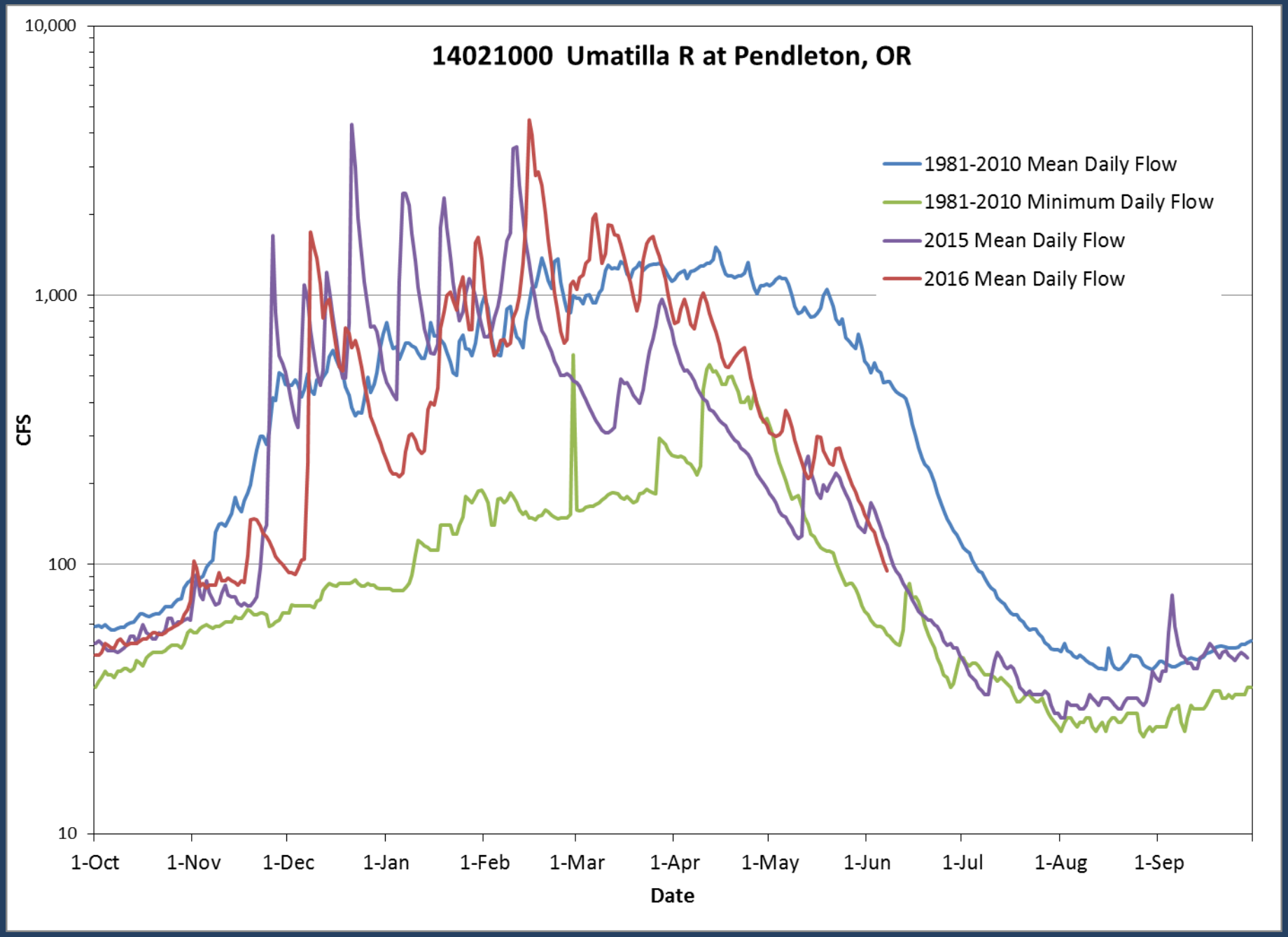

13181000 Owyhee R nr Rome, OR
10,000
1,000
100
10
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow

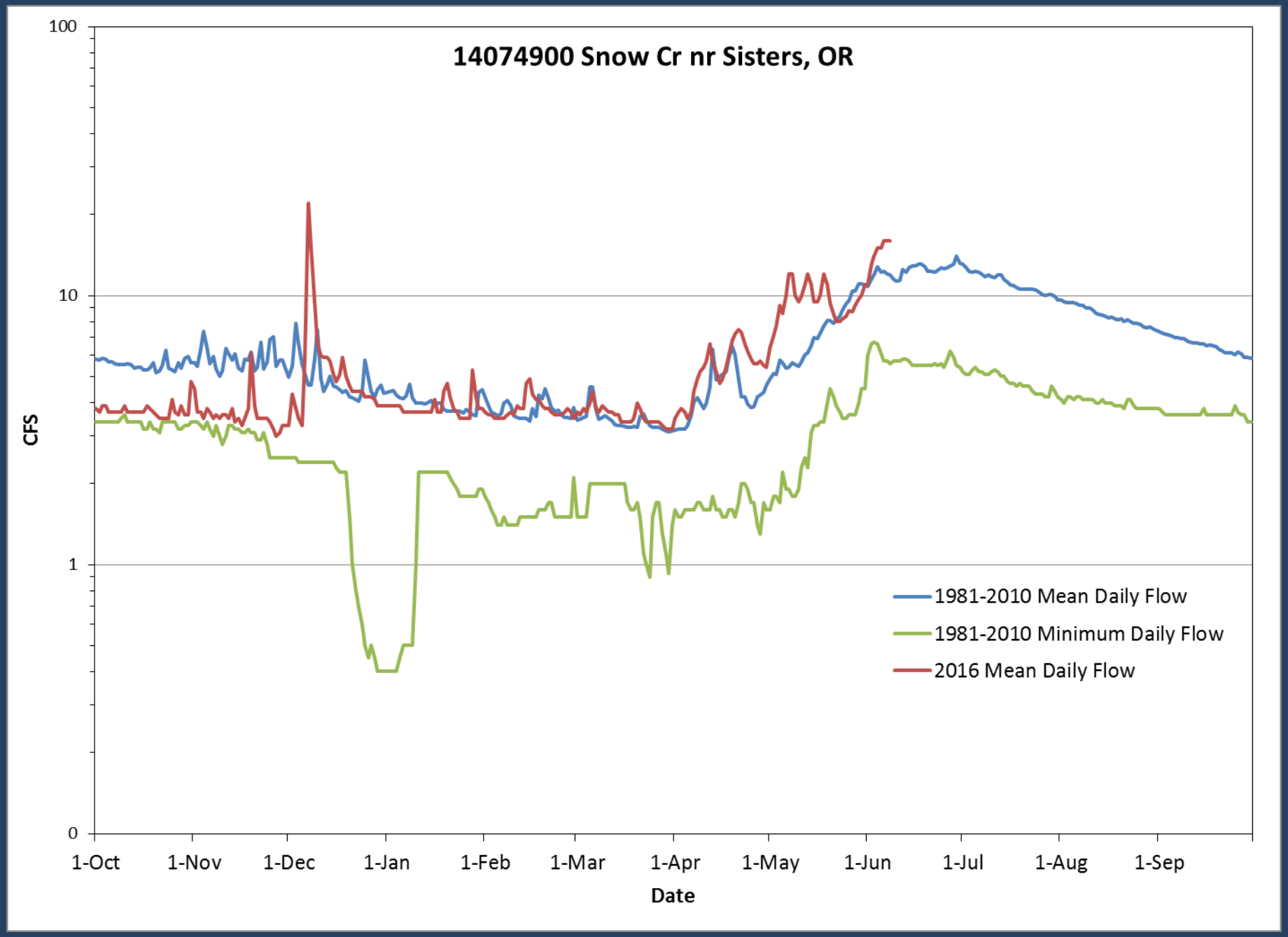

13181000 Owyhee R nr Rome, OR
10,000
1,000
100
10
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

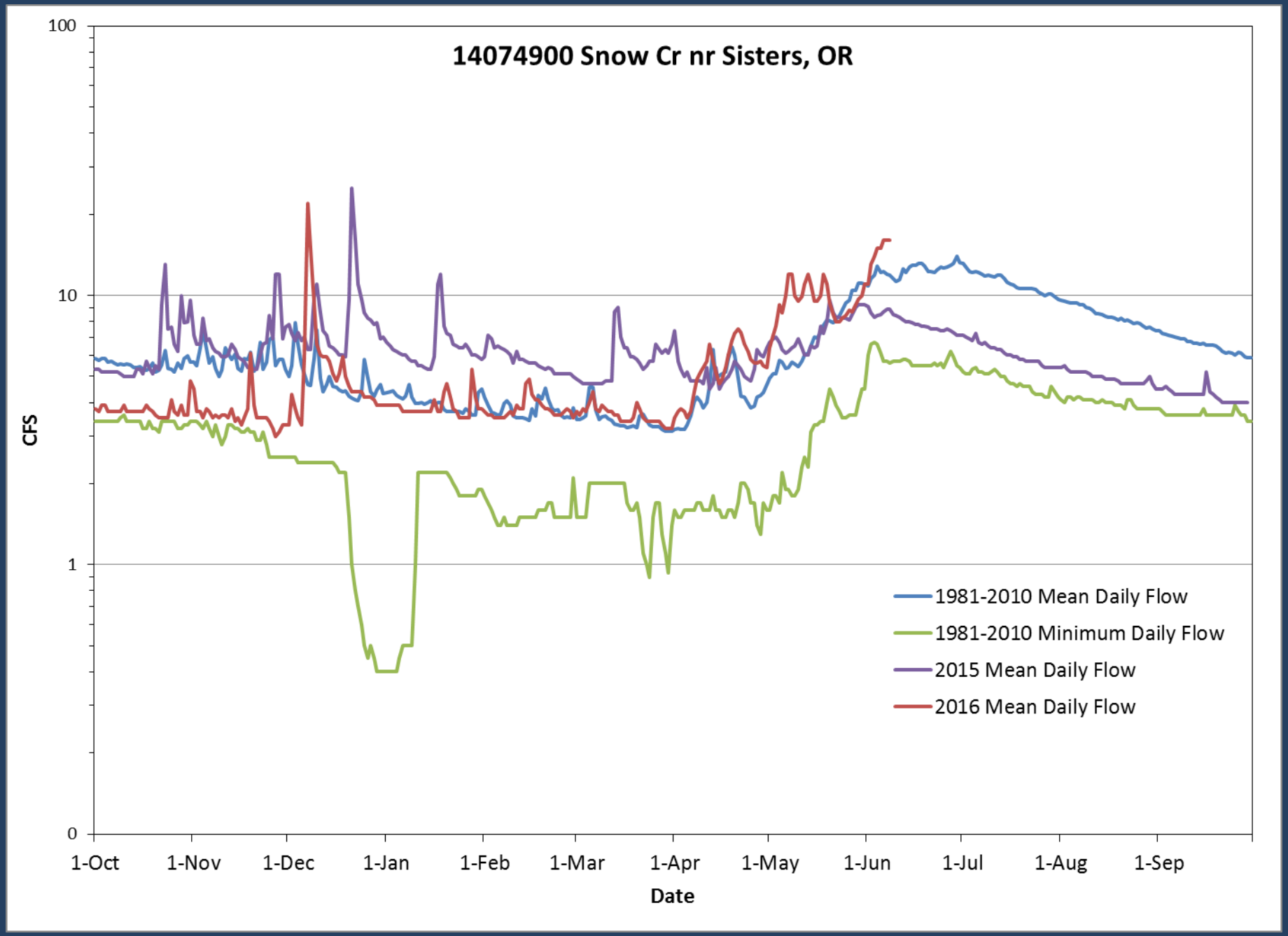

13320000 Catherine Cr nr Union, OR
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow
10,000
1,000
100
10
1
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

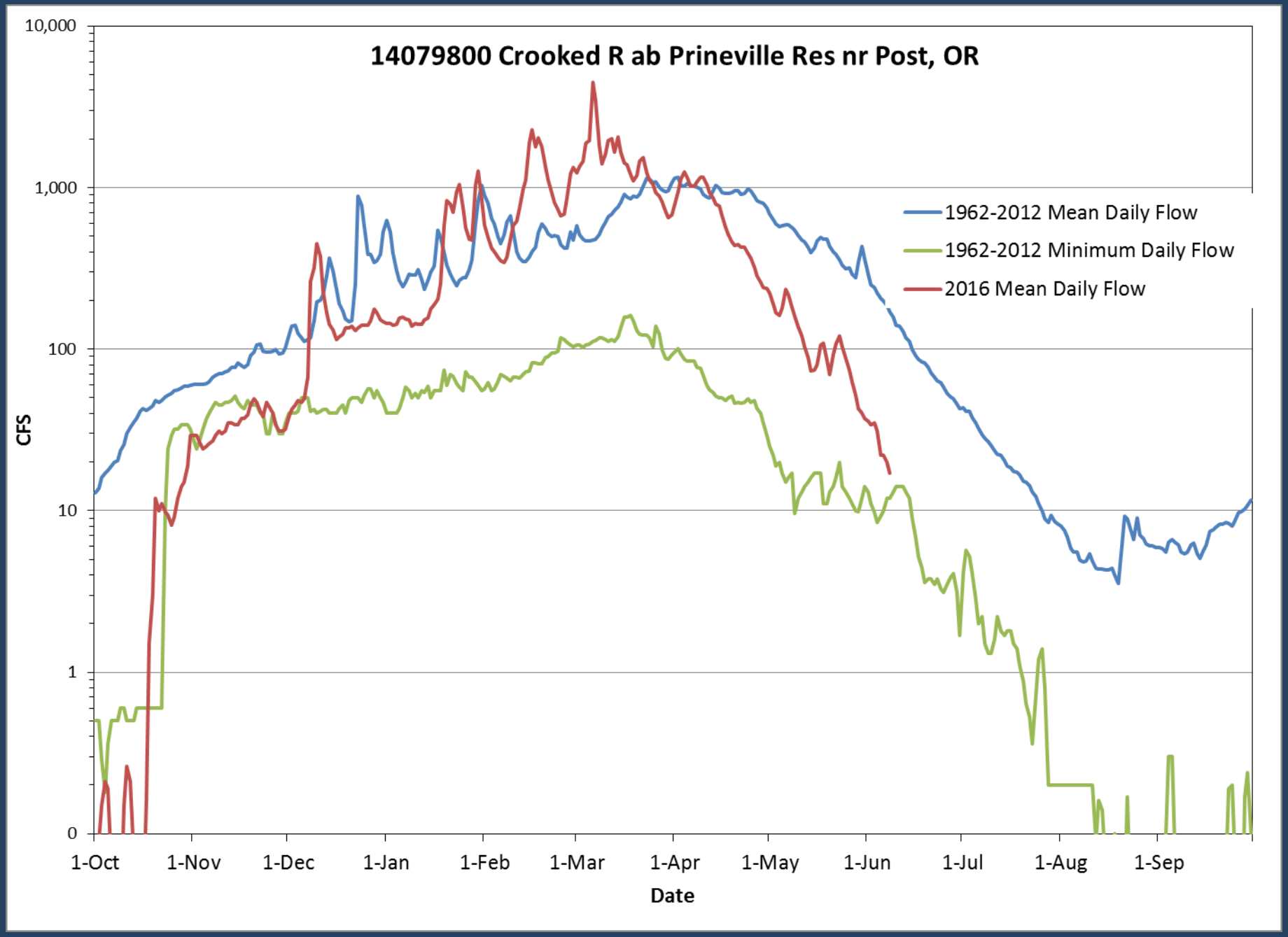

13320000 Catherine Cr nr Union, OR
10,000
1,000
100
10
1
CFS
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

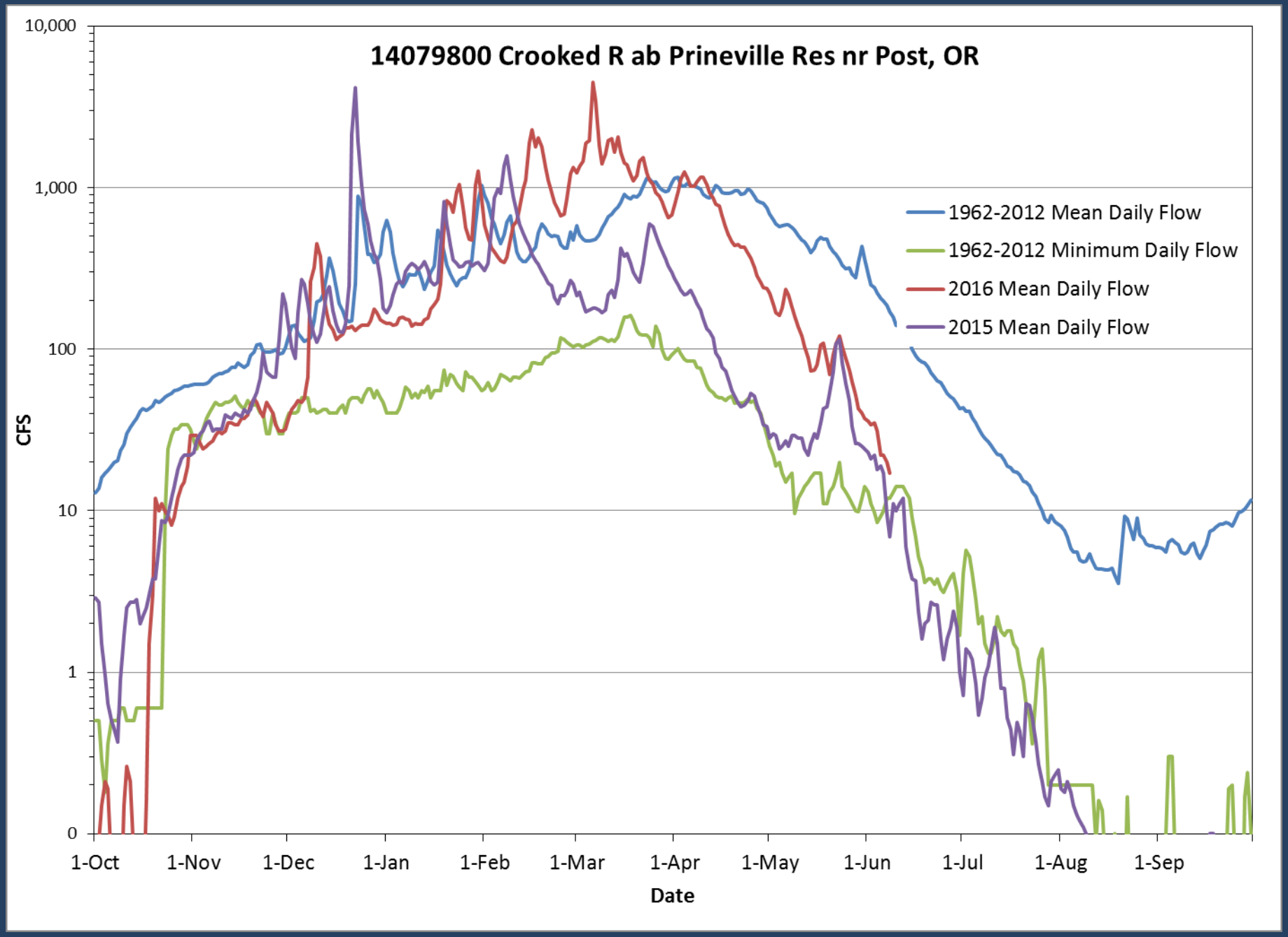

14021000 Umatilla R at Pendleton, OR
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow
10,000
1,000
100
10
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

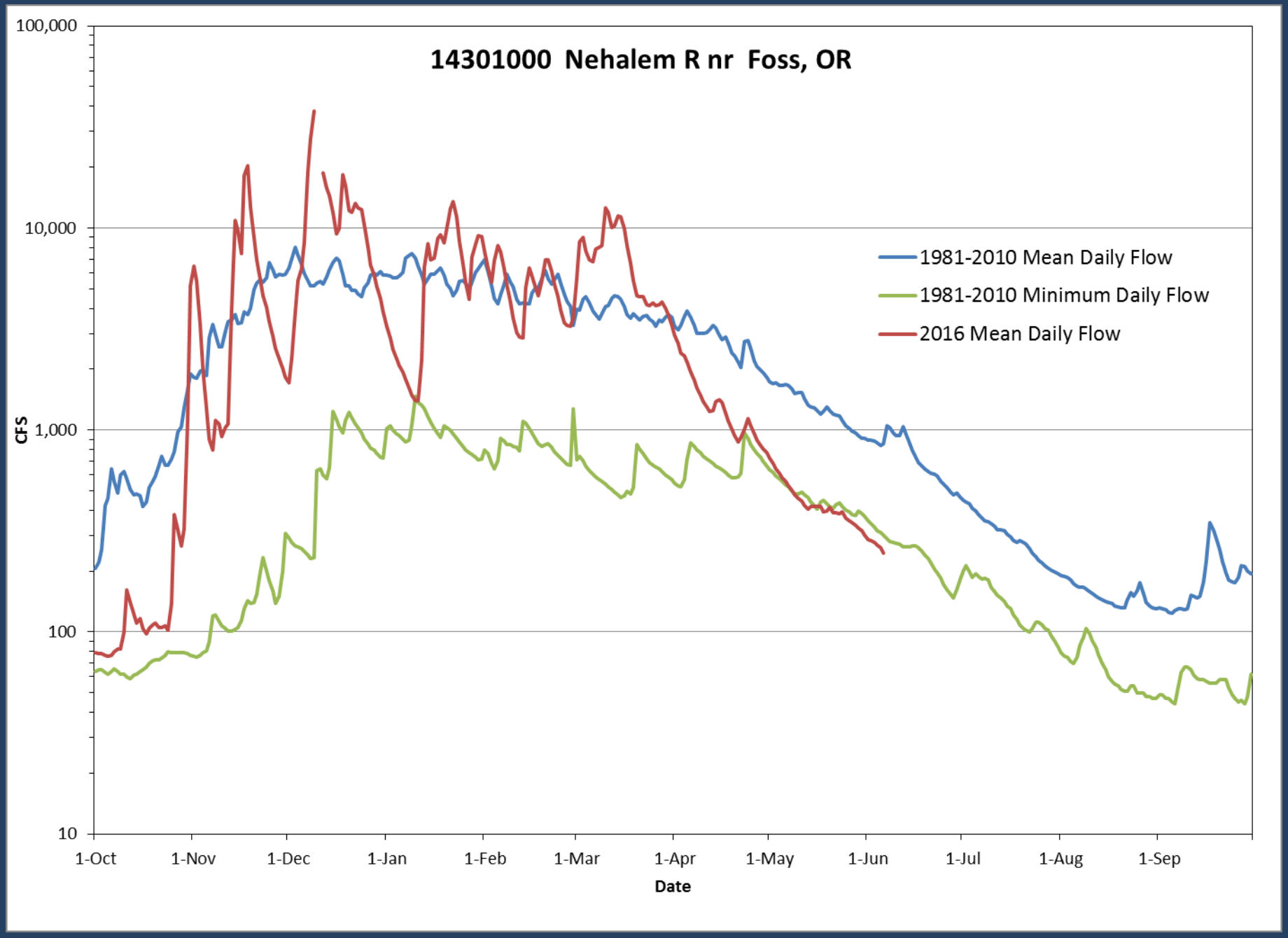

14021000 Umatilla R at Pendleton, OR
10,000
1,000
100
10
CFS
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

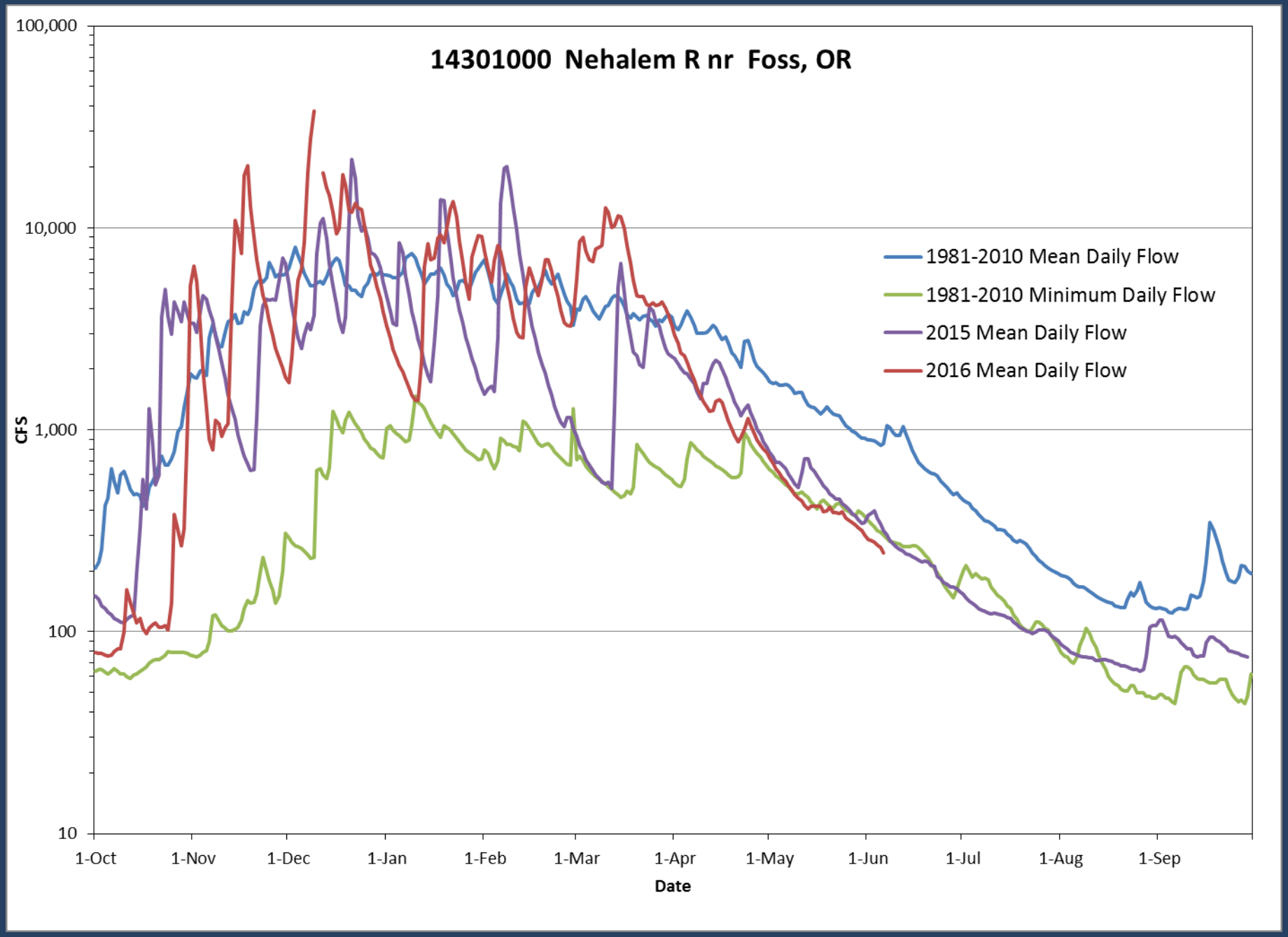

14074900 Snow Cr nr Sisters, OR
100
10
1
0
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow

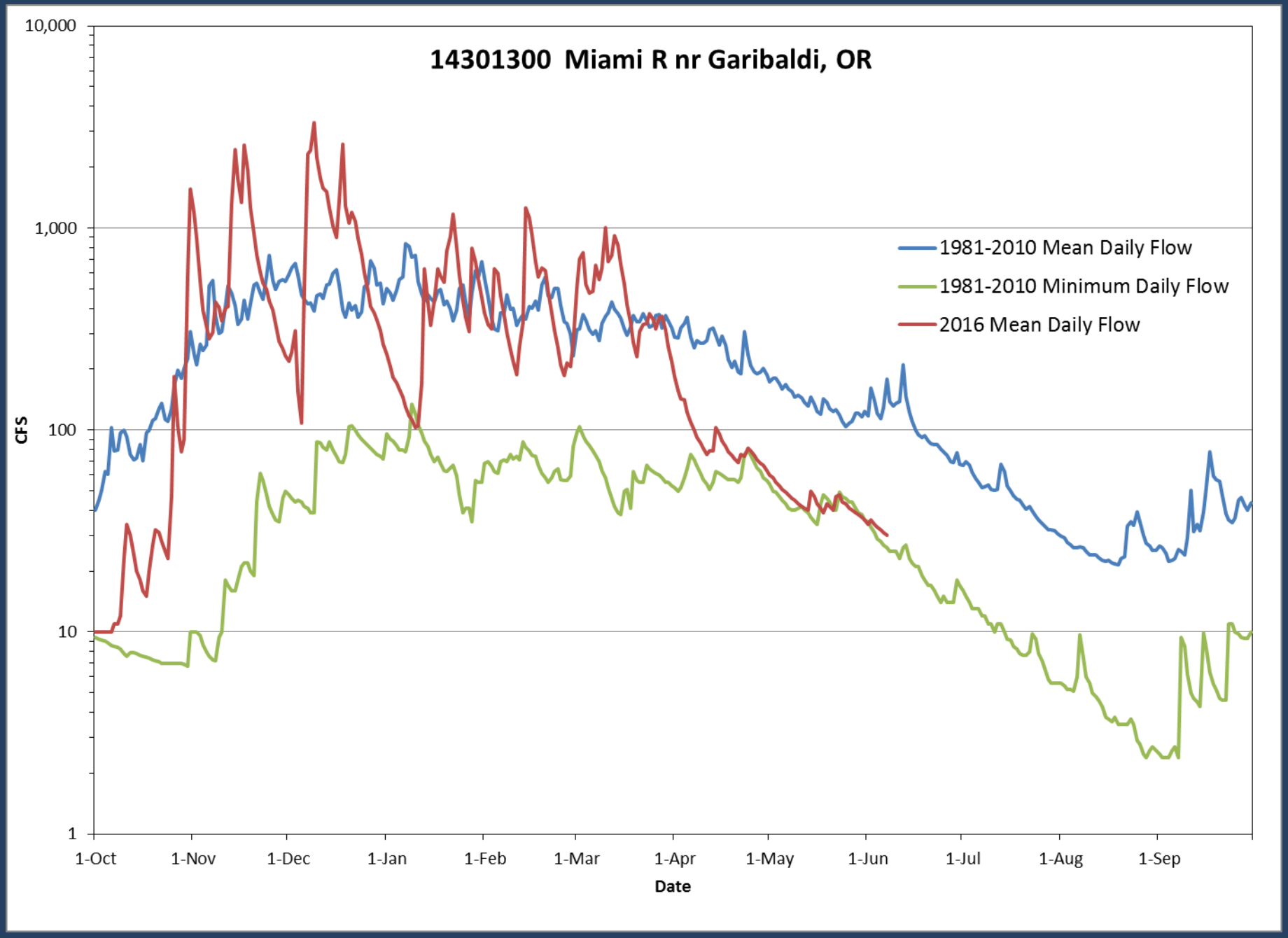

14074900 Snow Cr nr Sisters, OR
100
10
1
0
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

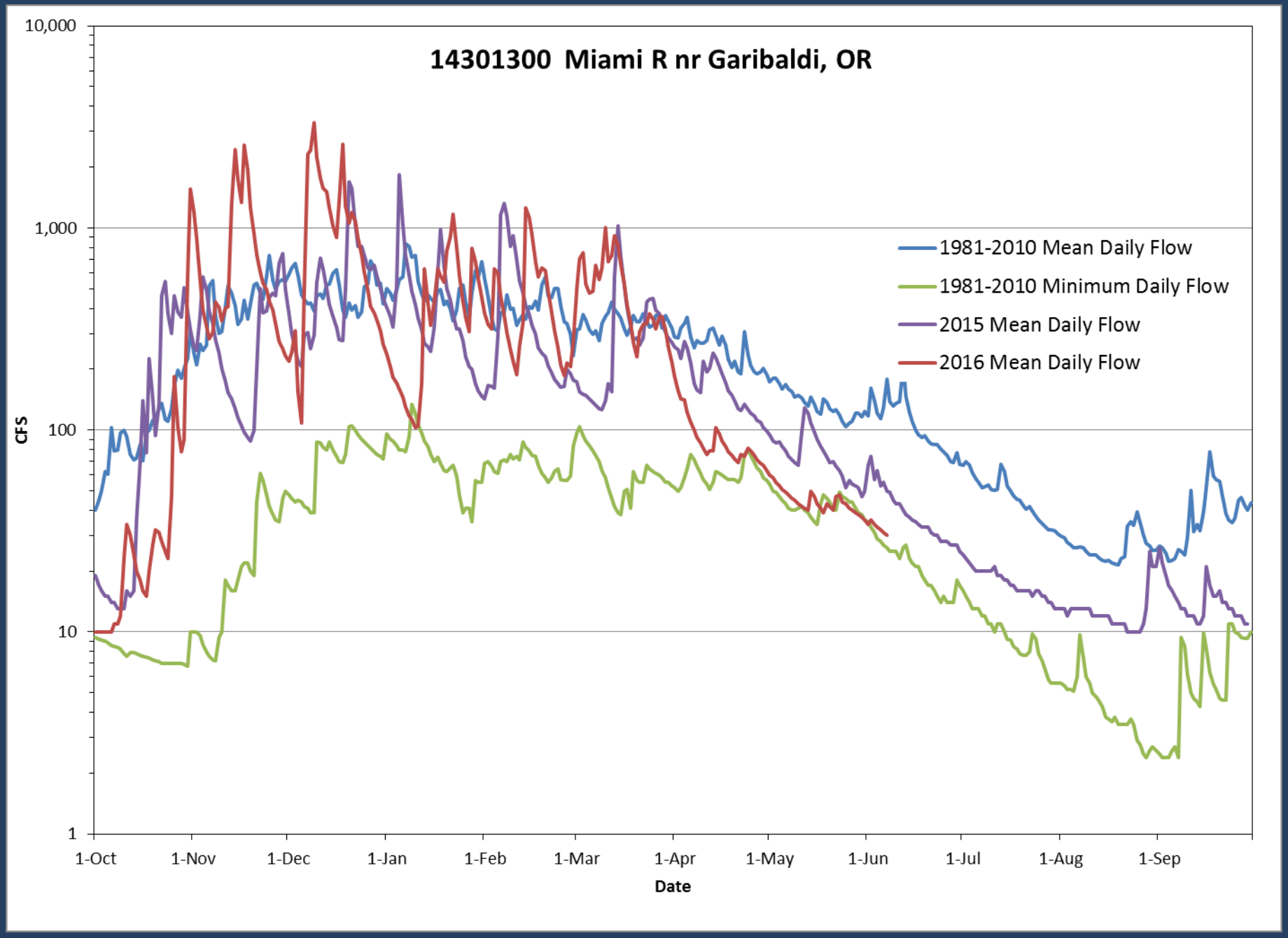

14079800 Crooked R ab Prineville Res nr Post, OR
10,000
1,000
100
10
1
0
CFS
1962-2012 Mean Daily Flow
1962-2012 Minimum Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


14079800 Crooked R ab Prineville Res nr Post, OR
10,000
1,000
100
10
1
0
CFS
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
1962-2012 Mean Daily Flow
1962-2012 Minimum Daily Flow
2016 Mean Daily Flow
2015 Mean Daily Flow

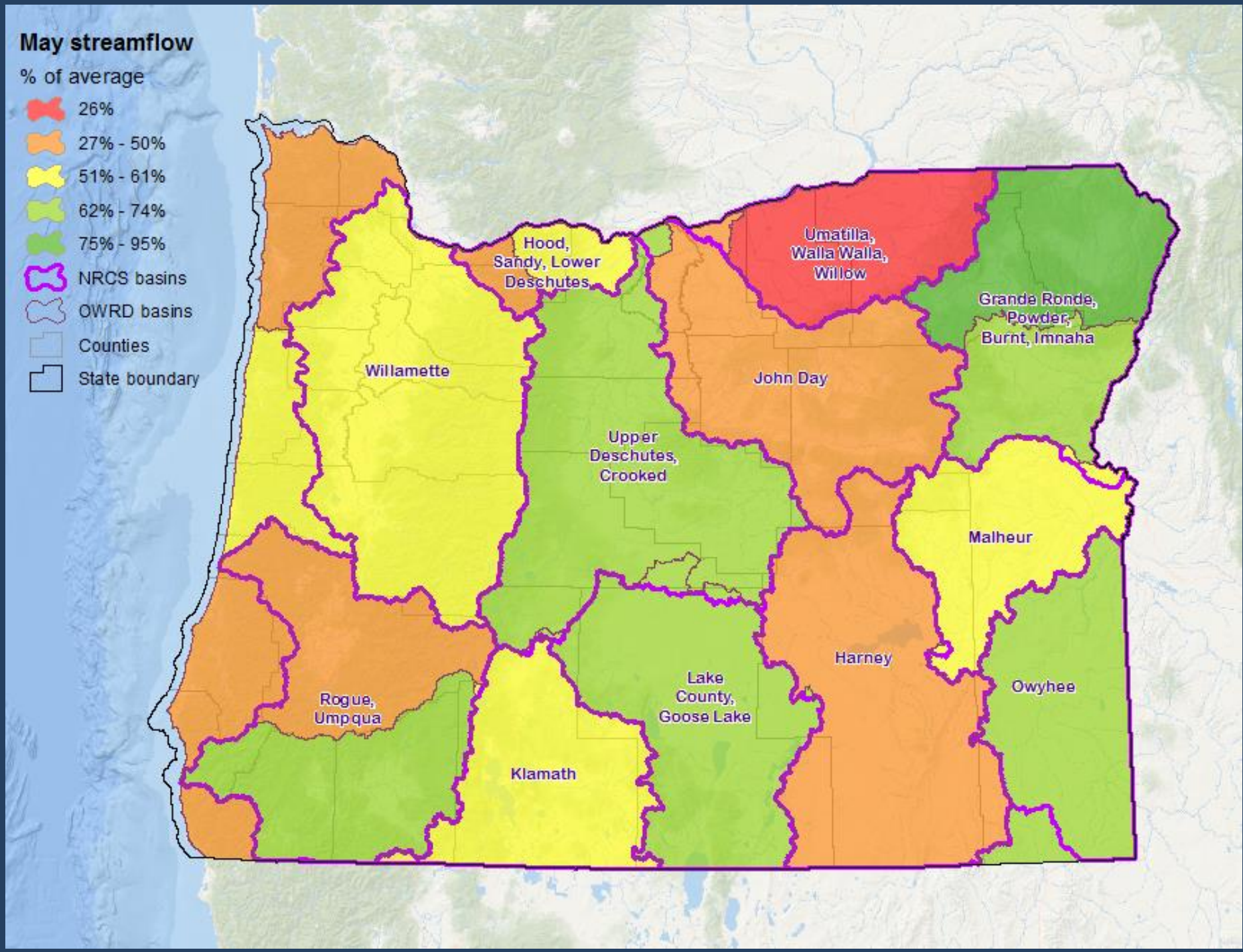

14301000 Nehalem R nr Foss, OR
100,000
10,000
1,000
100
10
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow


14301000 Nehalem R nr Foss, OR
100,000
10,000
1,000
100
10
CFS
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
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow


14301300 Miami R nr Garibaldi, OR
10,000
1,000
100
10
1
CFS
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
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2016 Mean Daily Flow


14301300 Miami R nr Garibaldi, OR
10,000
1,000
100
10
1
CFS
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
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

Basin	Water Year % of average thru May	% of average for May	% of average for 6/10/2016	# of data points
North Coast	119%	38%	33%	4
Willamette	107%	53%	37%	10
Sandy	104%	50%	36%	3
Hood	122%	61%	52%	3
Deschutes	106%	74%	59%	9
John Day	94%	45%	27%	9
Umatilla	71%	27%	20%	7
Grande Ronde	111%	95%	86%	5
Powder	98%	71%	57%	4
Malheur	98%	53%	27%	2
Owyhee	87%	65%	33%	1
Malheur Lake	86%	47%	29%	3
Goose & Summer Lakes	76%	63%	38%	5
Klamath	89%	60%	49%	5
Rogue	128%	66%	45%	8
Umpqua	120%	44%	28%	4
South Coast	118%	44%	25%	2
Mid Coast	114%	57%	37%	4
West Side	**116%**	**50%**	**34%**	**35**
East Side	**94%**	**60%**	**43%**	**53**
State	**103%**	**56%**	**40%**	**88**

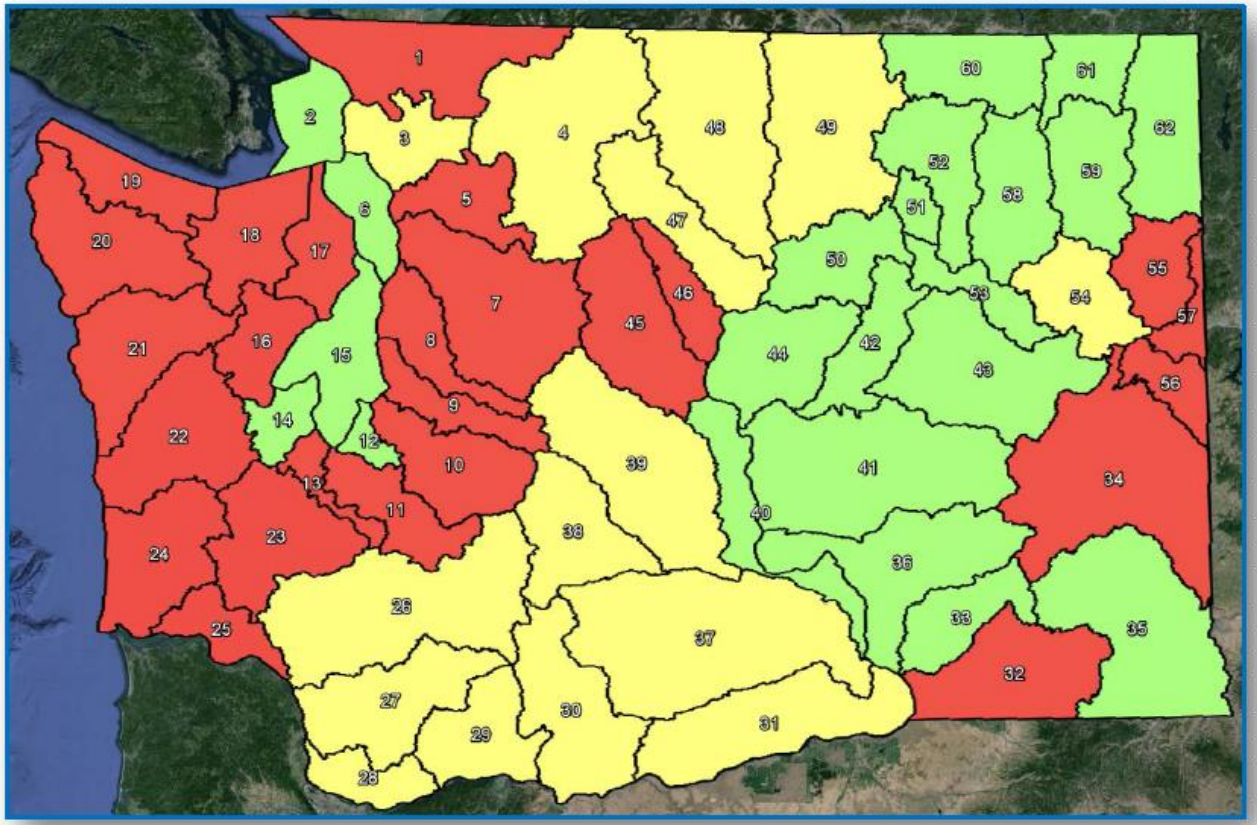

May streamflow
% of average
26%
27% - 50%
51% - 61%
62% - 74%
75% - 95%
NRCS basins
OWRD basins
Counties
State boundary
Hood, Sandy, Lower Deschutes
Umatilla, Walla Walla, Willow
Grande Ronde, Powder, Burnt, Imnaha
Willamette
John Day
Upper Deschutes, Crooked
Malheur
Harney
Owyhee
Lake County, Goose Lake
Rogue, Umpqua
Klamath

State of Washington WSAC

Recommendations from June 2, 2016 WSAC where watersheds are likely to be below 75 percent of normal supply by WRIA

(Next step: 06/09/2016 EWEC will evaluate hardship in watersheds below 75% of normal water supply and may recommend drought declaration for some basins.)

WRIA	WRIA Name	WSAC 06/02/16
1	Nooksack	Below
2	San Juan	Above
3	Lower Skagit-Samish	Watch
4	Upper Skagit	Watch
5	Stillaguamish	Below
6	Island	Above
7	Snohomish	Below
8	Cedar-Sammamish	Below
9	Duwamish-Green	Below
10	Puyallup-White	Below
11	Nisqually	Below
12	Chambers-Clover	Above
13	Deschutes	Below
14	Kennedy-Goldsborough	Above
15	Kitsap	Above
16	Skokomish-Dosewallips	Below
17	Quilcene-Snow	Below
18	Elwha-Dungeness	Below
19	Lyre-Hoko	Below
20	Sol Duc-Hoh	Below
21	Queets-Quinault	Below
22	Lower Chehalis	Below
23	Upper Chehalis	Below
24	Willapa	Below
25	Grays-Elokoman	Above
26	Cowlitz	Watch
27	Lewis	Watch
28	Salmon-Washougal	Watch
29	Wind-White Salmon	Watch
30	Klickitat	Watch
31	Rock-Glade	Watch



Cities in WRIAs below 75% include: Bellingham, Everett, Seattle, Tacoma, Olympia, Sequim, Port Townsend, Yakima, Wenatchee, Walla Walla, Spokane

WRIA	WRIA Name	WSAC 06/02/16
32	Walla Walla	Below
33	Lower Snake	Above
34	Palouse	Below
35	Middle Snake	Above
36	Esquatzel Coulee	Above
37	Lower Yakima	Watch
38	Naches	Watch
39	Upper Yakima	Watch
40	Alkali-Squilchuck	Above
41	Lower Crab	Above
42	Grand Coulee	Above
43	Upper Crab-Wilson	Above
44	Moses Coulee	Above
45	Wenatchee	Below
46	Entiat	Below
47	Chelan	Watch
48	Methow	Watch
49	Okanogan	Watch
50	Foster	Above
51	Nespelem	Above
52	Sanpoil	Above
53	Lower Lake Roosevelt	Above
54	Lower Spokane	Watch
55	Little Spokane	Below
56	Hangman	Below
57	Middle Spokane	Below
58	Middle Lake Roosevelt	Above
59	Colville	Above
60	Kettle	Above
61	Upper Lake Roosevelt	Above
62	Pend Oreille	Above

Thank You

USGS
science for a changing world

Water Supply Availability Committee

June 2016

Marc Stewart

Keith Overton

http://or.water.usgs.gov/data_dir/war_dir/war1604.html

http://or.water.usgs.gov/sw_studies/index.html

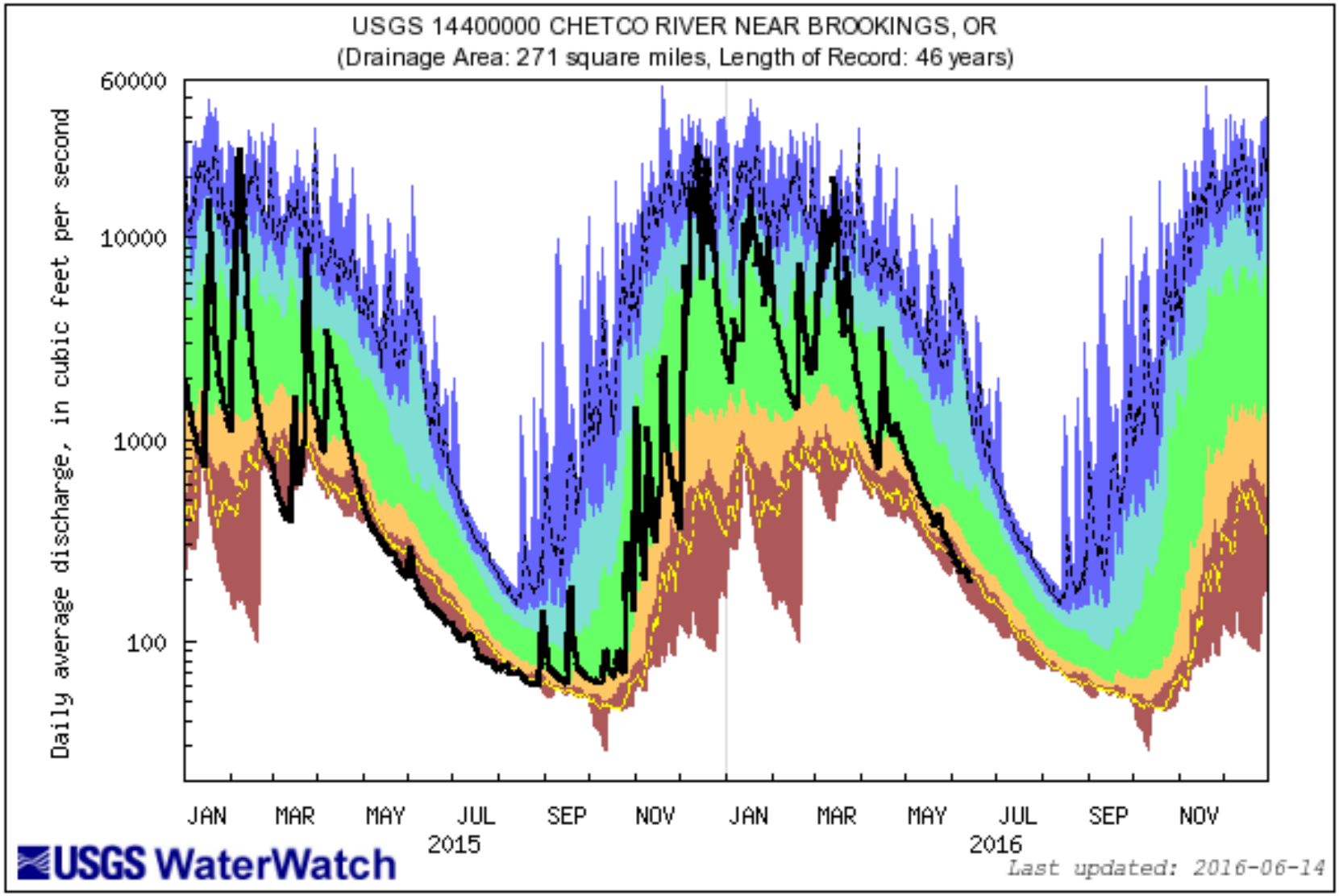
Data are provisional and subject to revision until they have been thoroughly reviewed and received final approval.

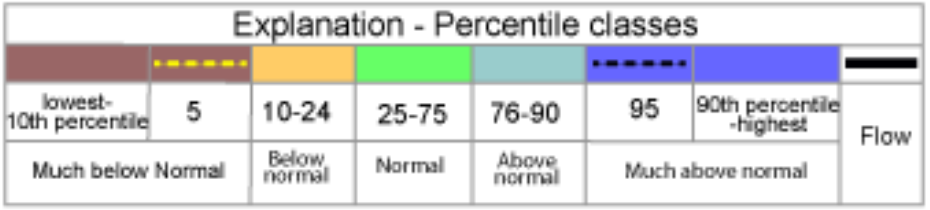
U.S. Department of the Interior
U.S. Geological Survey

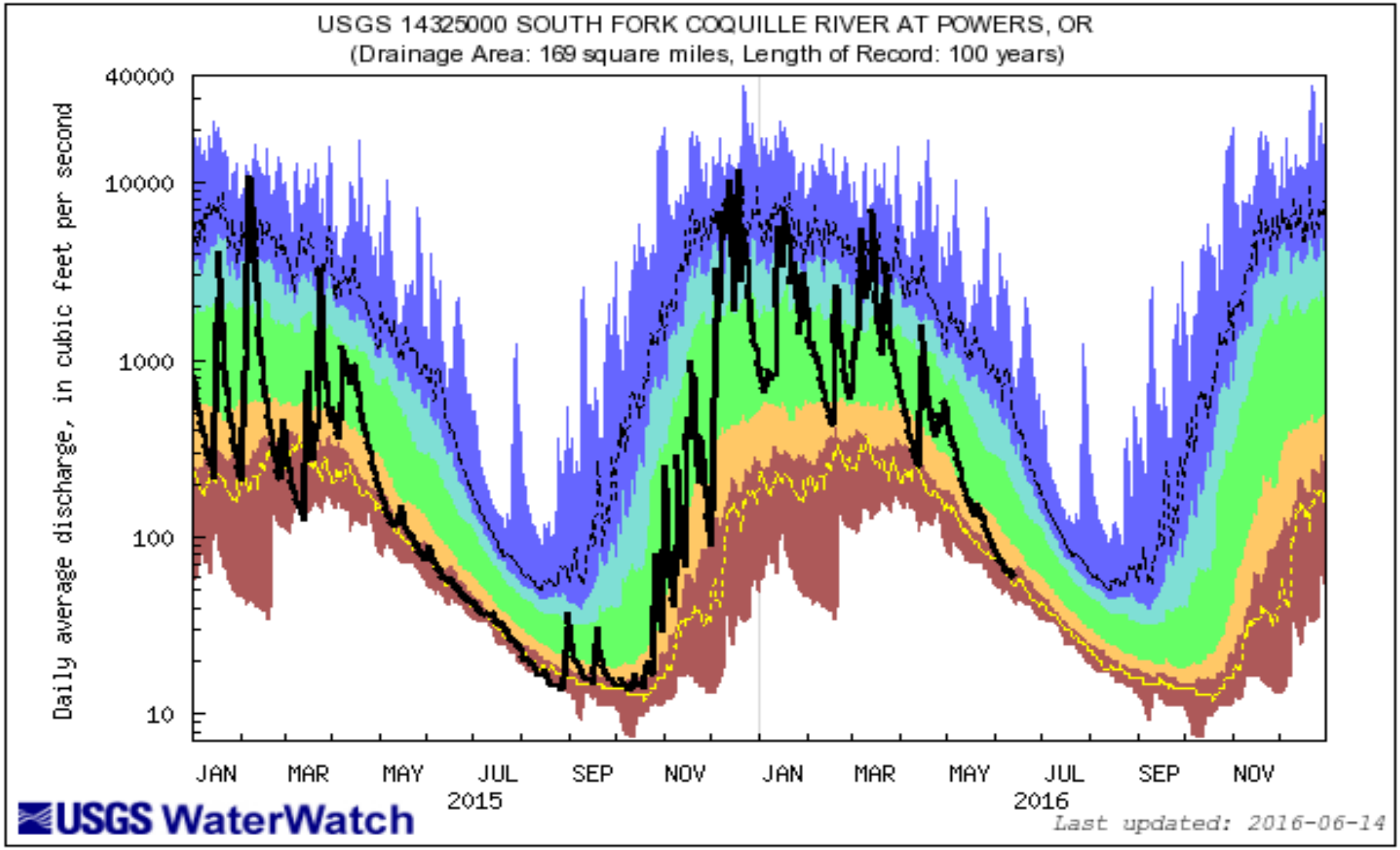
Monthly Water Availability Report

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

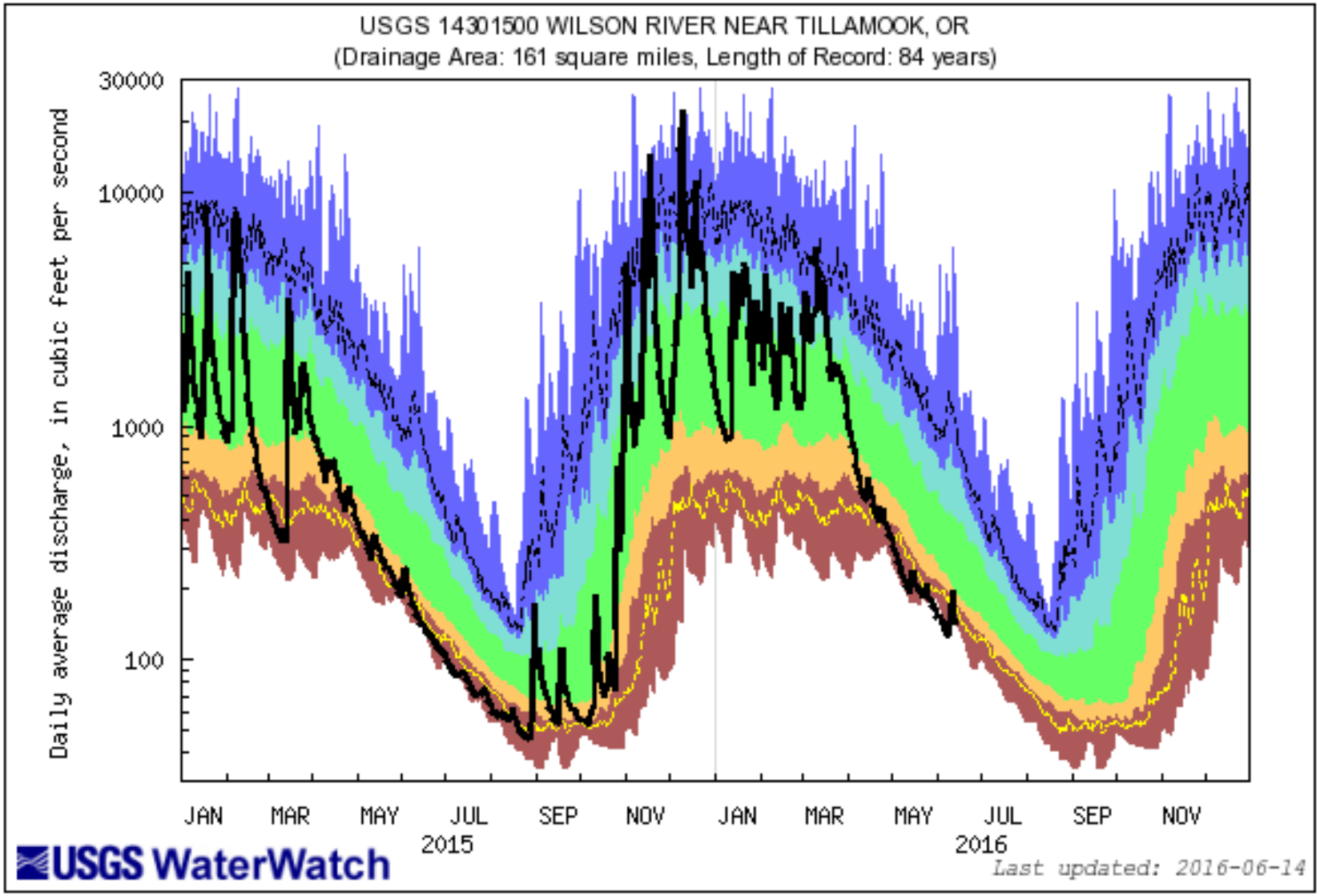
Station	NRCS SWSI Basin	Monthly mean discharge: Cubic feet per second	Monthly mean discharge: Percent of average	Change in discharge from previous month (percent)	Accumulated Runoff For the Period Oct. to May: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	331	82	76	84
(*)Deep Creek above Adel	Lake County	292	65	-8	85
(*)Chewaucan River near Paisley	Lake County	373	75	-29	103
Williamson River near Chiloquin	Klamath	969	62	-35	85
Owyhee River near Rome	Owyhee	1,257	62	-8	87
(*)NF Malheur River near Beulah	Malheur	197	58	-47	94
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	4,884	70	-18	94
Umatilla River nr Gibbon	Umatilla Lower John Day	189	41	-54	96
John Day River at Service Crk	Upper John Day	2,194	43	-54	90
(*)Little Deschutes River nr LaPine	Upper Deschutes	276	87	-23	105
Hood River nr Hood River	Lower Deschutes Mt.Hood	870	76	-42	124
Willamette River at Salem	Willamette	14,700	74	-21	107
Wilson River near Tillamook	North Coast	215	35	-65	139
Umpqua River near Elkton	Rogue/Umpqua	3,822	60	-46	126
Rogue River near Agness	Rogue/Umpqua	4,460	82	-33	131
SF Coquille River at Powers	South Coast	194	43	-64	120
Chetco River near Brookings	South Coast	490	38	-63	114


USGS 14400000 CHETCO RIVER NEAR BROOKINGS, OR
(Drainage Area: 271 square miles, Length of Record: 46 years)
Daily average discharge, in cubic feet per second
60000
10000
1000
100
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-06-14

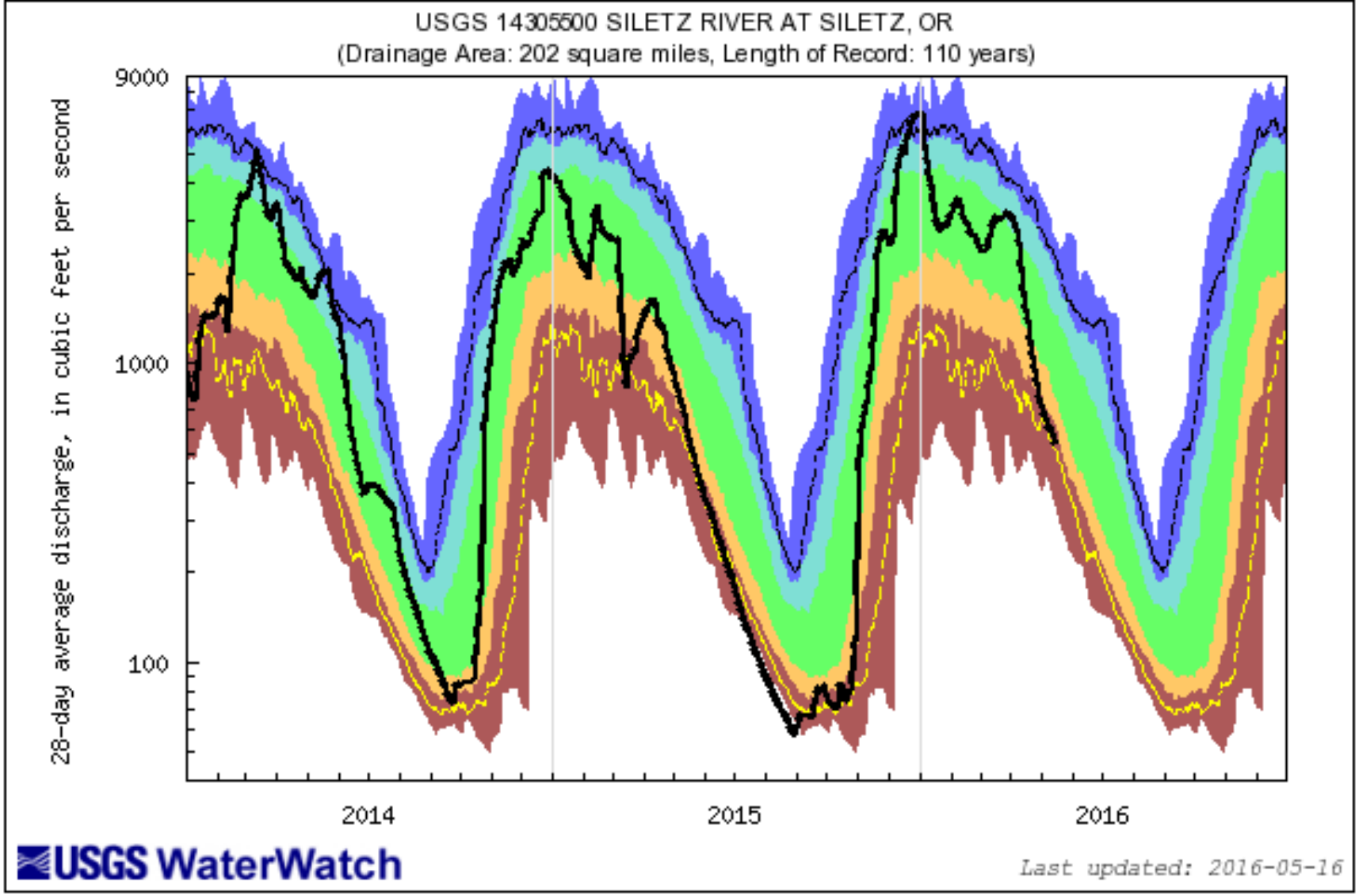

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal

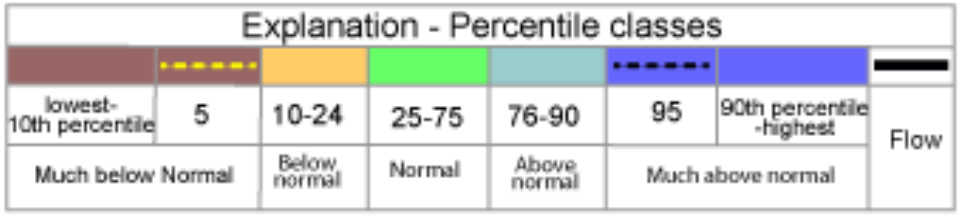


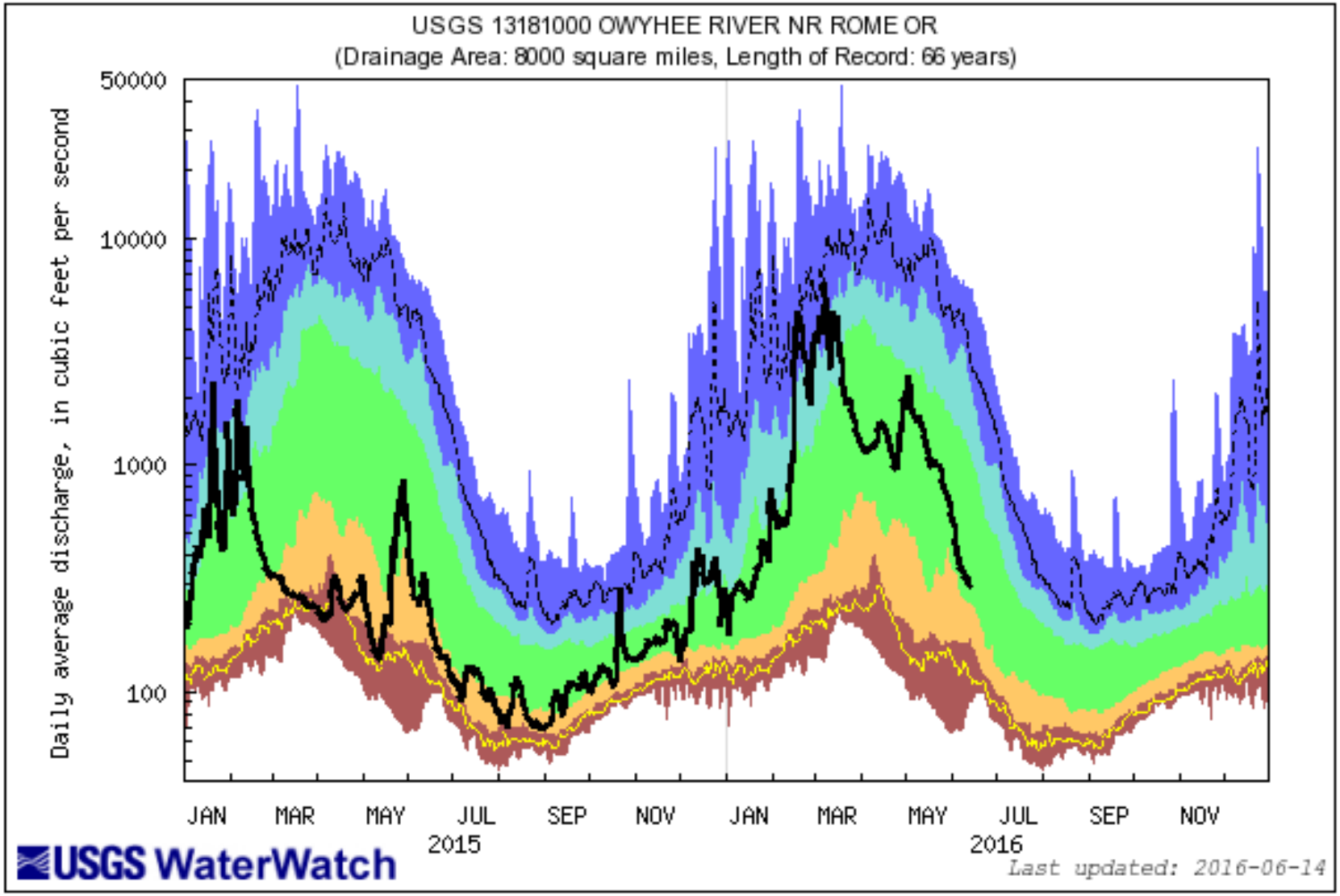
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal		Below normal	Normal	Above normal	Much above normal		

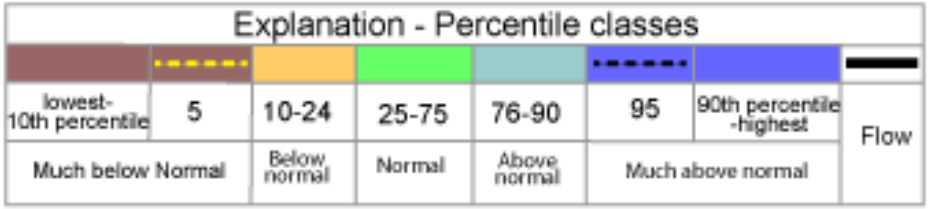


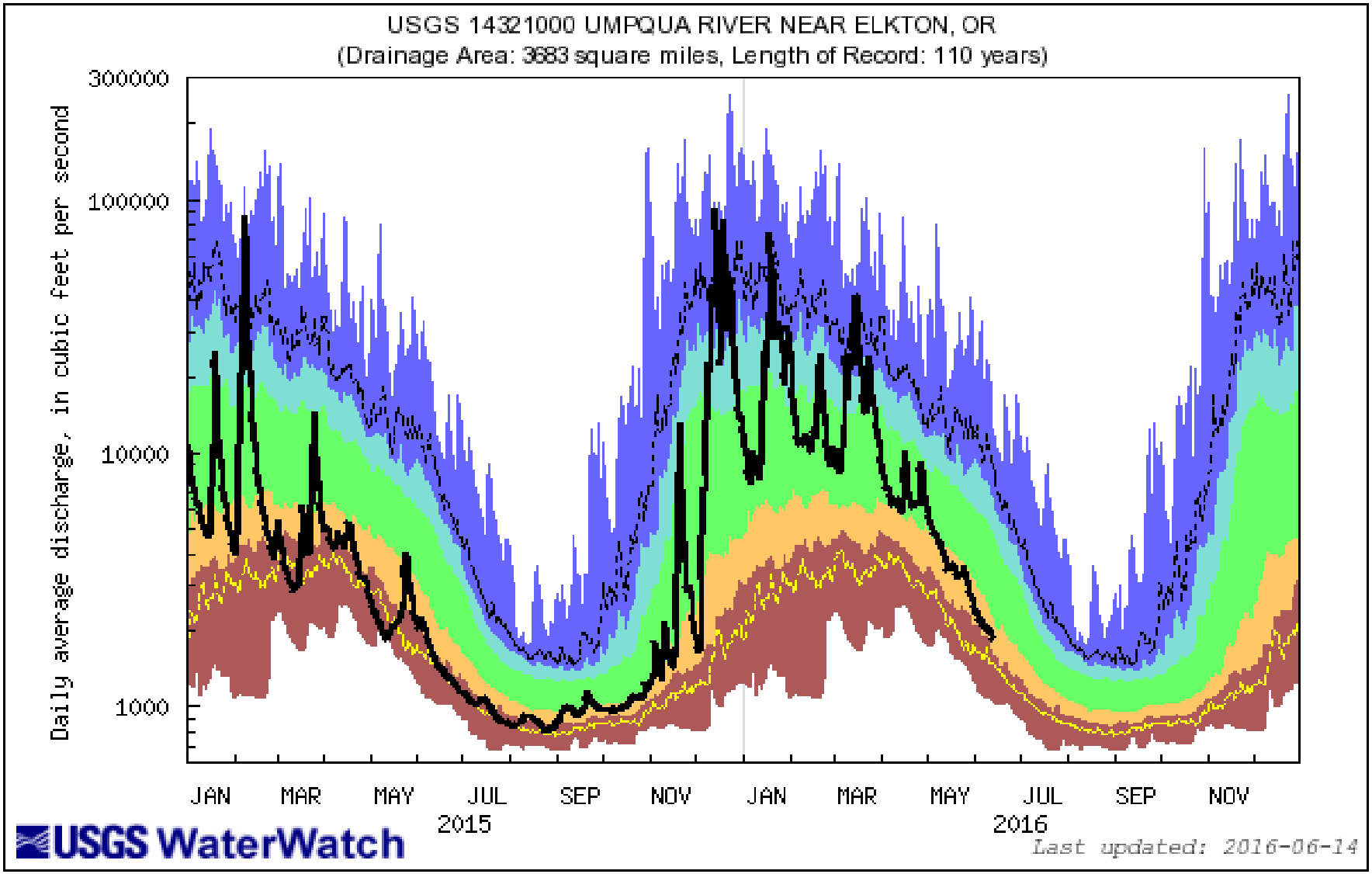
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal		Below normal	Normal	Above normal	Much above normal		

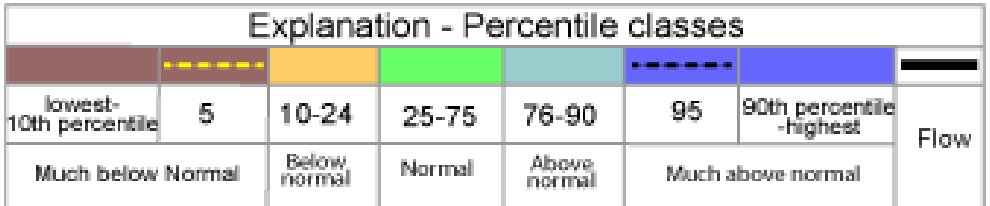

USGS 14305500 SILETZ RIVER AT SILETZ, OR
(Drainage Area: 202 square miles, Length of Record: 110 years)
28-day average discharge, in cubic feet per second
9000
1000
100
2014
2015
2016
USGS WaterWatch
Last updated: 2016-05-16

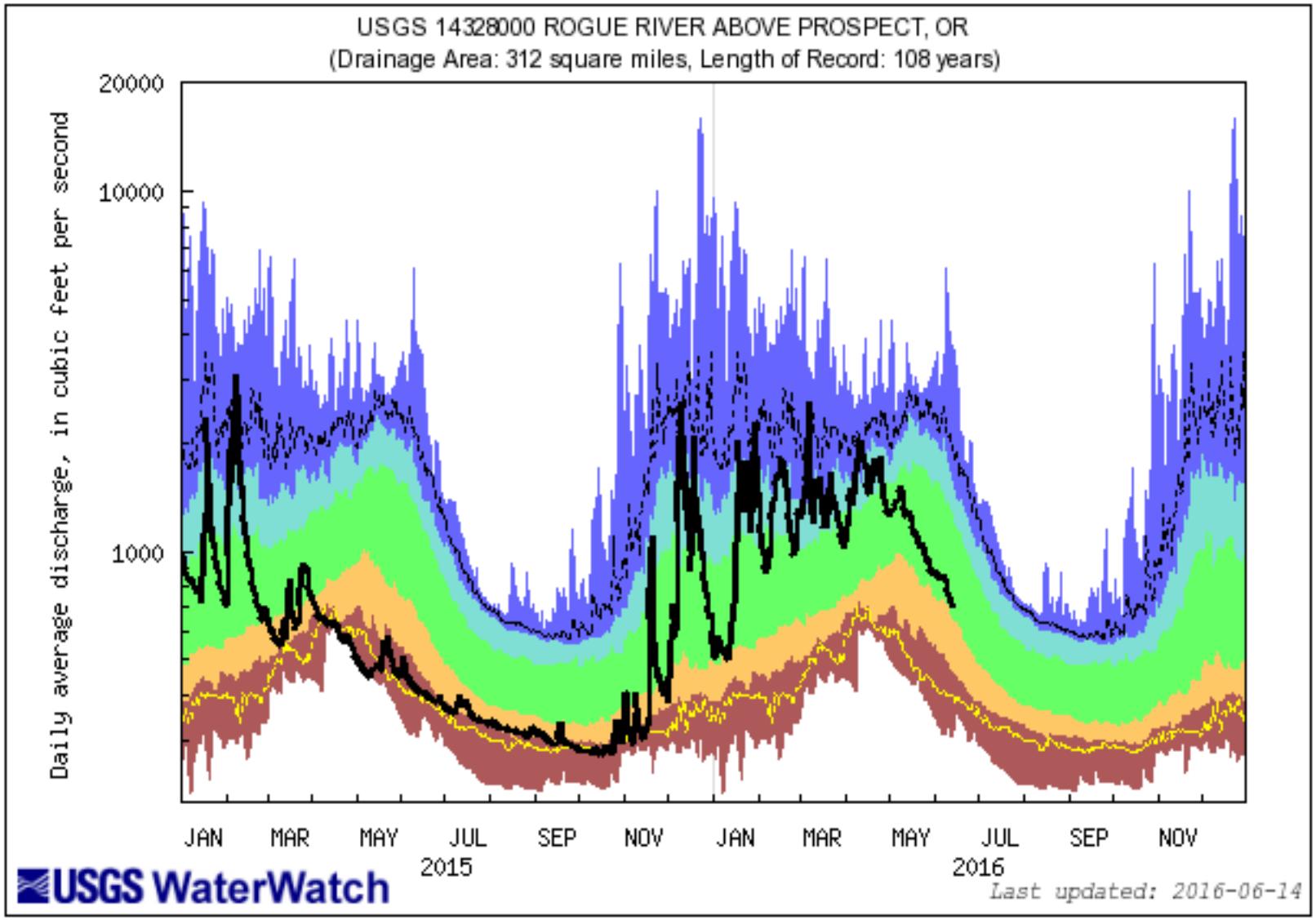

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal

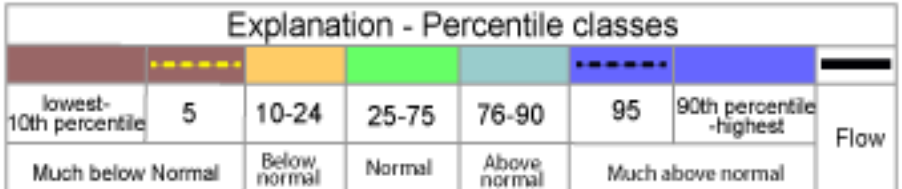

USGS 13181000 OWYHEE RIVER NR ROME OR
(Drainage Area: 8000 square miles, Length of Record: 66 years)
Daily average discharge, in cubic feet per second
50000
10000
1000
100
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-06-14

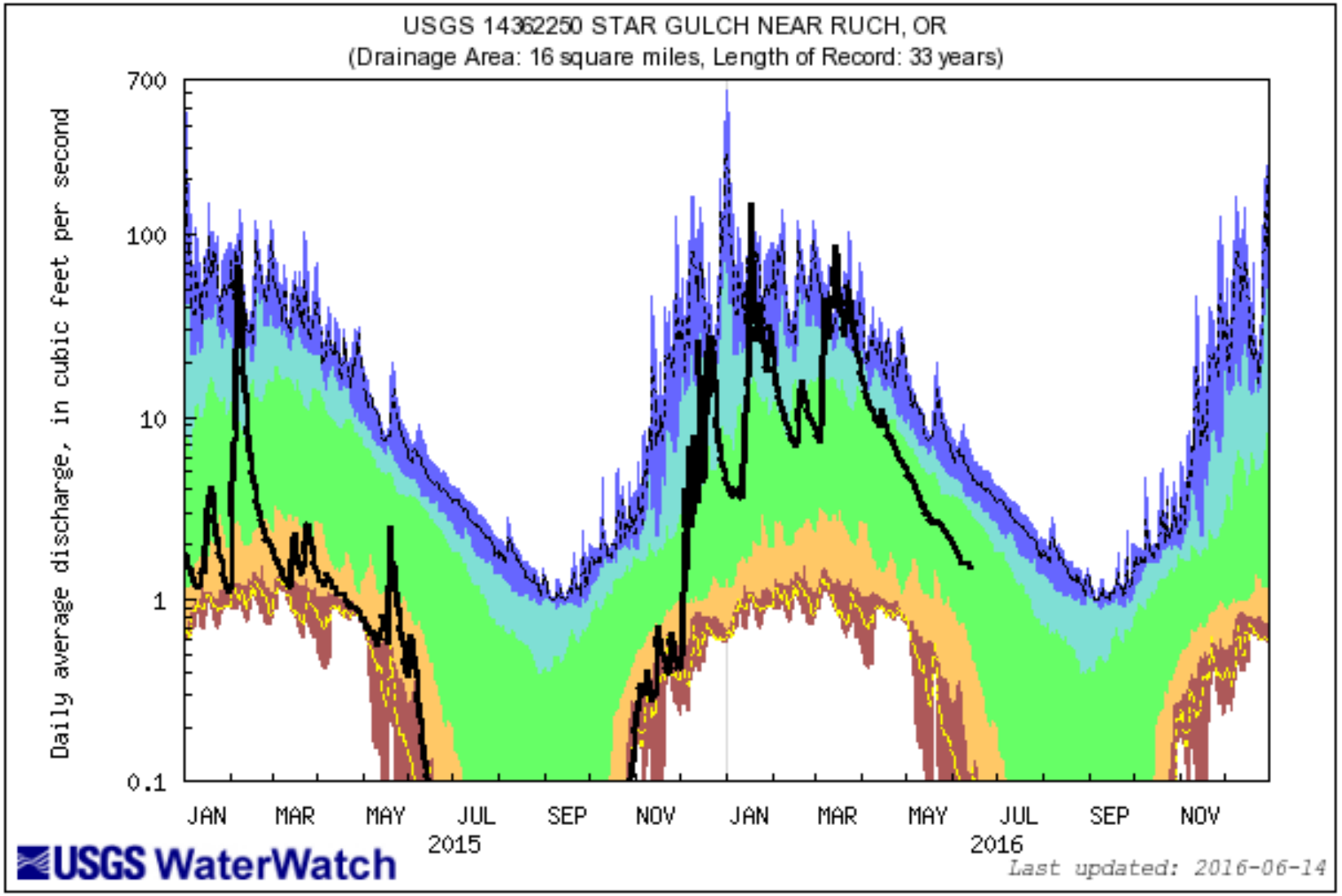

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal


USGS 14321000 UMPQUA RIVER NEAR ELKTON, OR
(Drainage Area: 3683 square miles, Length of Record: 110 years)
Daily average discharge, in cubic feet per second
300000
100000
10000
1000
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-06-14


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 14328000 ROGUE RIVER ABOVE PROSPECT, OR
(Drainage Area: 312 square miles, Length of Record: 108 years)
Daily average discharge, in cubic feet per second
20000
10000
1000
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-06-14


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



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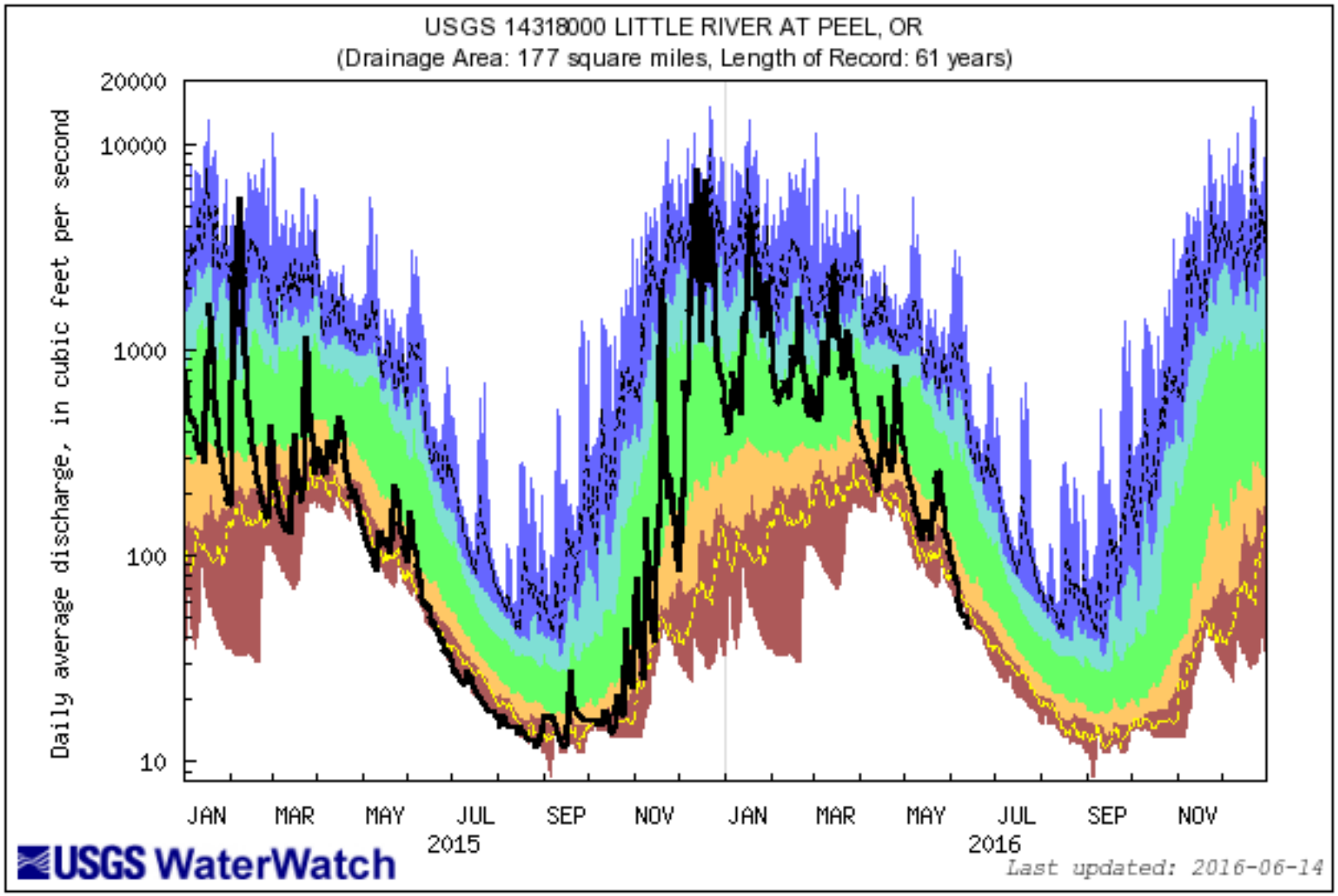
Much below Normal		Below normal	Normal	Above normal	Much above normal		



Explanation - Percentile classes							
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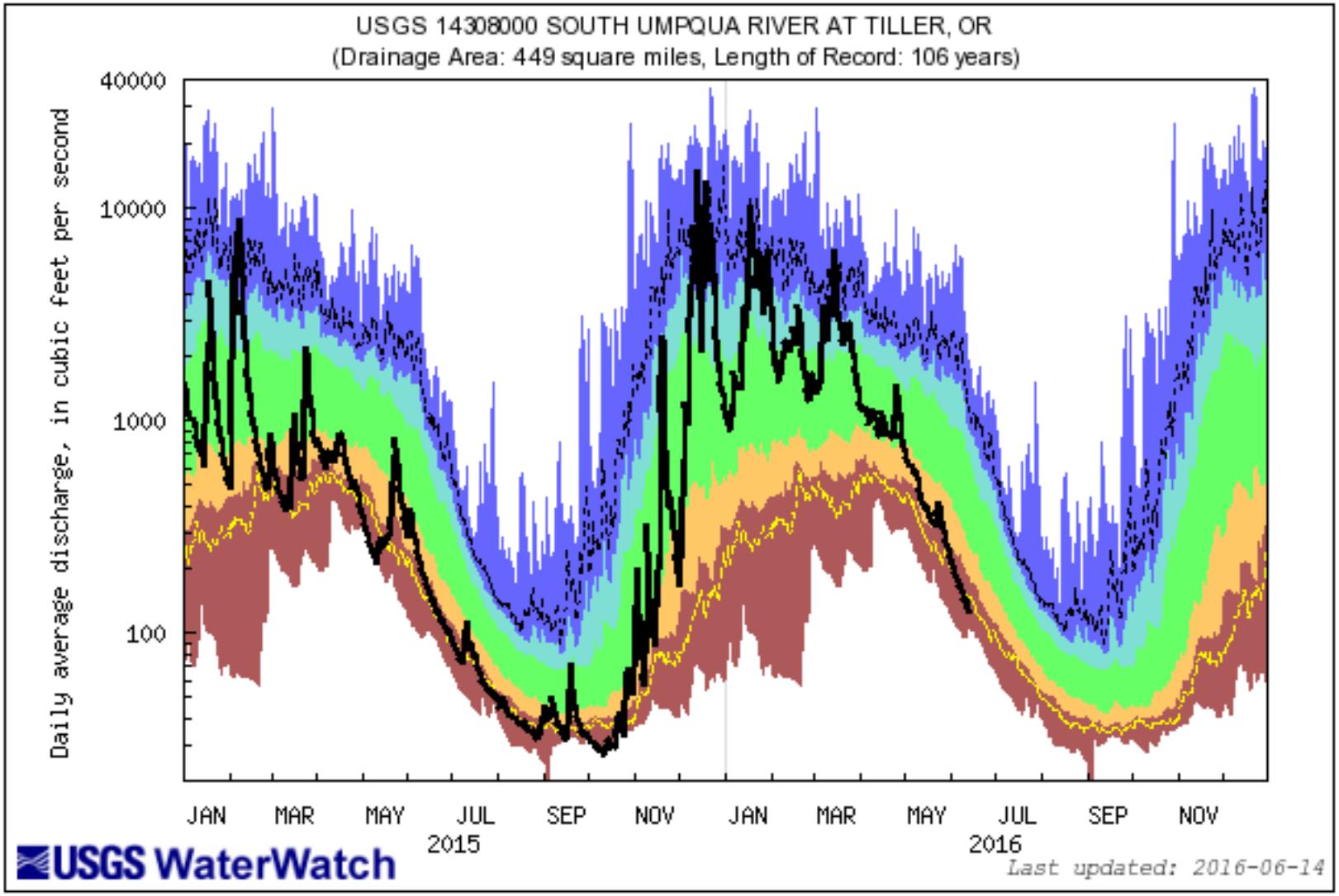

Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
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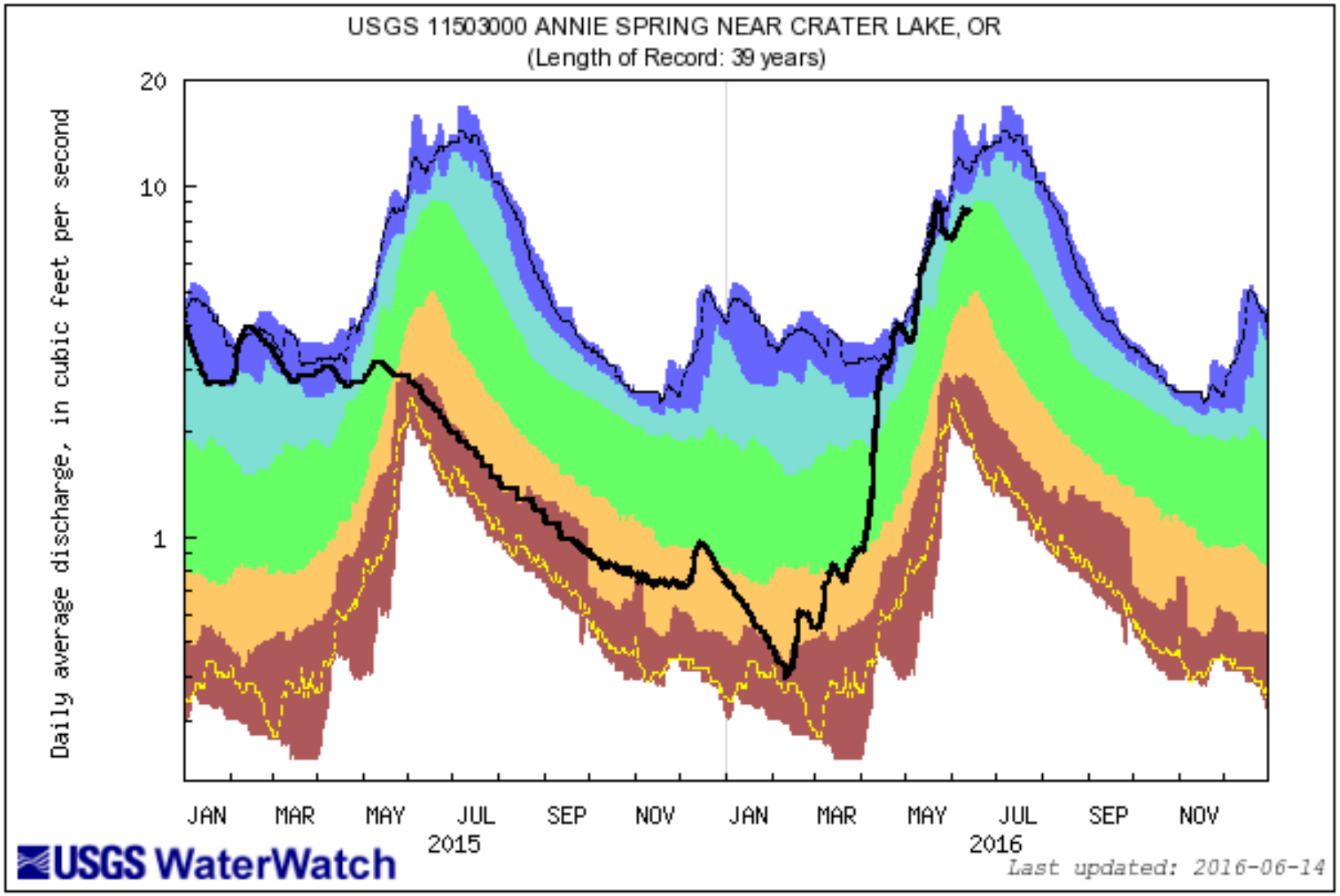

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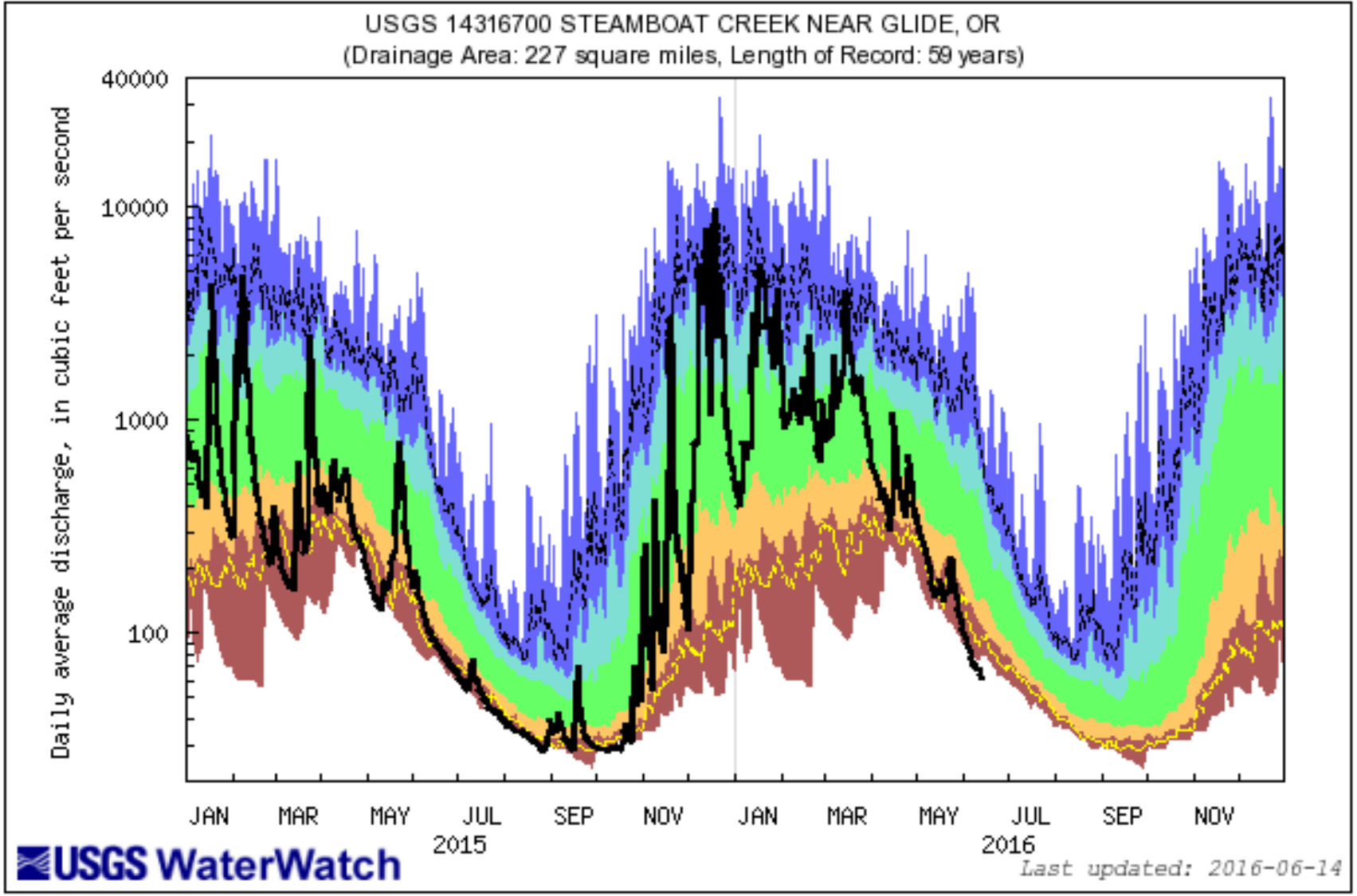

Explanation - Percentile classes							
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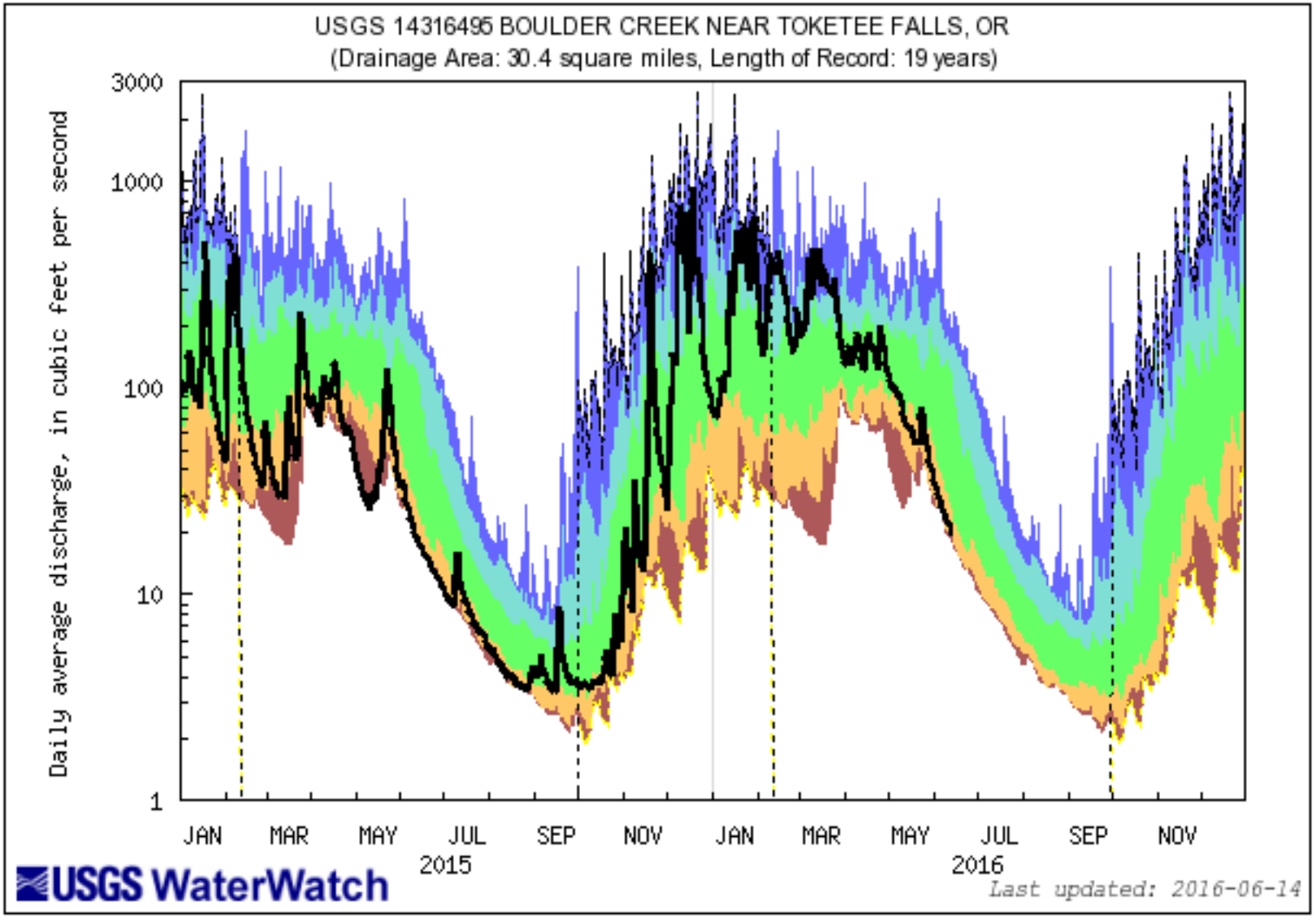
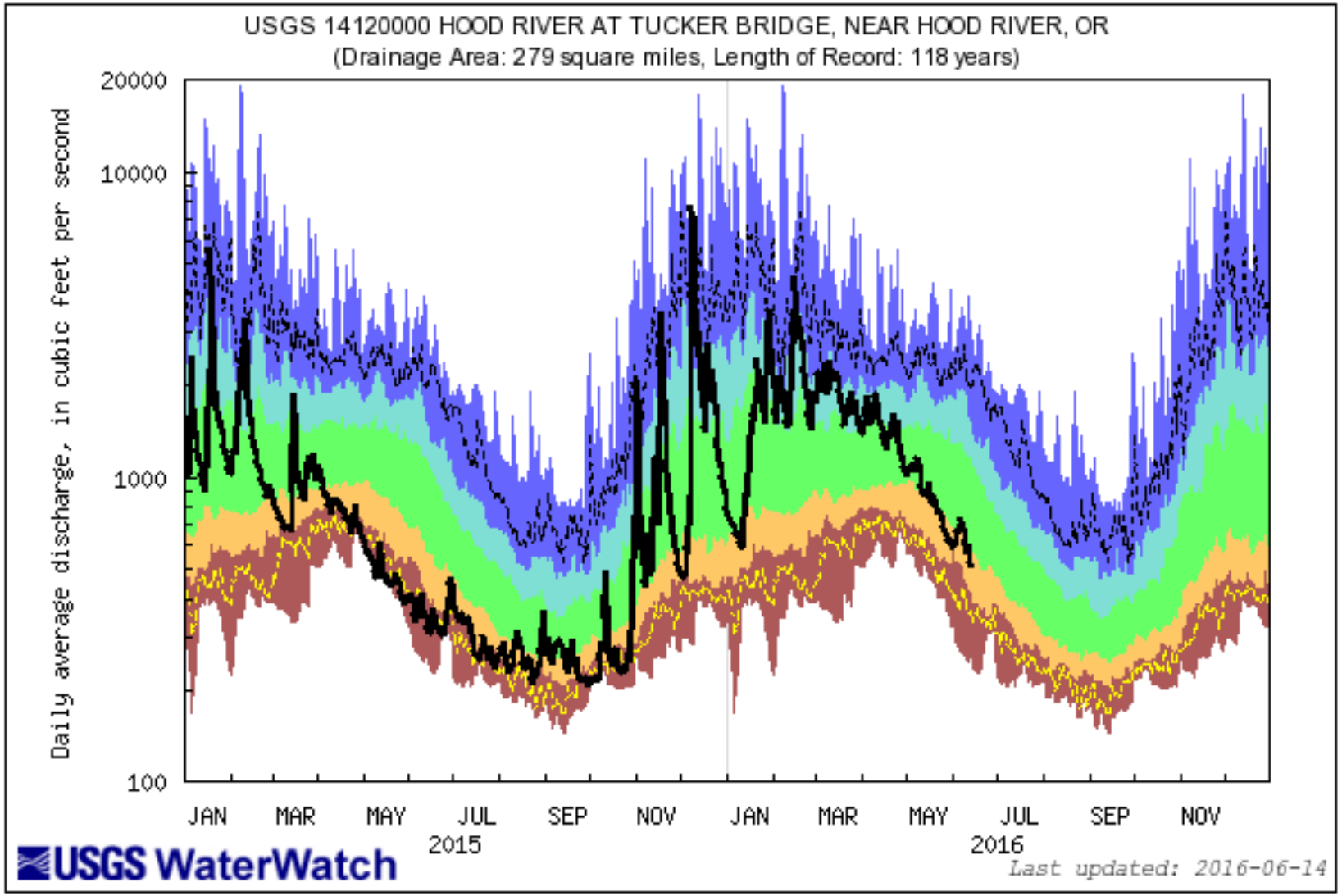
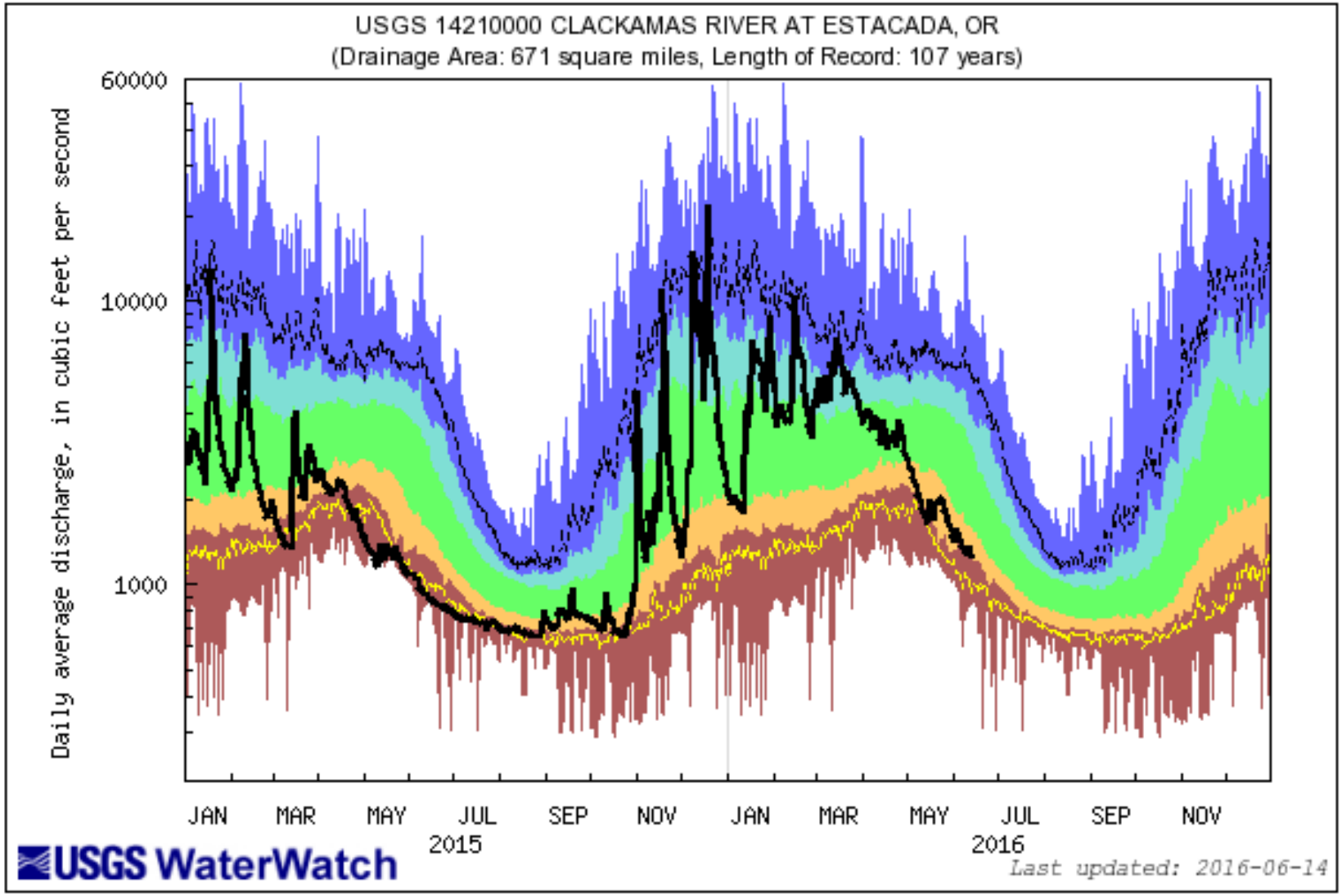


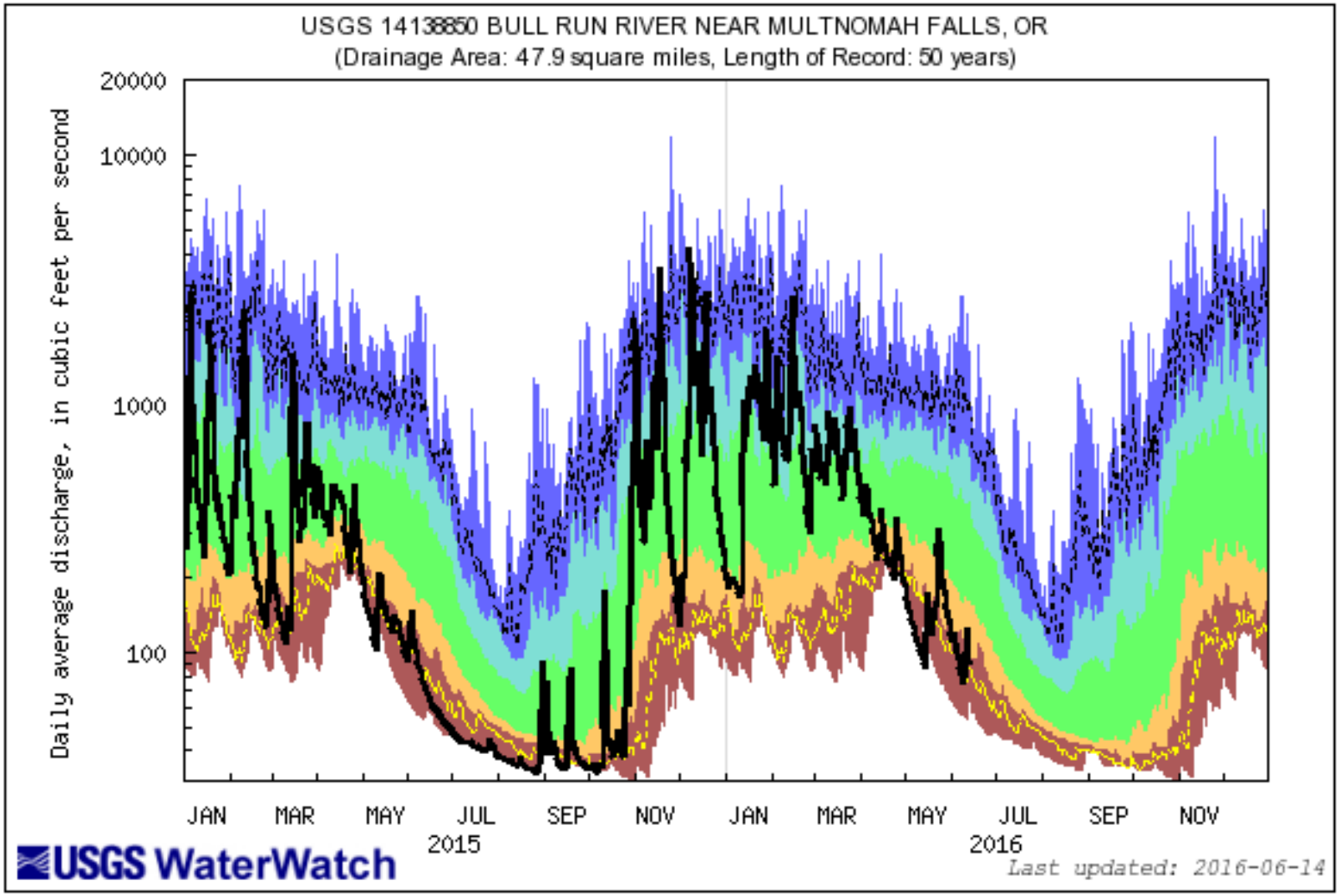
Explanation - Percentile classes							
lowest-10th percentile	5	10-24	25-75	76-90	95	90th percentile -highest	Flow
Much below Normal		Below normal	Normal	Above normal	Much above normal		



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



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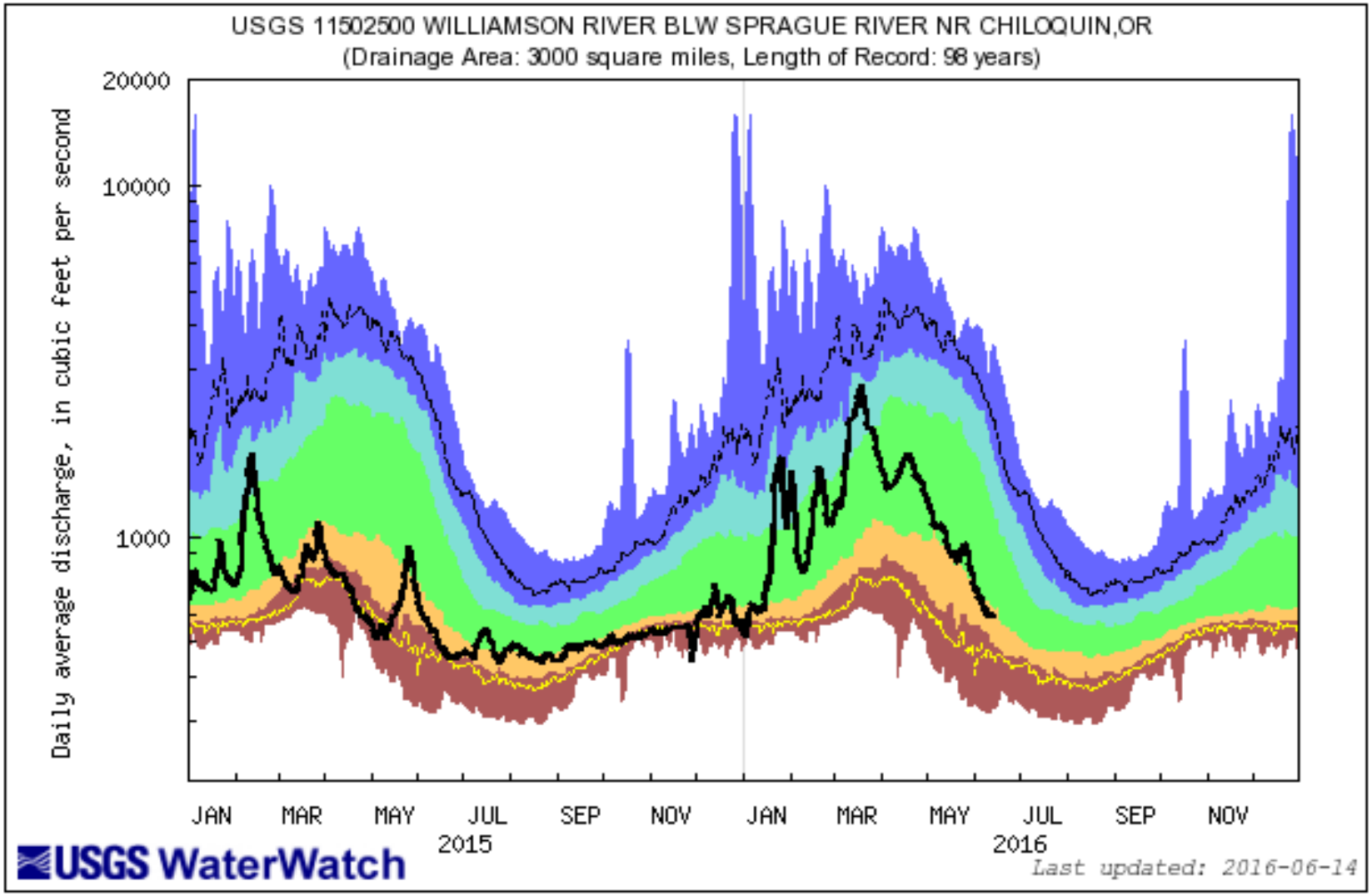

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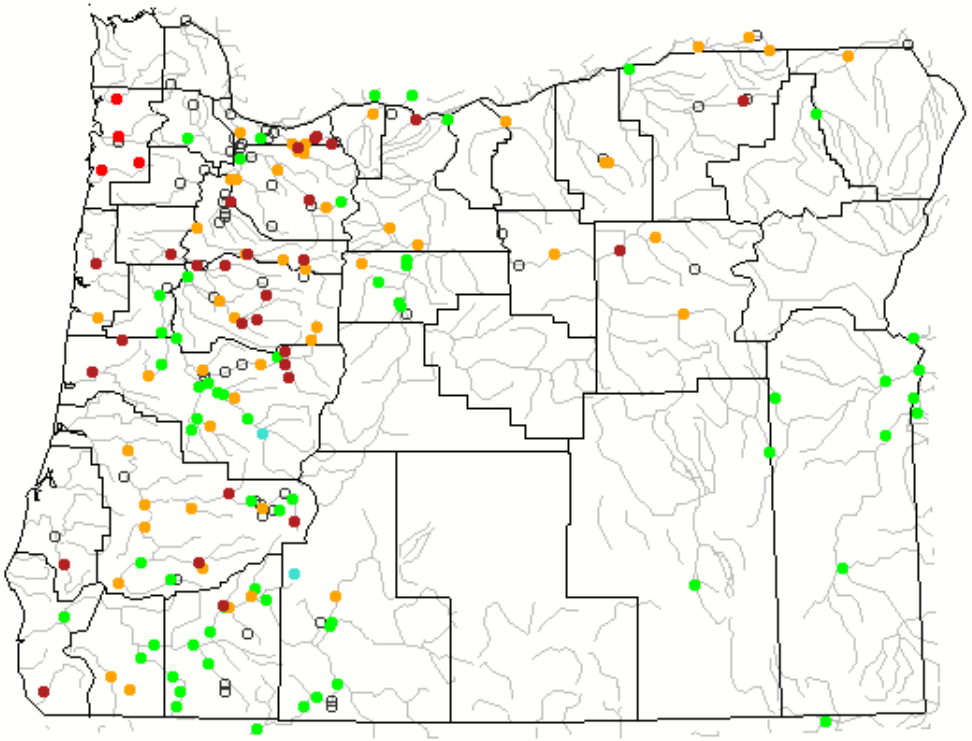

USGS

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		

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

http://waterwatch.usgs.gov/index.php?m=pa28d&r=or&w=map

USGS

Thank You

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

Real-time data relayed by satellite or other telemetry are automatically screened to not display improbable values until they can be verified.

Provisional data may be inaccurate due to instrument malfunctions or physical changes at the measurement site. Subsequent review based on field inspections and measurements may result in significant revisions to the data.

Data users are cautioned to consider carefully the provisional nature of the information before using it for decisions that concern personal or public safety or the conduct of business that involves substantial monetary or operational consequences.

Information concerning the accuracy and appropriate uses of these data or concerning other hydrologic data may be obtained from the USGS

USGS