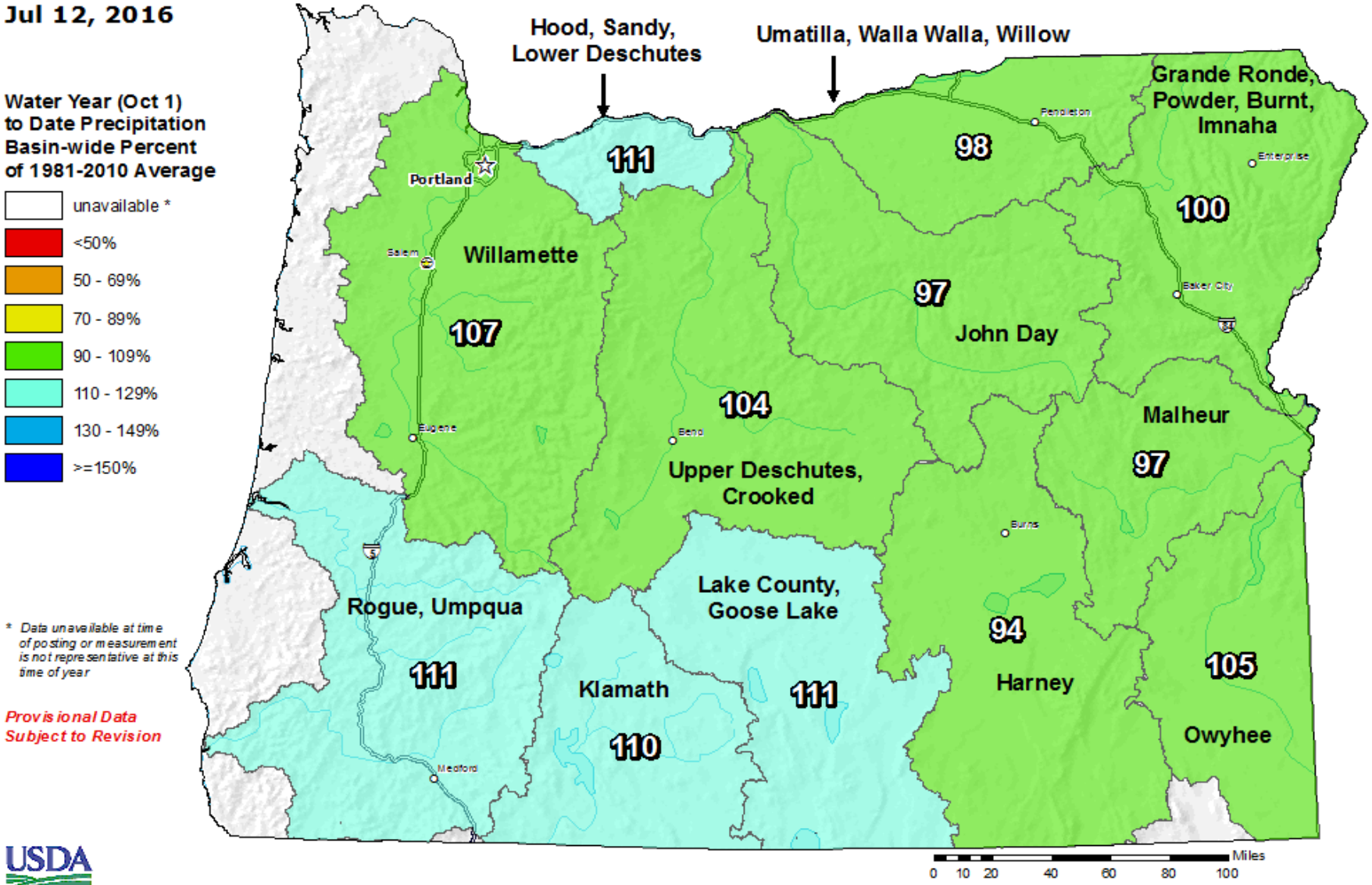
Oregon Water Supply Availability Committee

July 12, 2016

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/

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

Jul 12, 2016

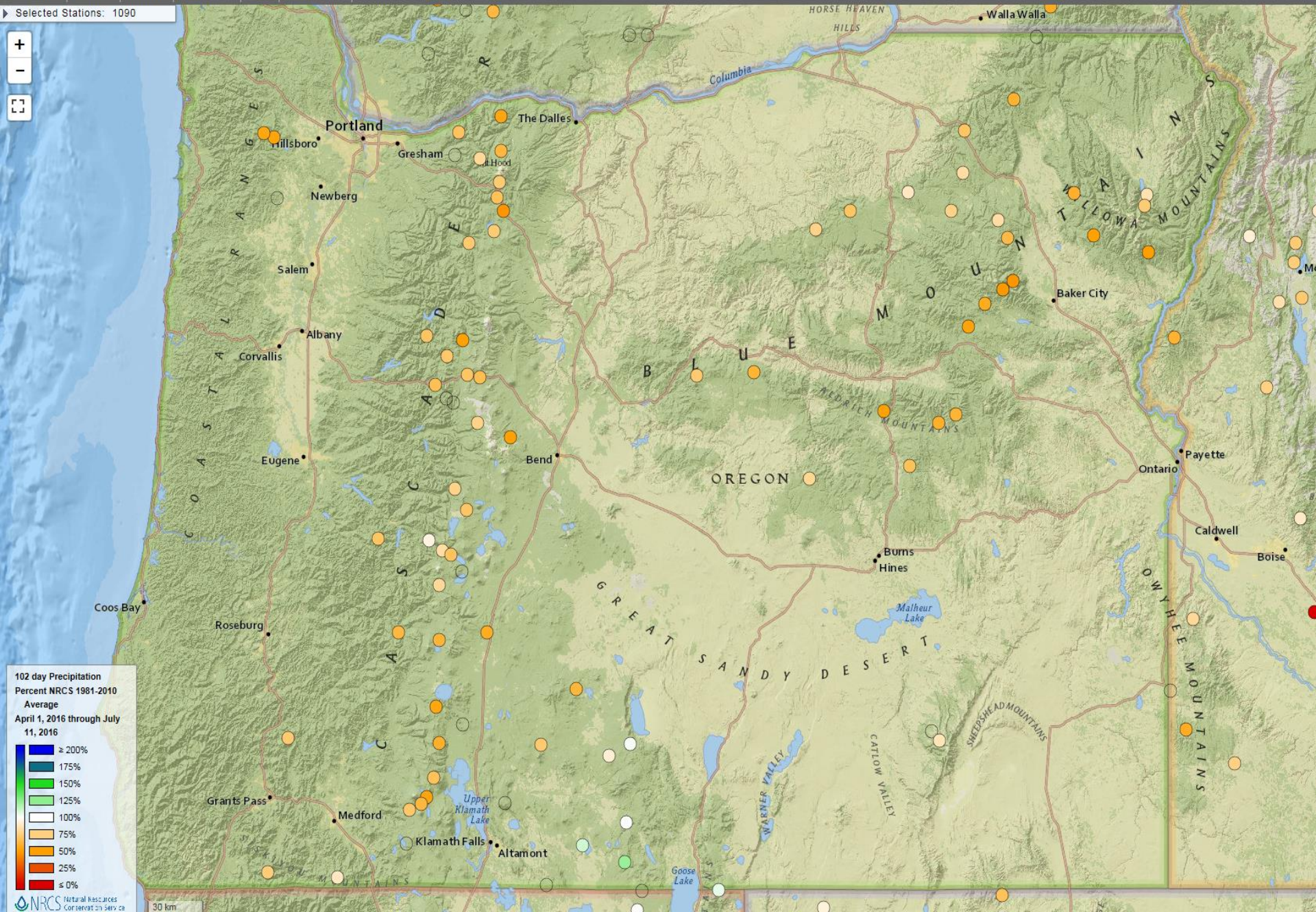


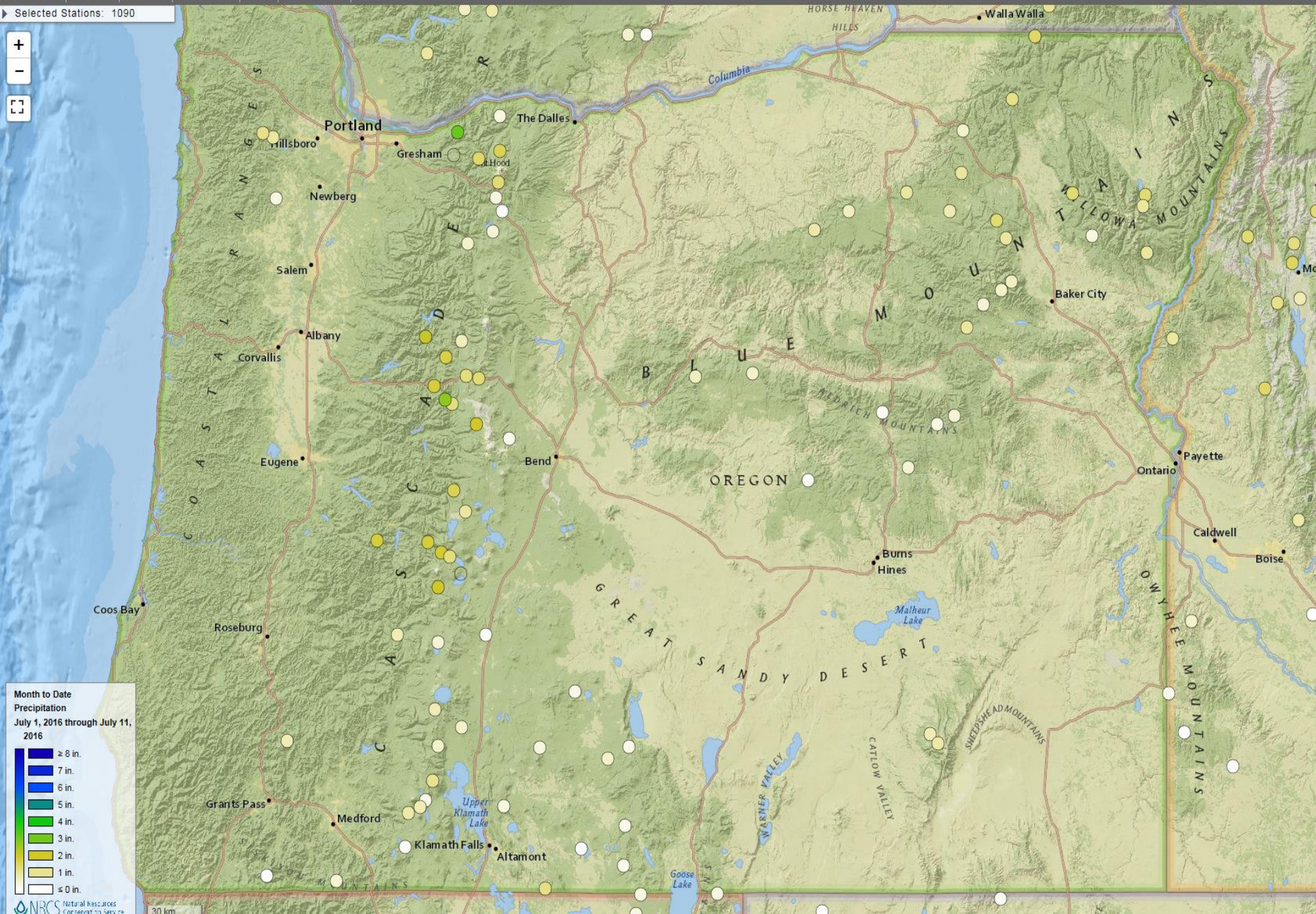
* *Data unavailable at time of posting or measurement is not representative at this time of year*

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


Selected Stations: 1090
Walla Walla
HORSE HEAVEN HILLS
Columbia
The Dalles
Portland
Hillsboro
Gresham
Mt Hood
Newberg
Salem
Albany
Corvallis
Eugene
Bend
OREGON
Baker City
Payette
Ontario
Caldwell
Boise
Burns
Hines
Coos Bay
Roseburg
Grants Pass
Medford
Klamath Falls
Altamont
Malheur Lake
Upper Klamath Lake
Goose Lake
Warner Valley
Catlow Valley
Sheepshead Mountains
Owyhee Mountains
Aldrich Mountains
Great Sandy Desert
Blue Mountains
Wallowa Mountains
Coast Range
Cascades
102 day Precipitation
Percent NRCS 1981-2010
Average
April 1, 2016 through July
11, 2016
≥ 200%
175%
150%
125%
100%
75%
50%
25%
≤ 0%
30 km


Selected Stations: 1090
Month to Date Precipitation
July 1, 2016 through July 11, 2016
≥ 8 in.
7 in.
6 in.
5 in.
4 in.
3 in.
2 in.
1 in.
≤ 0 in.
Portland
Hillsboro
Gresham
Mt Hood
The Dalles
Columbia
Walla Walla
Horse Heaven Hills
Newberg
Salem
Albany
Corvallis
Eugene
Bend
Baker City
Wallowa Mountains
Blue Mountains
Aldrich Mountains
OREGON
Payette
Ontario
Caldwell
Boise
Burns
Hines
Malheur Lake
Great Sandy Desert
Owyhee Mountains
Sheepshead Mountains
Catlow Valley
Warner Valley
Coos Bay
Roseburg
Grants Pass
Medford
Upper Klamath Lake
Klamath Falls
Altamont
Goose Lake
Coast Range
Cascades
Oregon Coast Range

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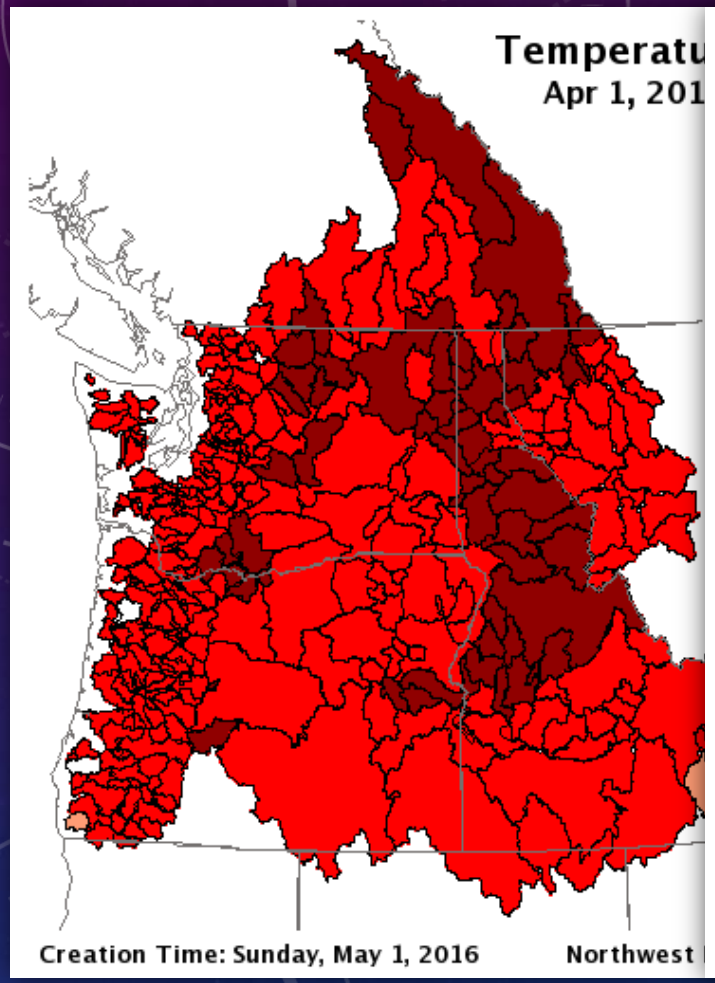
Thank you!

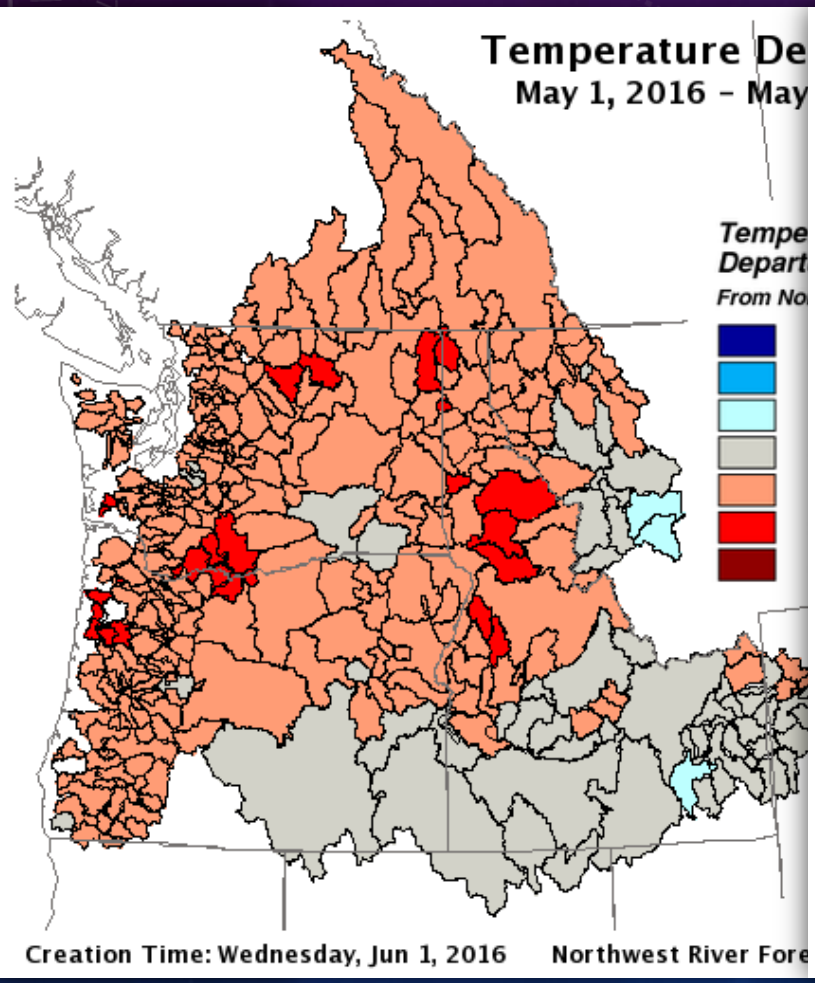
OBSERVED TEMPERATURES

NOAA NORTHWEST RIVER FORECAST CENTER

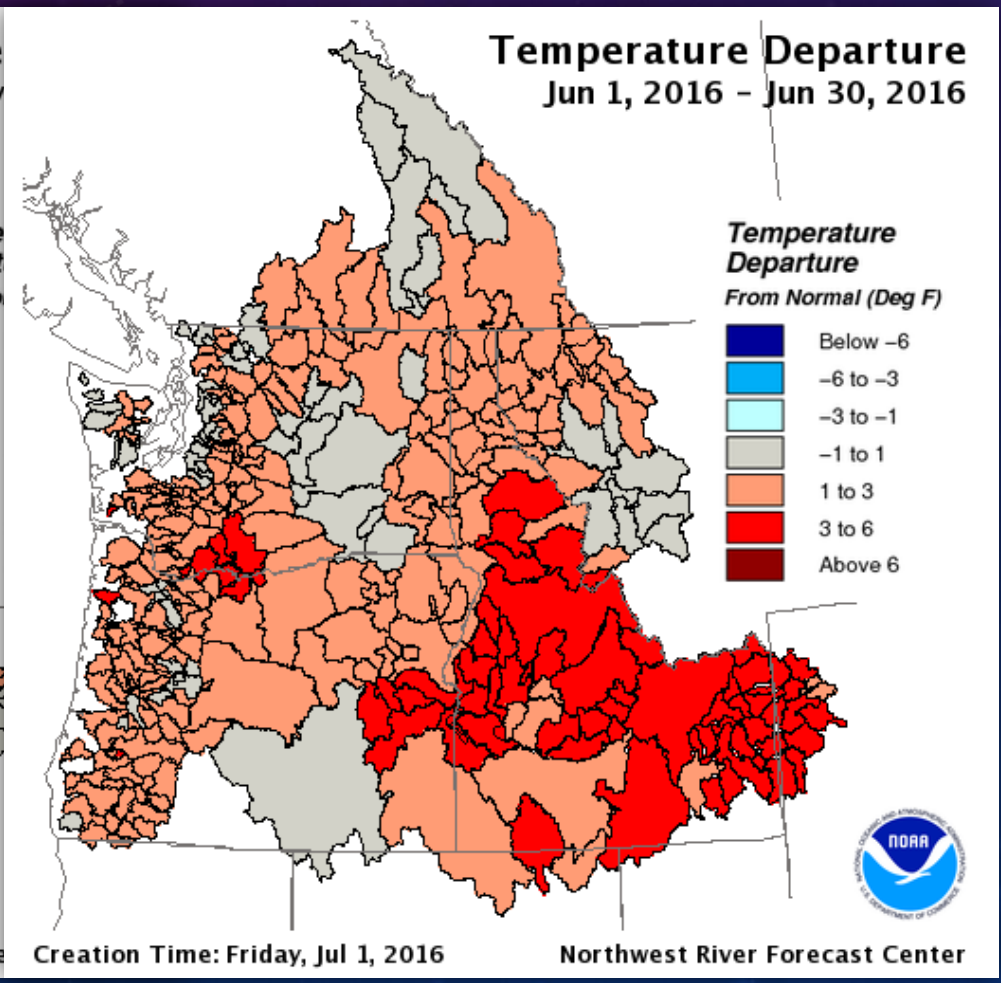
APRIL



MAY



JUNE

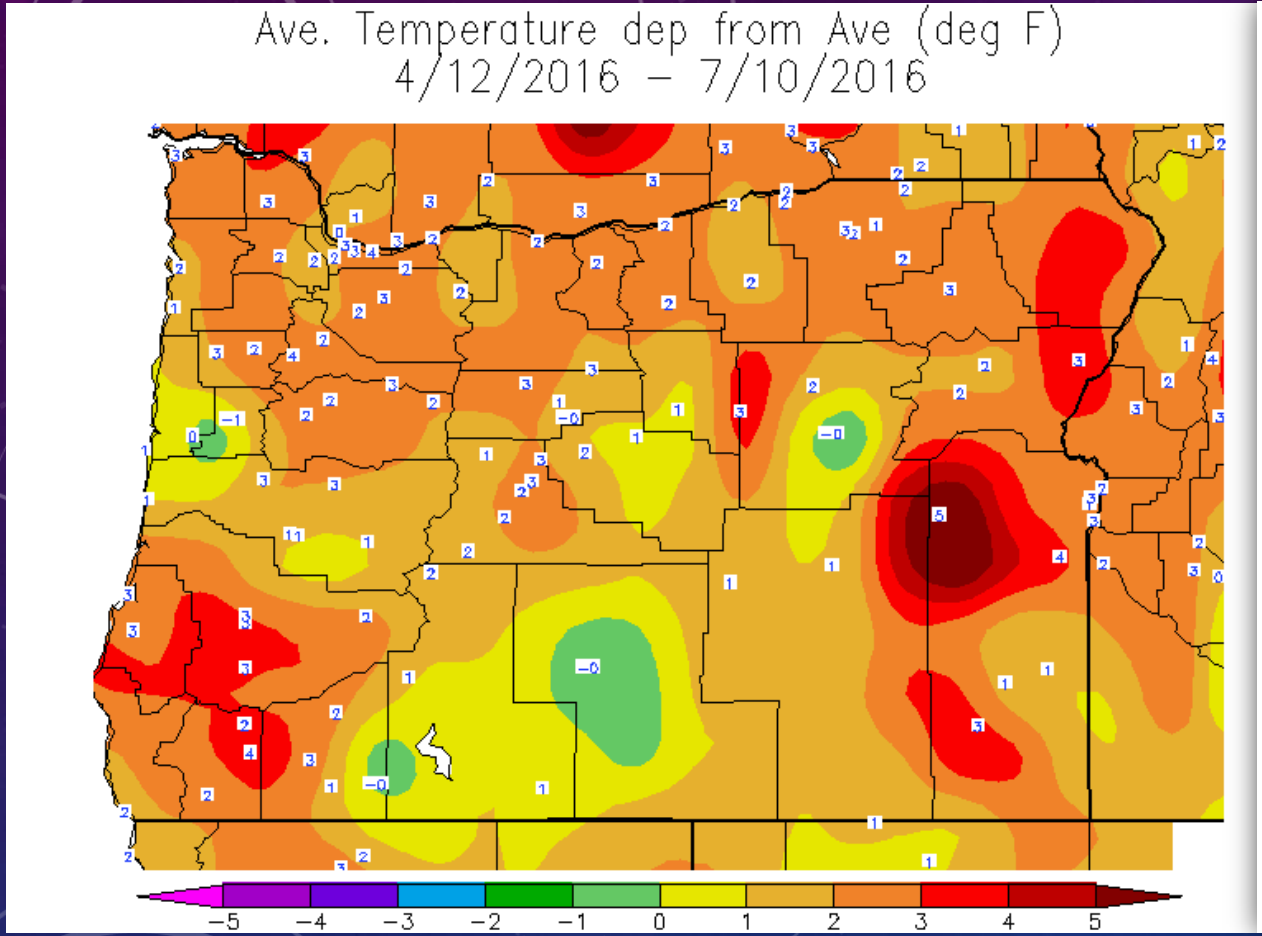


www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

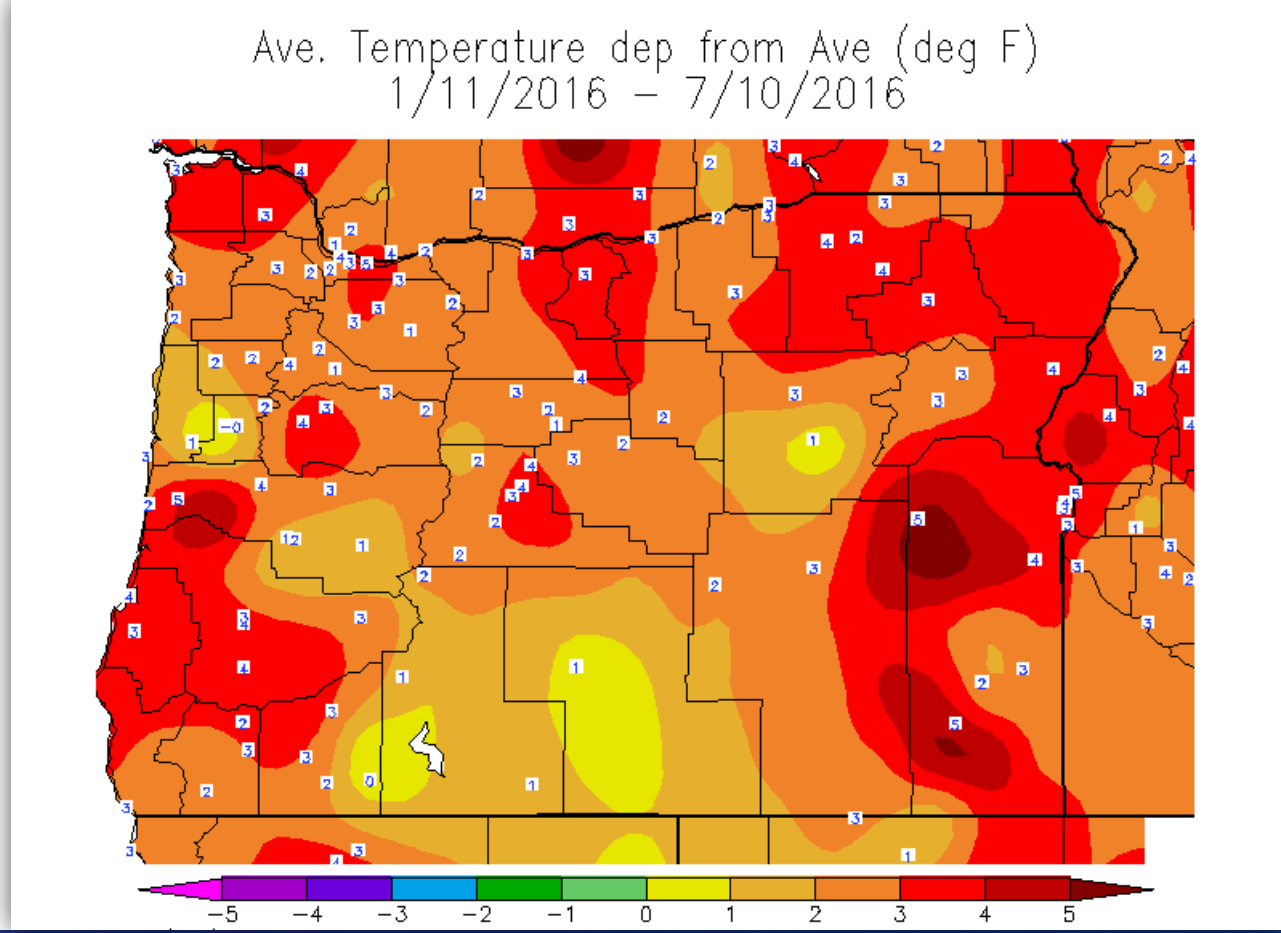
TEMPERATURE DEPARTURE

WESTERN REGION CLIMATE CENTER

3 MONTH



6 MONTH



www.wrcc.dri.edu/cgi-bin/anomimage.pl?ore90dTvdepv.gif

OBSERVED TEMPERATURES

NOAA NORTHWEST RIVER FORECAST CENTER

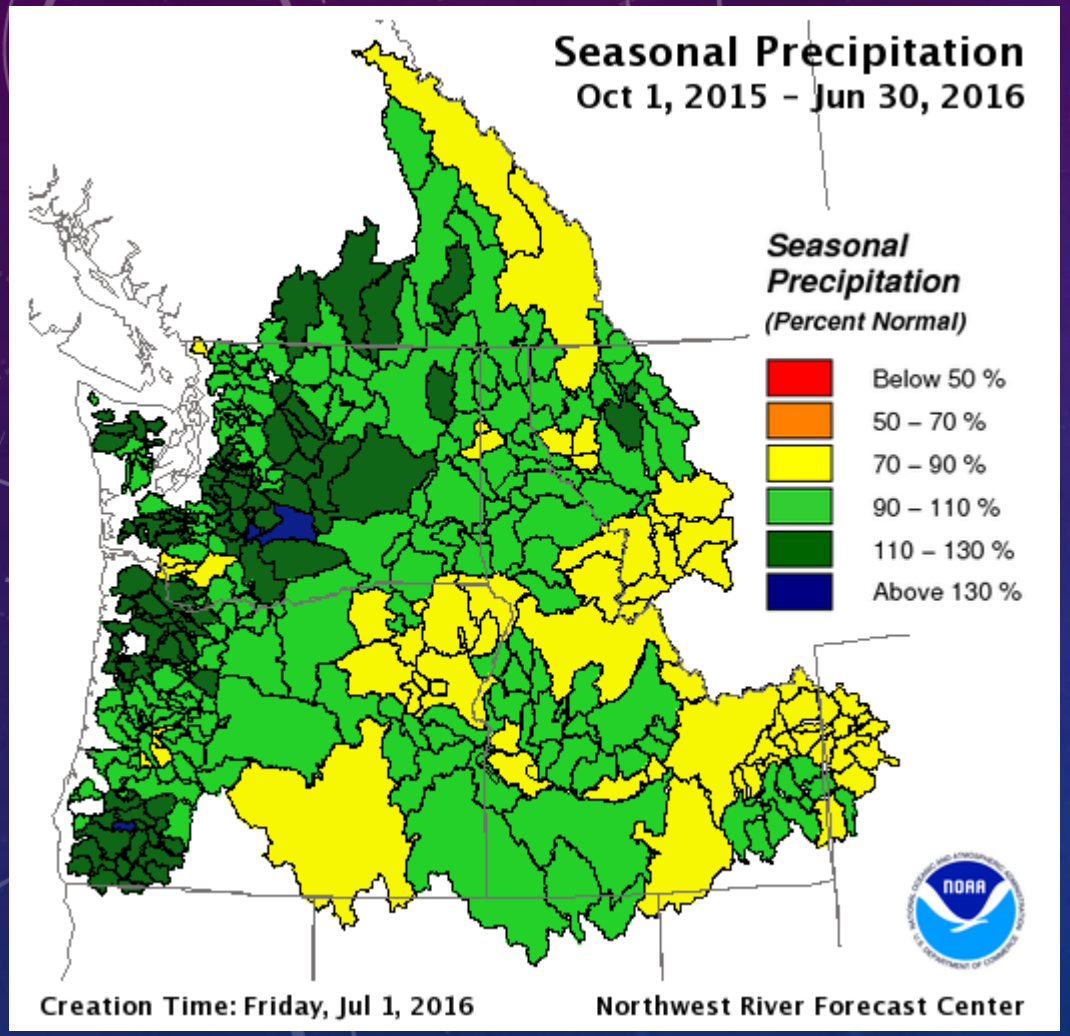
DIVISION NAME	July 1 - 10	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June
Malheur-Owyhee-Boise River Basins	-4.6	5.4	-3.5	-0.1	0.6	4.1	1.6	4.5	0.1	2.6
Grande Ronde River Basin	-4.3	5.6	-2.5	1.3	2.2	5.5	1.4	5.2	1.4	2.0
Middle Columbia Lower Tribs	-4.0	5.1	-3.0	0.4	0.7	4.7	1.1	5.3	2.0	2.1
Coastal River Basins	-1.4	4.9	-1.5	1.7	2.5	4.7	1.6	5.0	2.8	2.3
Clackamas River Basin	-3.6	4.3	-2.7	0.9	1.0	4.2	1.1	4.7	1.8	1.6
Willamette River Basin abv Harrisburg	-4.0	4.2	-2.4	1.0	1.0	4.0	0.9	4.4	1.7	1.3
Santiam River Basin	-3.9	4.6	-2.2	1.1	1.1	4.2	1.0	4.6	1.9	1.2
Coquille River Basin	-2.1	4.6	-2.2	1.2	1.5	4.2	1.5	4.7	2.2	2.2
Umpqua River Basin	-3.1	4.9	-2.2	0.7	1.4	4.4	1.4	4.9	2.0	2.1
Rogue-Illinois River Basins	-3.6	4.7	-2.4	0.5	1.2	4.1	1.2	4.8	1.7	1.9

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

OBSERVED PRECIPITATION

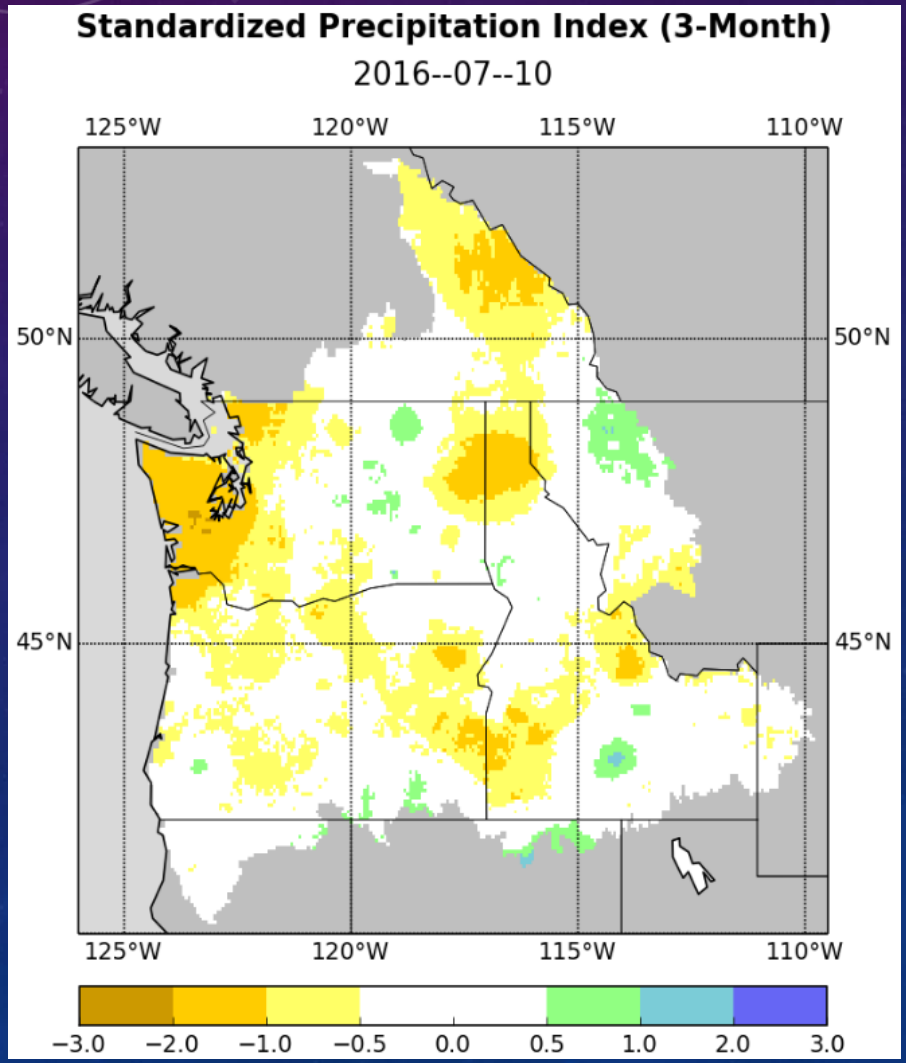
NOAA NORTHWEST RIVER FORECAST CENTER
& UW DROUGHT MONITORING SYSTEM

WATER YEAR PERCENT OF AVERAGE



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

3 MONTH SPI AS OF JULY 10

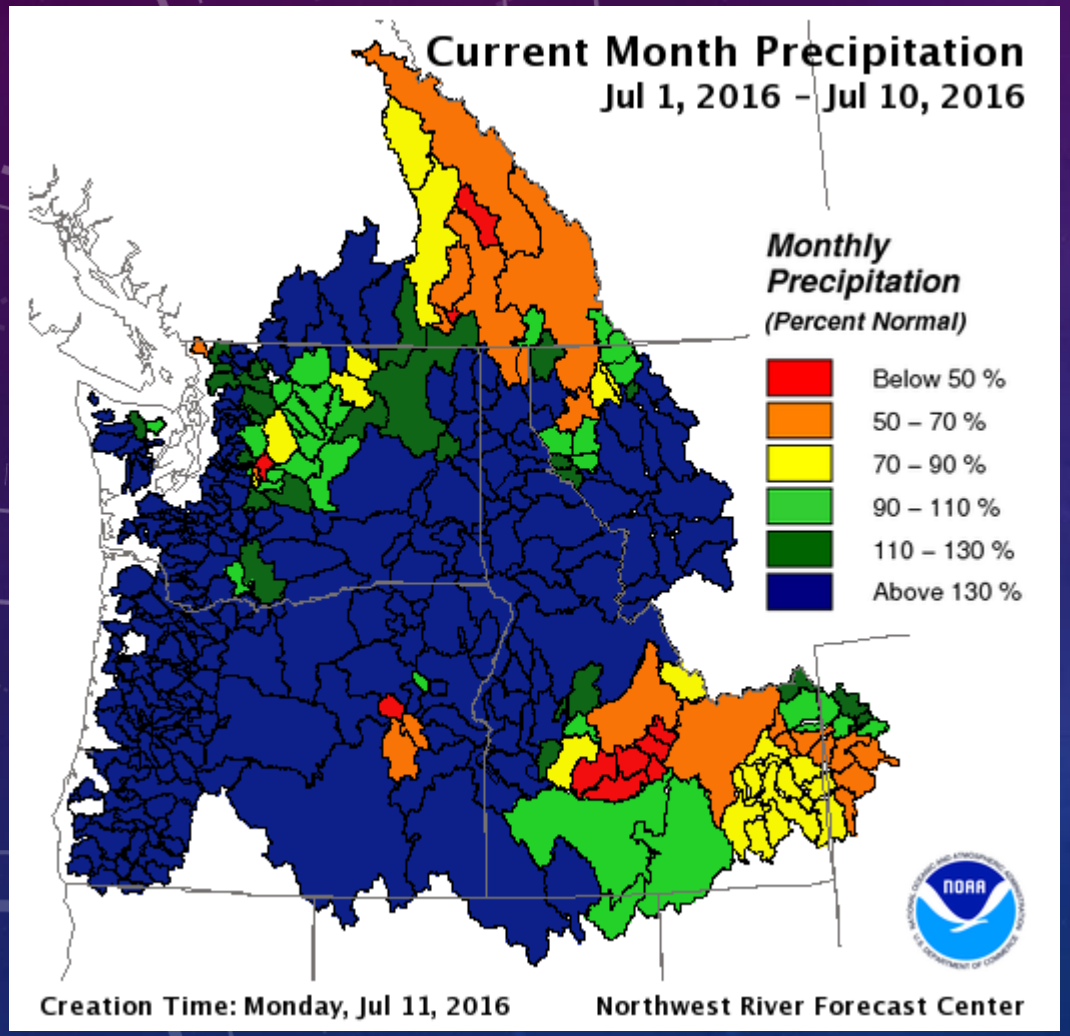


www.hydro.washington.edu/forecast/monitor_west/drought.shtml

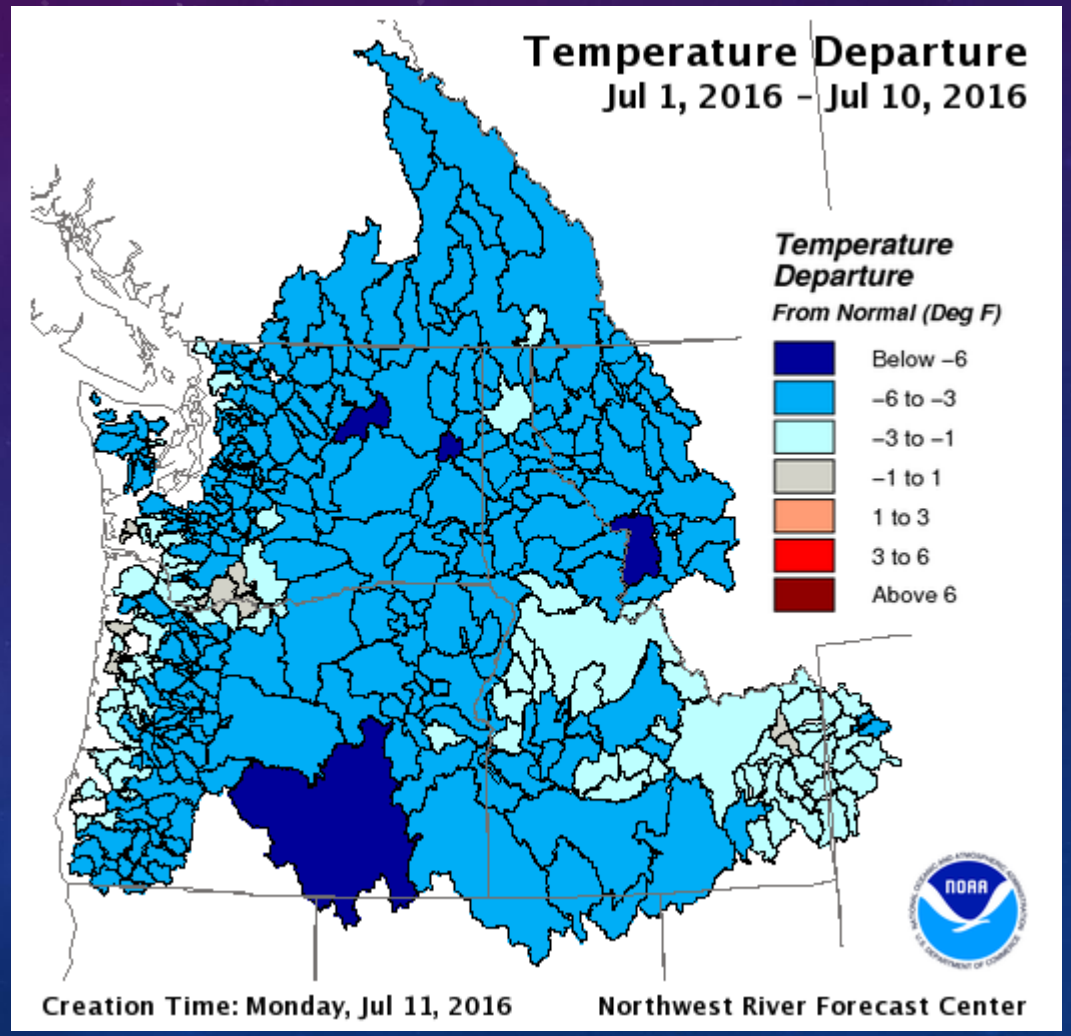
JULY 1 - 10

NOAA NORTHWEST RIVER FORECAST CENTER

PRECIPITATION



TEMPERATURES



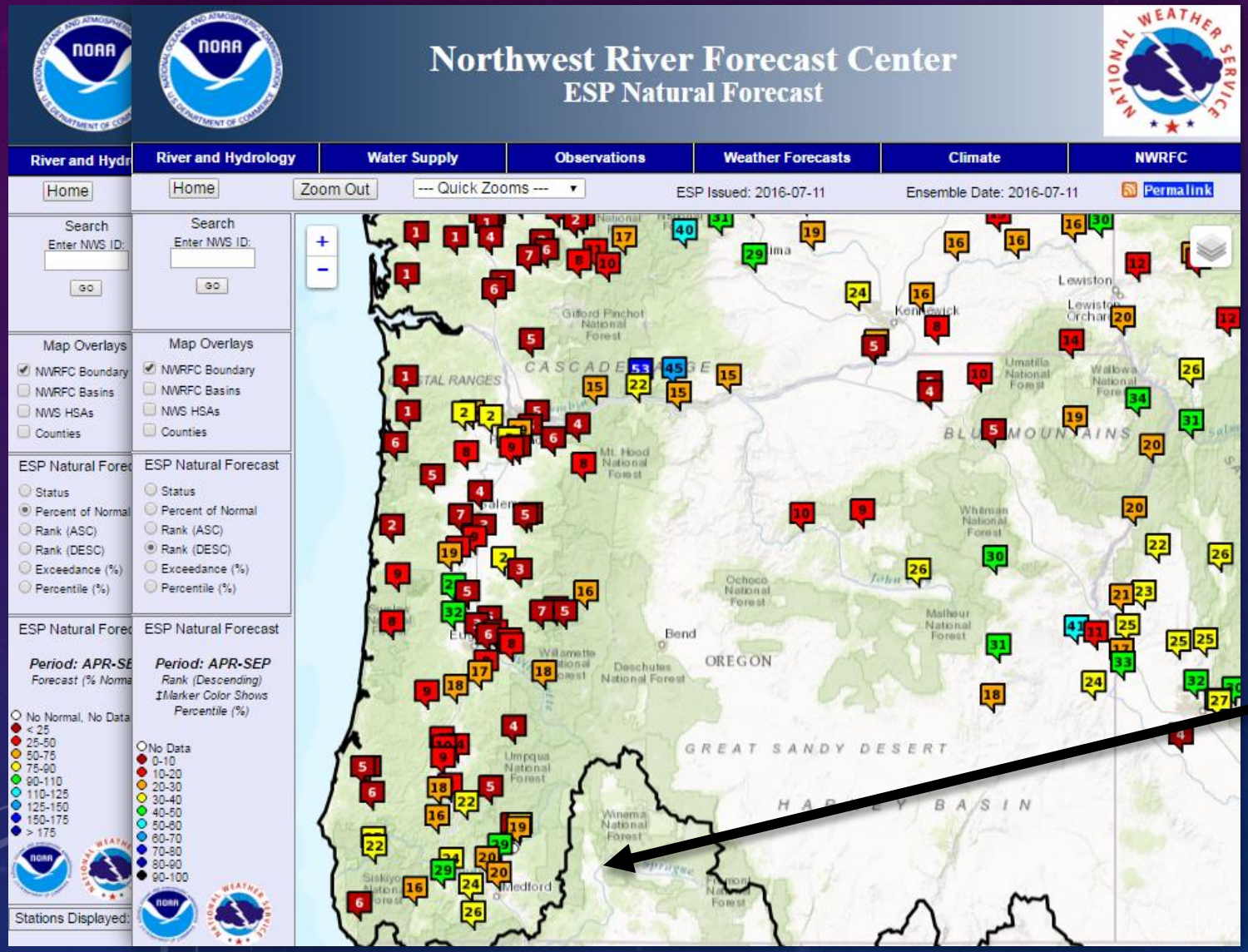
www.nwrfc.noaa.gov/water_supply/wy_summary/wy_summary.php?tab=2

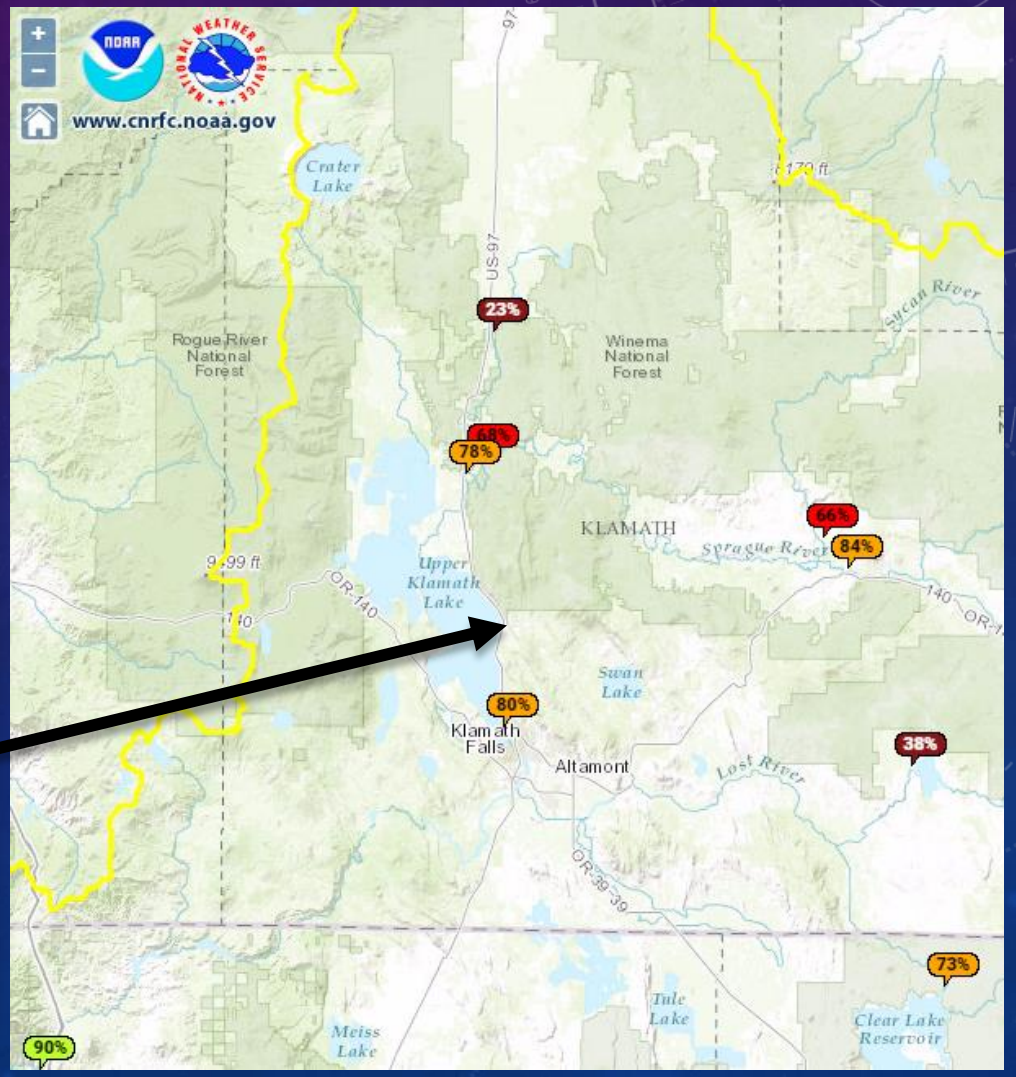
WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC & CALIFORNIA-NEVADA RFC

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

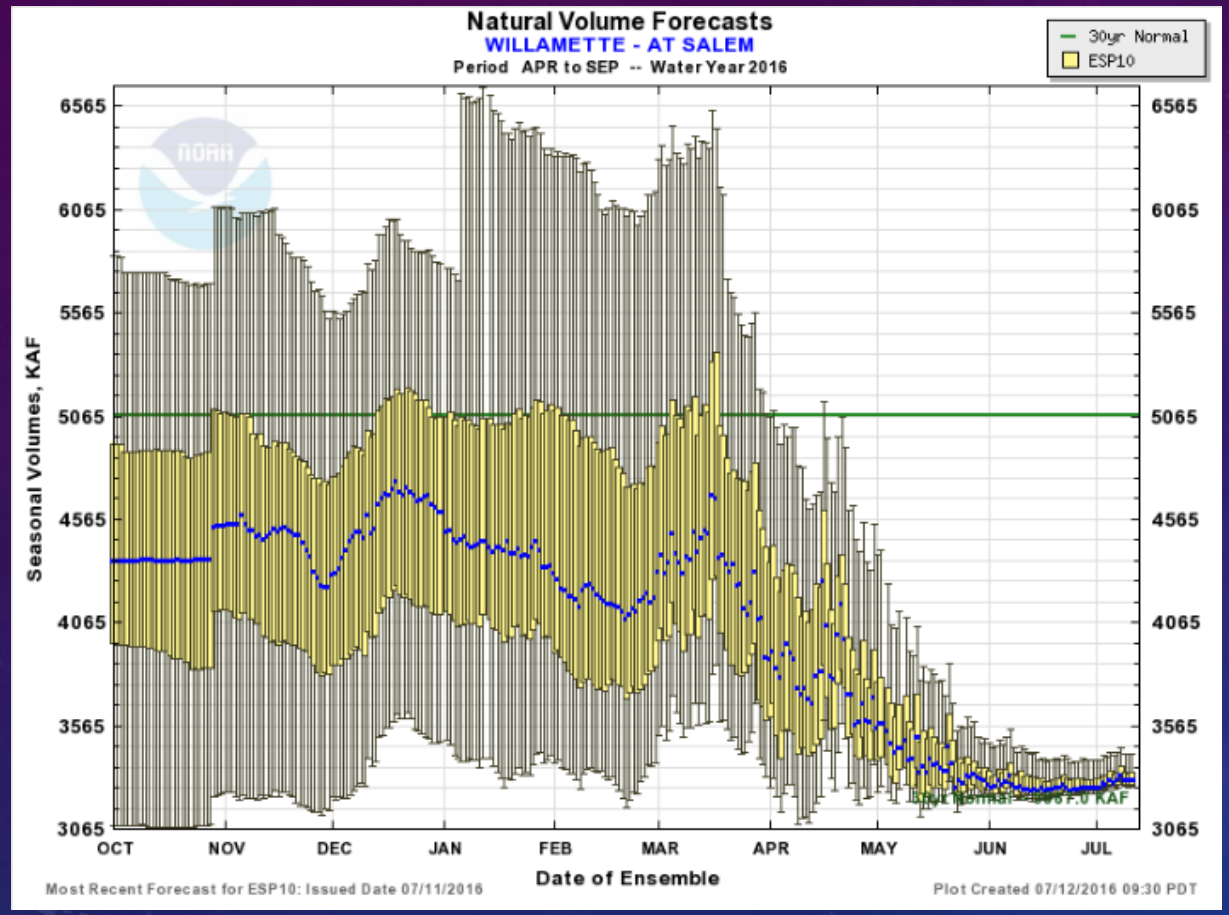
www.cnrfc.noaa.gov/water_resources_update.php



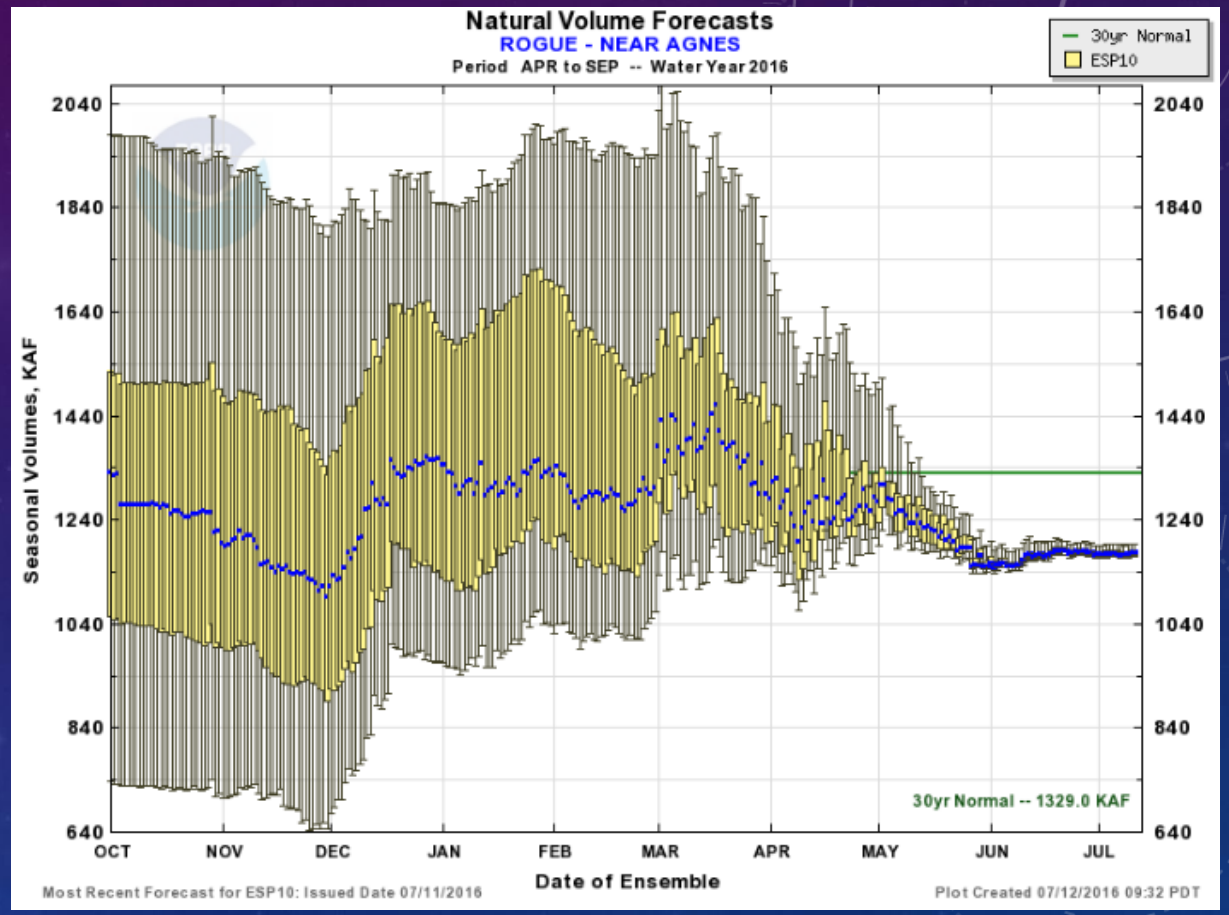


WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC



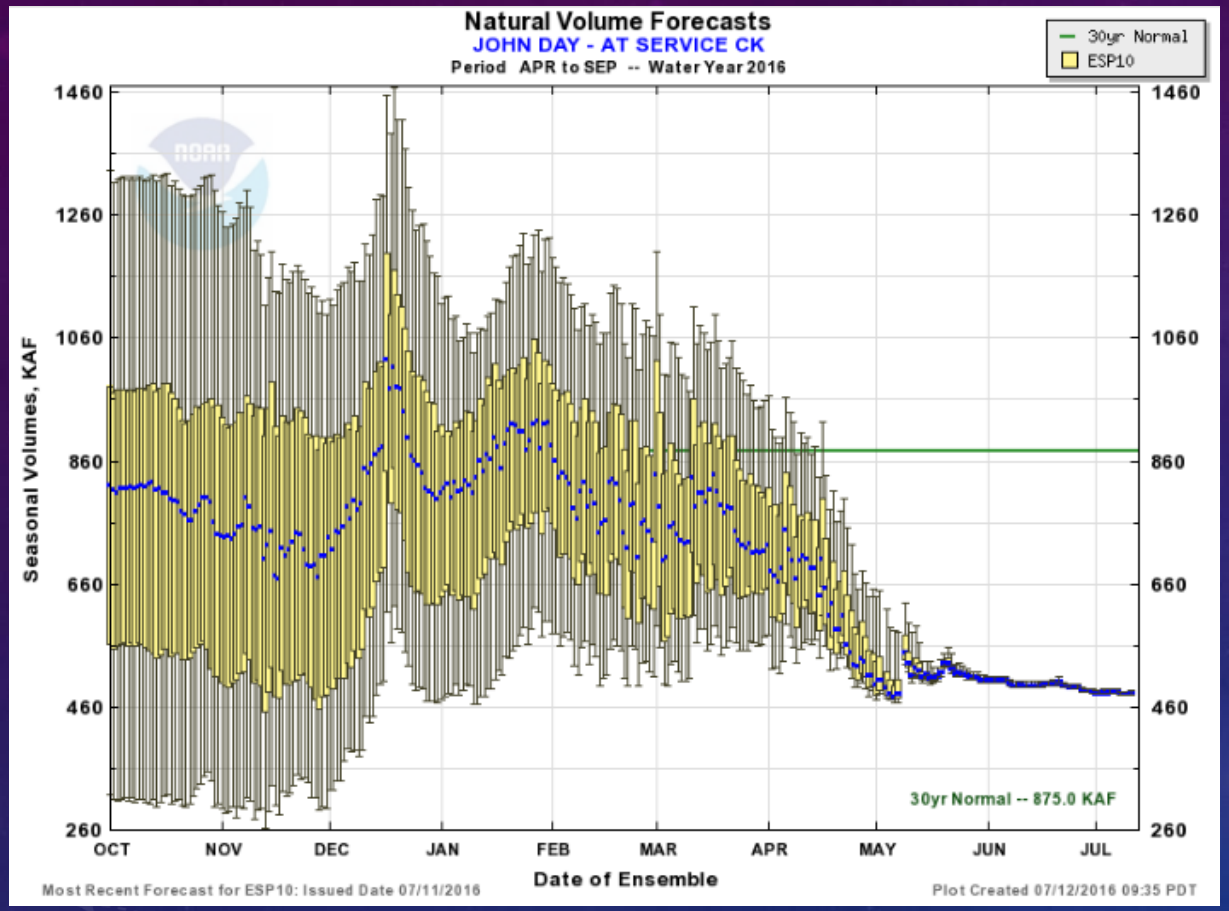
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	3272	3302	65	3432	5067
APR-JUL	2916	2916	65	2918	4496
JAN-SEP	11393	11423	93	11553	12226



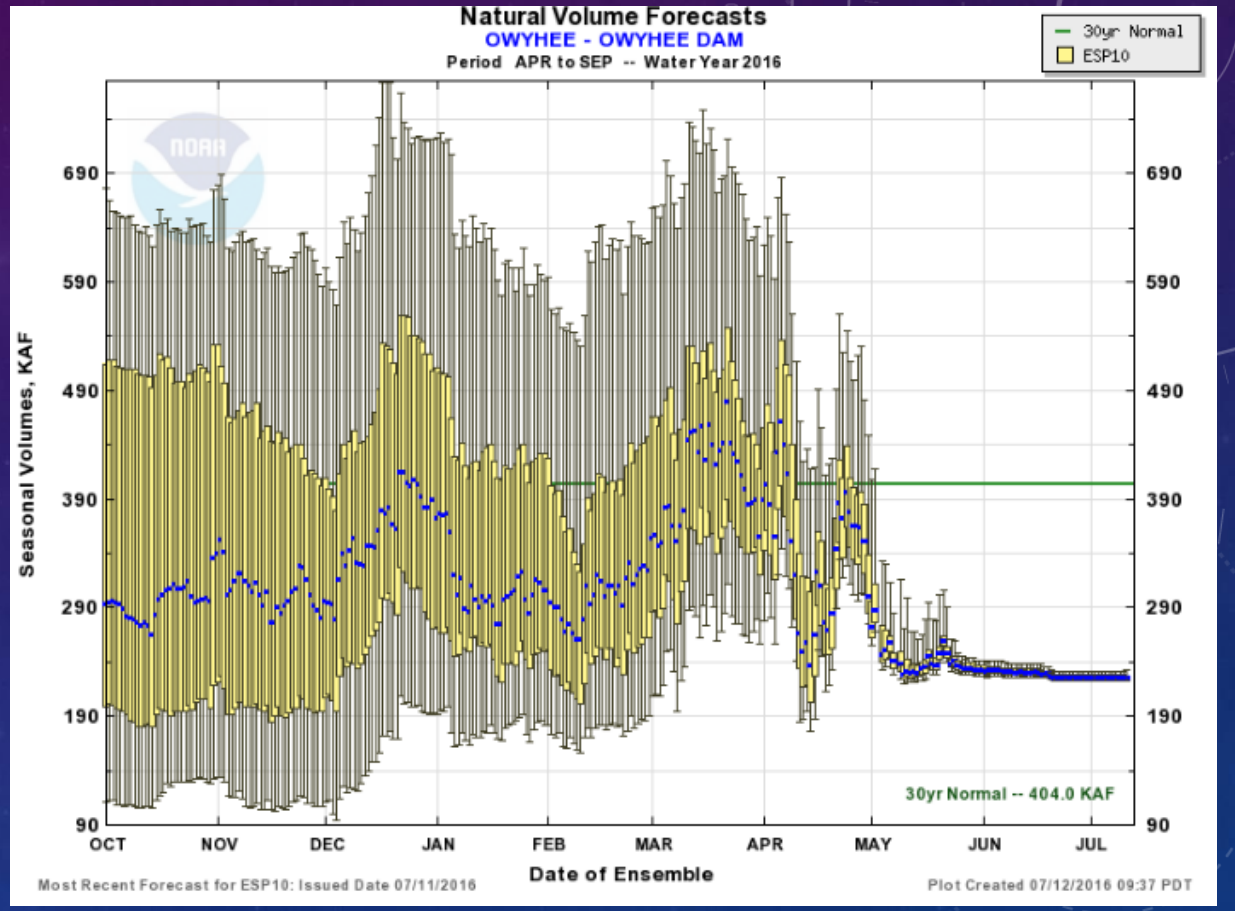
Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	1170	1177	89	1193	1329
APR-JUL	1019	1019	88	1020	1158
JAN-SEP	3982	3988	127	4004	3132

WATER SUPPLY FORECASTS

NOAA NORTHWEST RFC



Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	480	482	55	486	875
APR-JUL	460	460	56	460	828
JAN-SEP	1133	1135	82	1139	1388

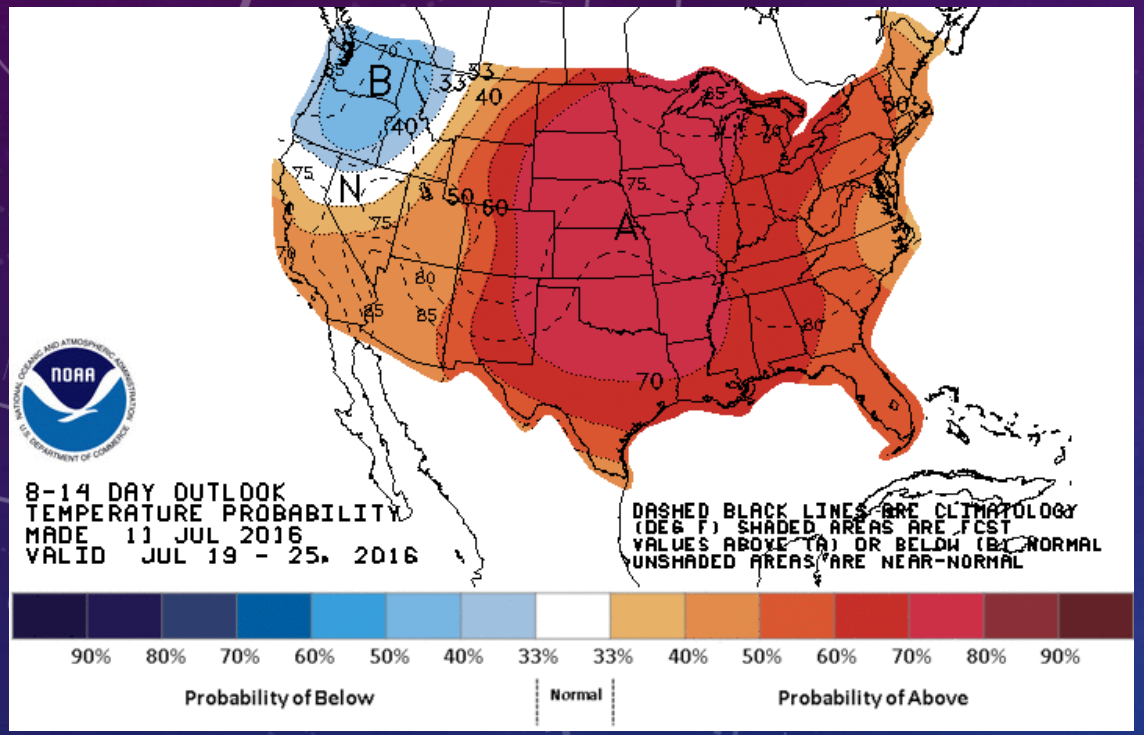


Forecast Period	Forecasts Are in KAF				30 Year Average (1981-2010)
	90 %	50 %	% Average	10 %	
APR-SEP	223	226	56	232	404
APR-JUL	199	199	53	200	374
JAN-SEP	553	555	79	562	705

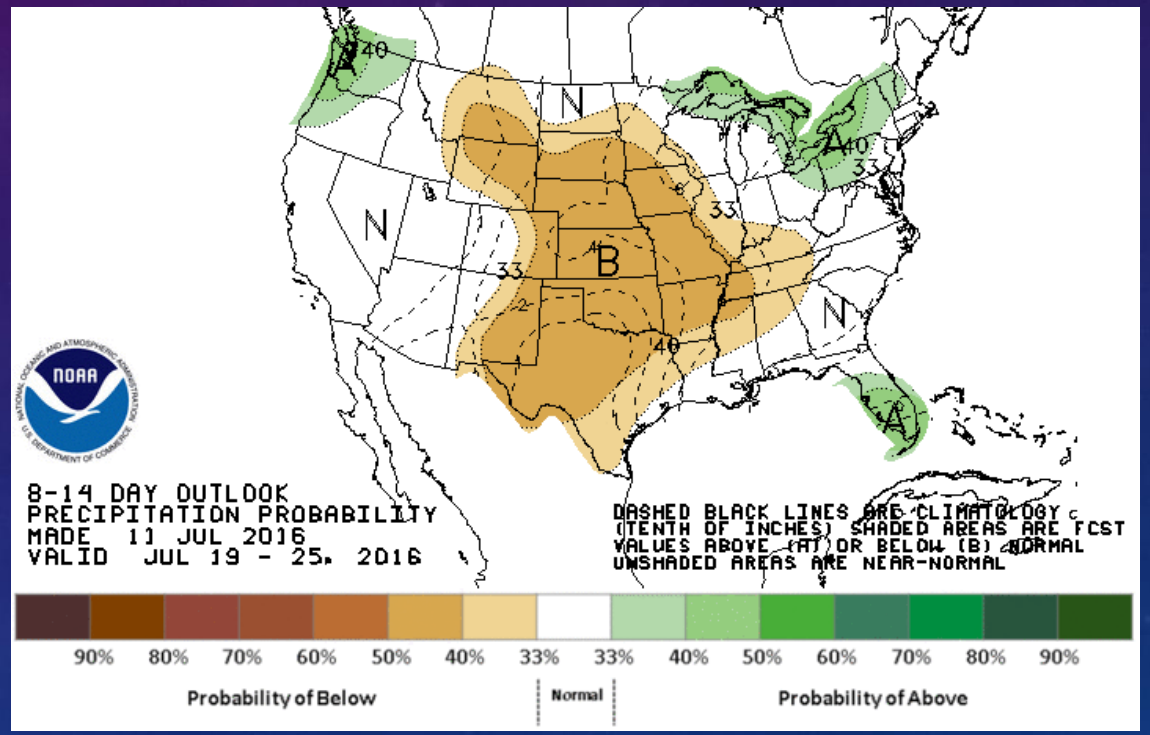
8 - 14 DAY OUTLOOK

NOAA CLIMATE PREDICTION CENTER

TEMPERATURES



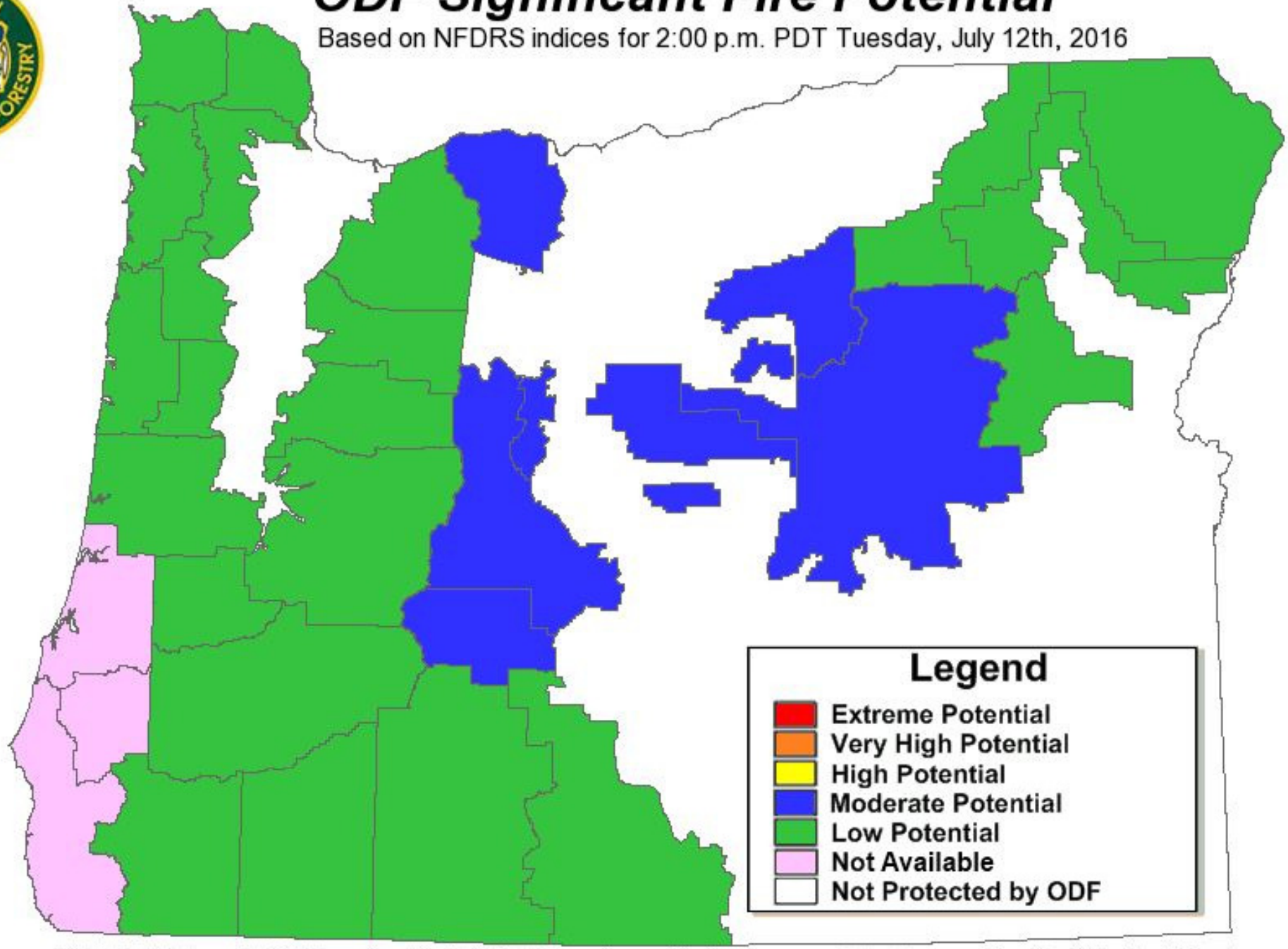
PRECIPITATION



www.cpc.ncep.noaa.gov

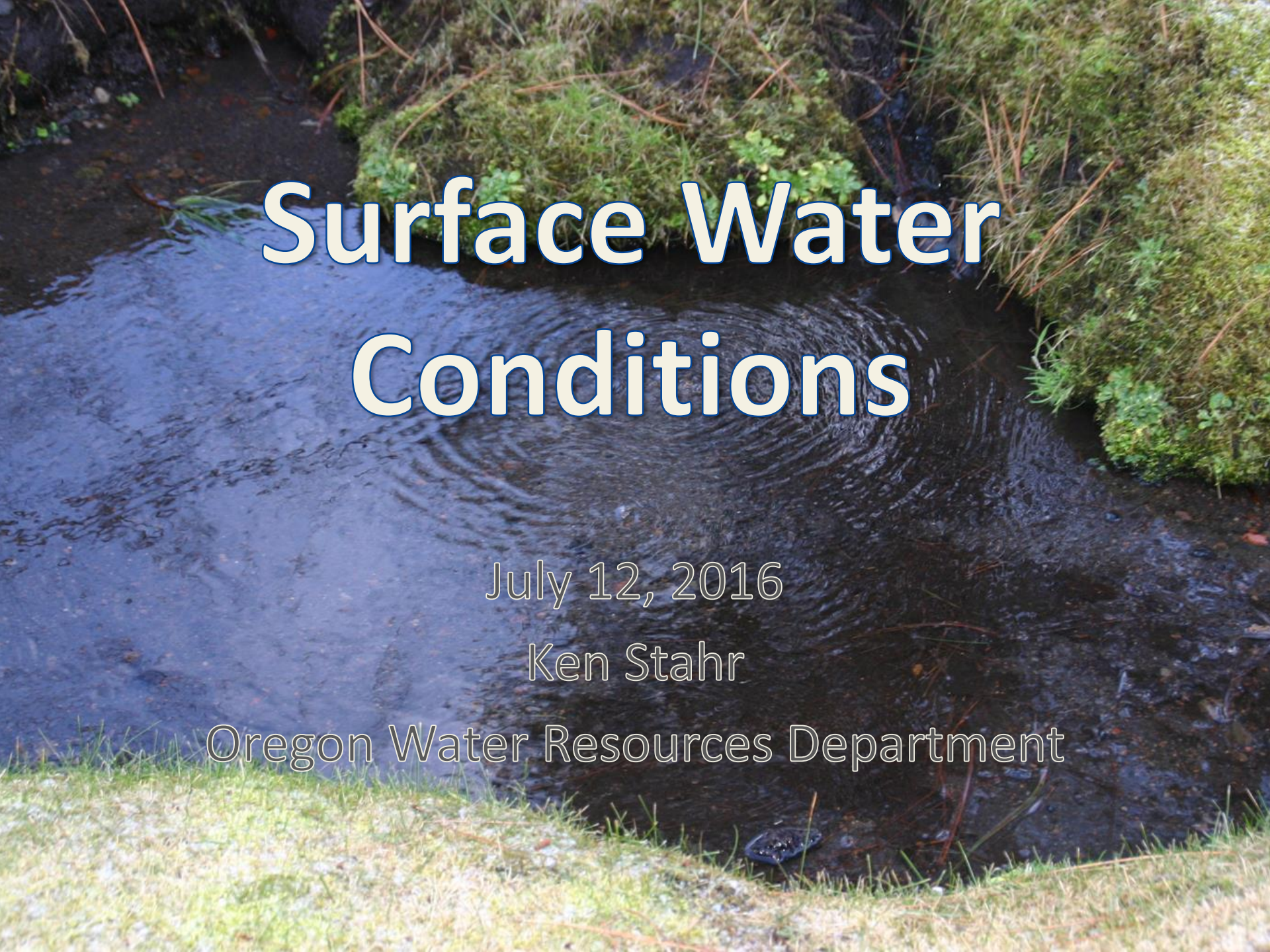
ODF Significant Fire Potential

Based on NFDRS indices for 2:00 p.m. PDT Tuesday, July 12th, 2016



Updated: 10:33 a.m. PDT Wednesday, July 13th, 2016 (map does not display or represent Fire Danger or Regulated Use Restrictions).

Oregon Department of Forestry

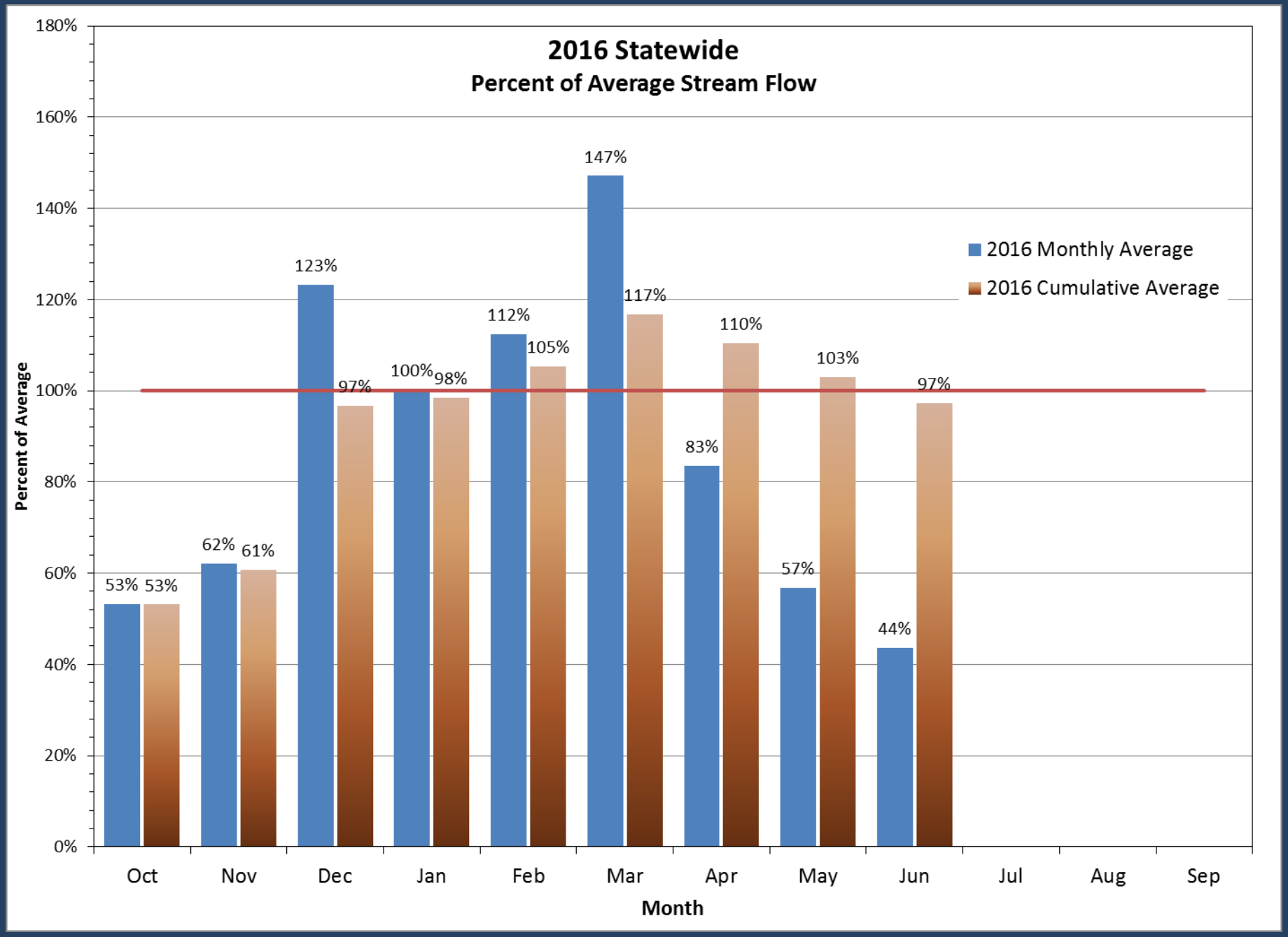


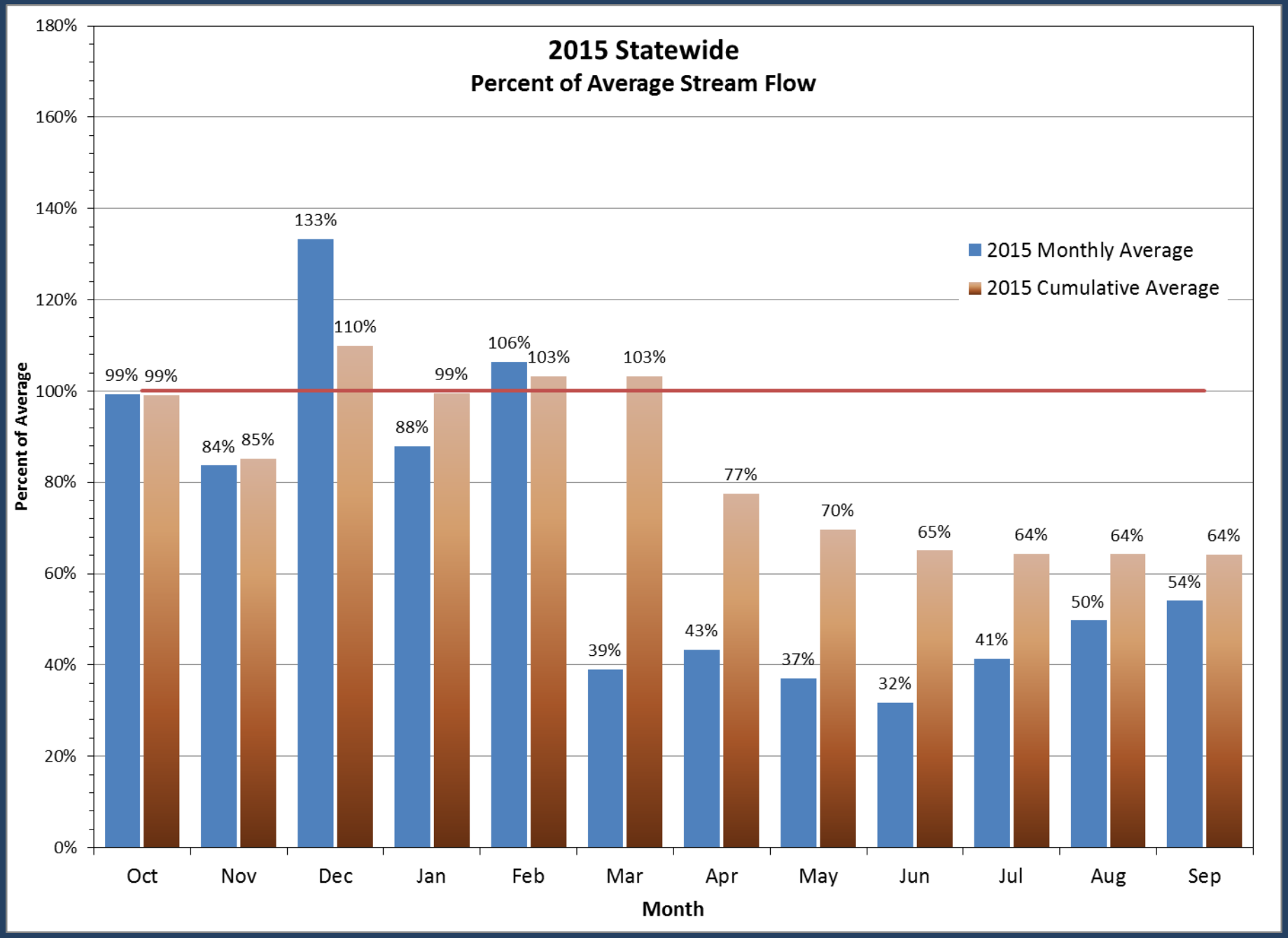
Surface Water Conditions

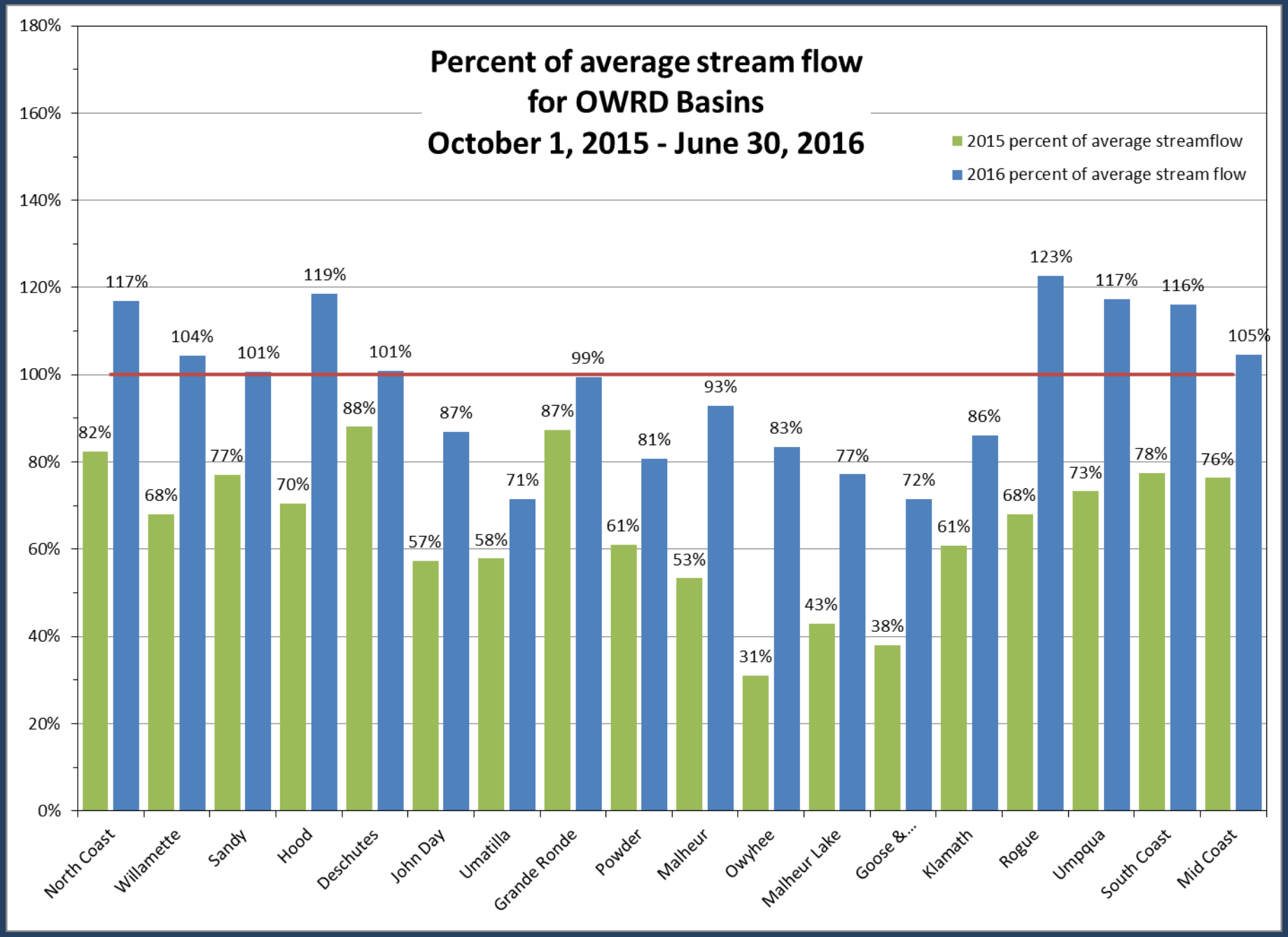
July 12, 2016

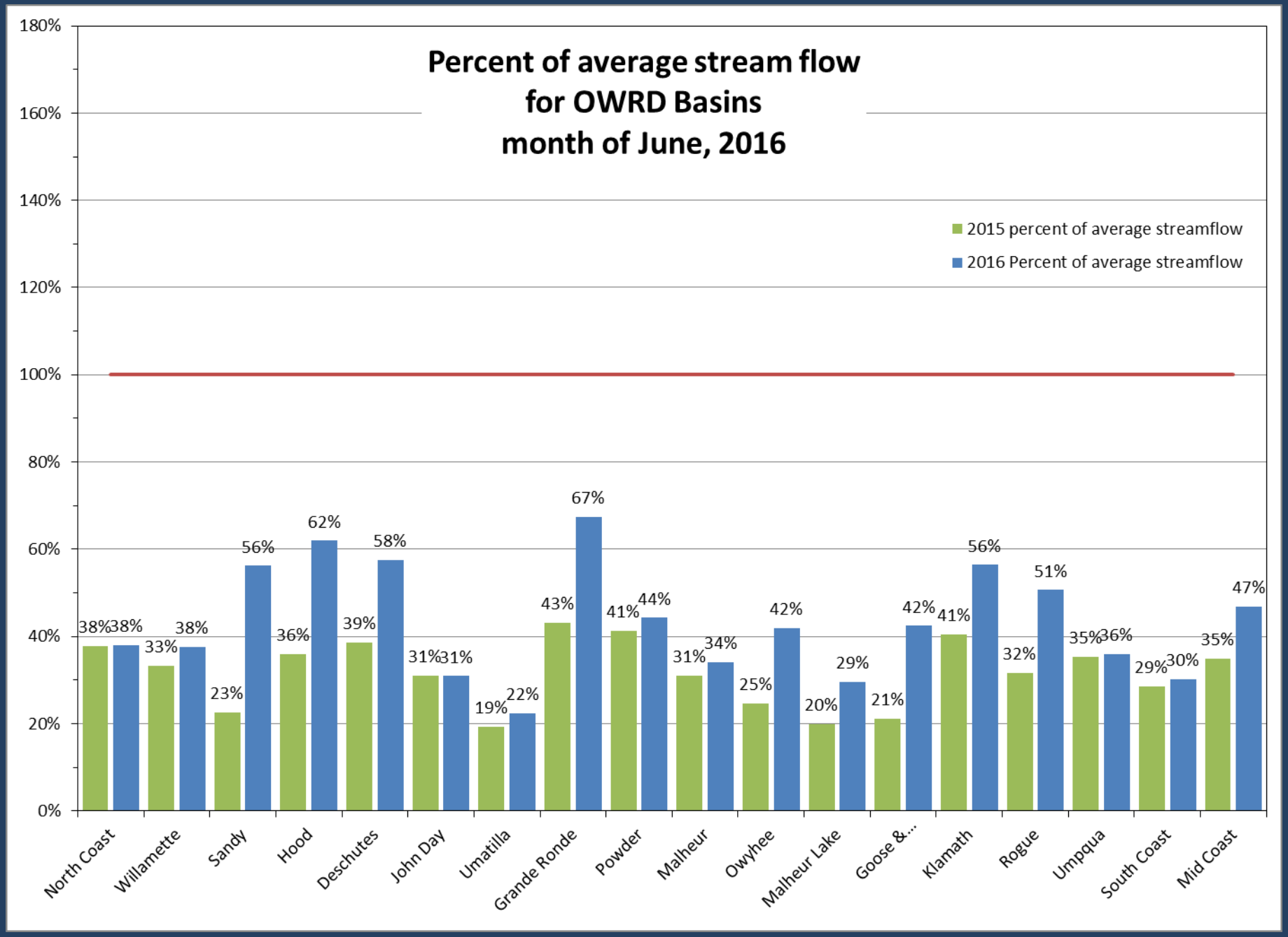
Ken Stahr

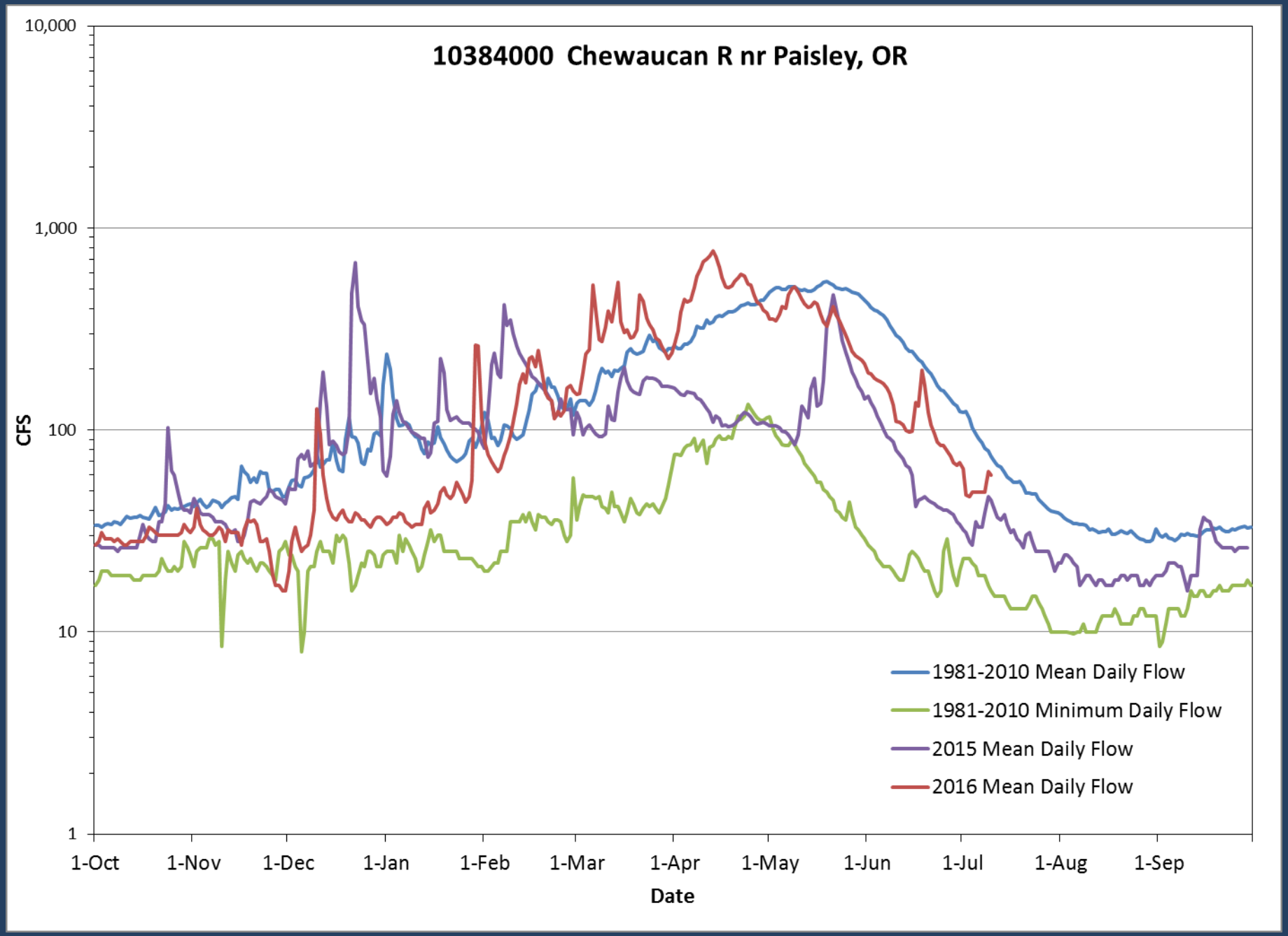
Oregon Water Resources Department

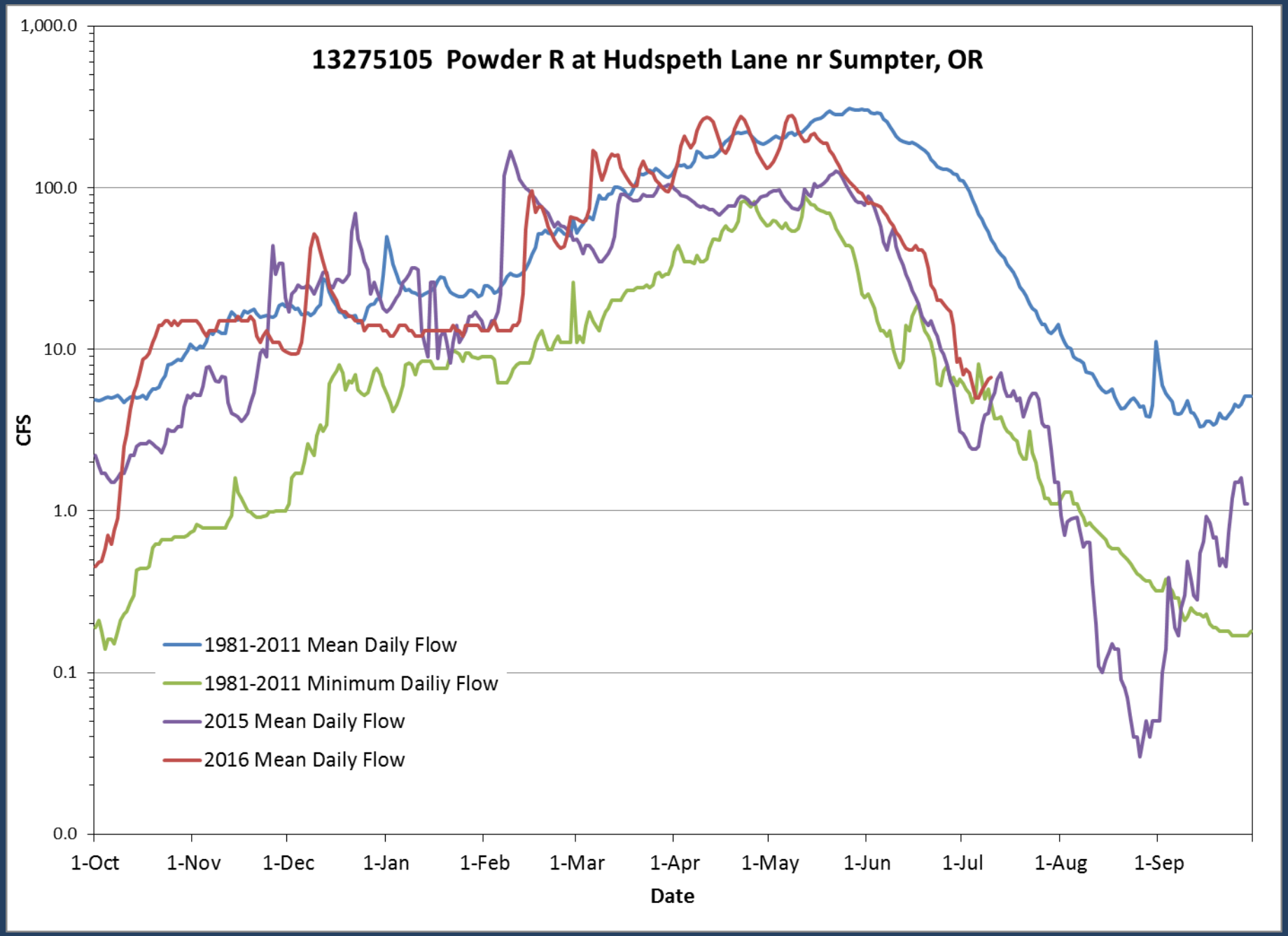

2016 Statewide
Percent of Average Stream Flow
Percent of Average
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
2016 Monthly Average
2016 Cumulative Average
53%
53%
62%
61%
123%
97%
100%
98%
112%
105%
147%
117%
83%
110%
57%
103%
44%
97%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
Month

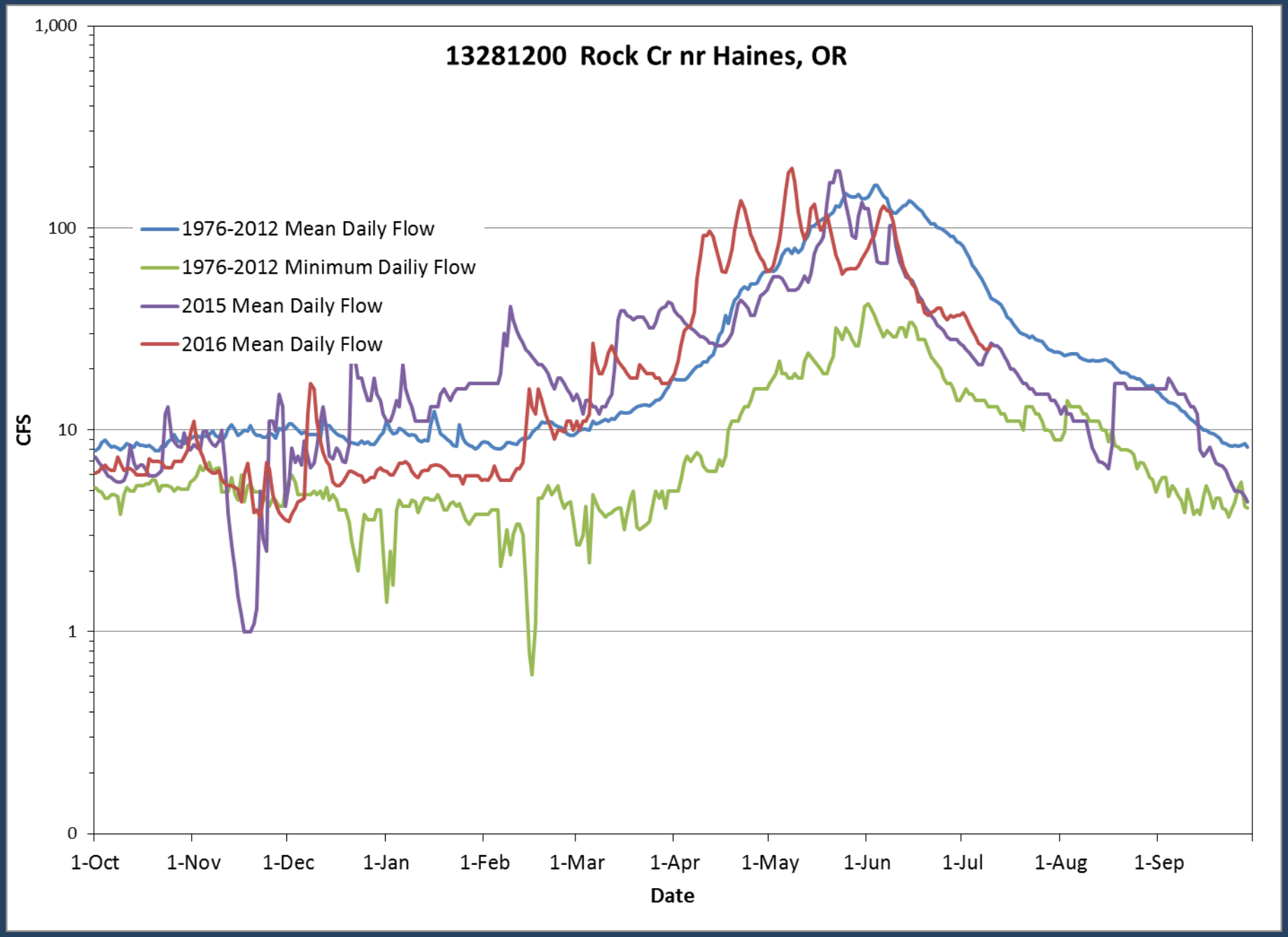

2015 Statewide
Percent of Average Stream Flow
2015 Monthly Average
2015 Cumulative Average
Percent of Average
Month
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
Oct
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sep
99%
99%
84%
85%
133%
110%
88%
99%
106%
103%
39%
103%
43%
77%
37%
70%
32%
65%
41%
64%
50%
64%
54%
64%

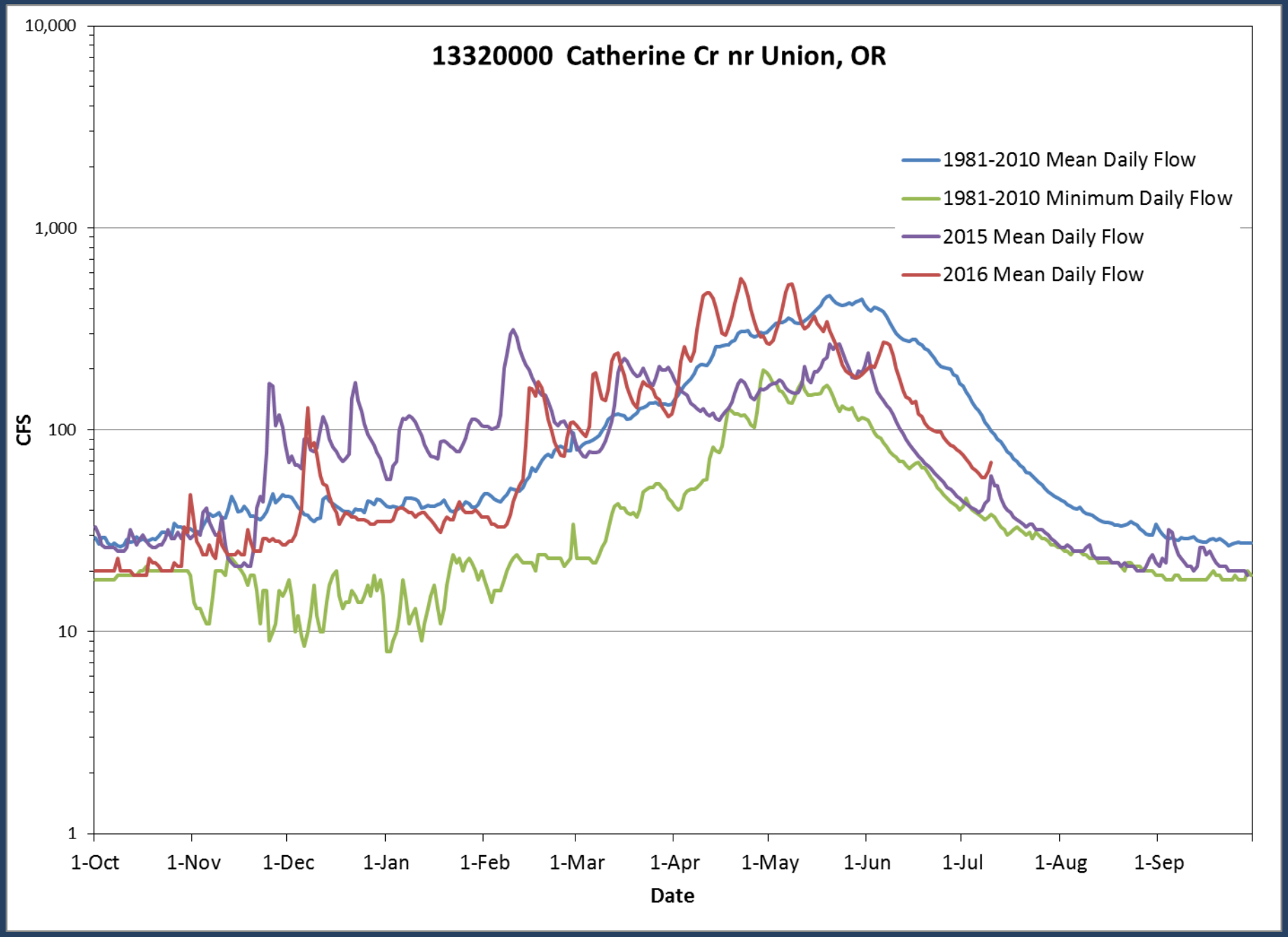

Percent of average stream flow
for OWRD Basins
October 1, 2015 - June 30, 2016
2015 percent of average streamflow
2016 percent of average stream flow
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
82%
117%
68%
104%
77%
101%
70%
119%
88%
101%
57%
87%
58%
71%
87%
99%
61%
81%
53%
93%
31%
83%
43%
77%
38%
72%
61%
86%
68%
123%
73%
117%
78%
116%
76%
105%
North Coast
Willamette
Sandy
Hood
Deschutes
John Day
Umatilla
Grande Ronde
Powder
Malheur
Owyhee
Malheur Lake
Goose &...
Klamath
Rogue
Umpqua
South Coast
Mid Coast

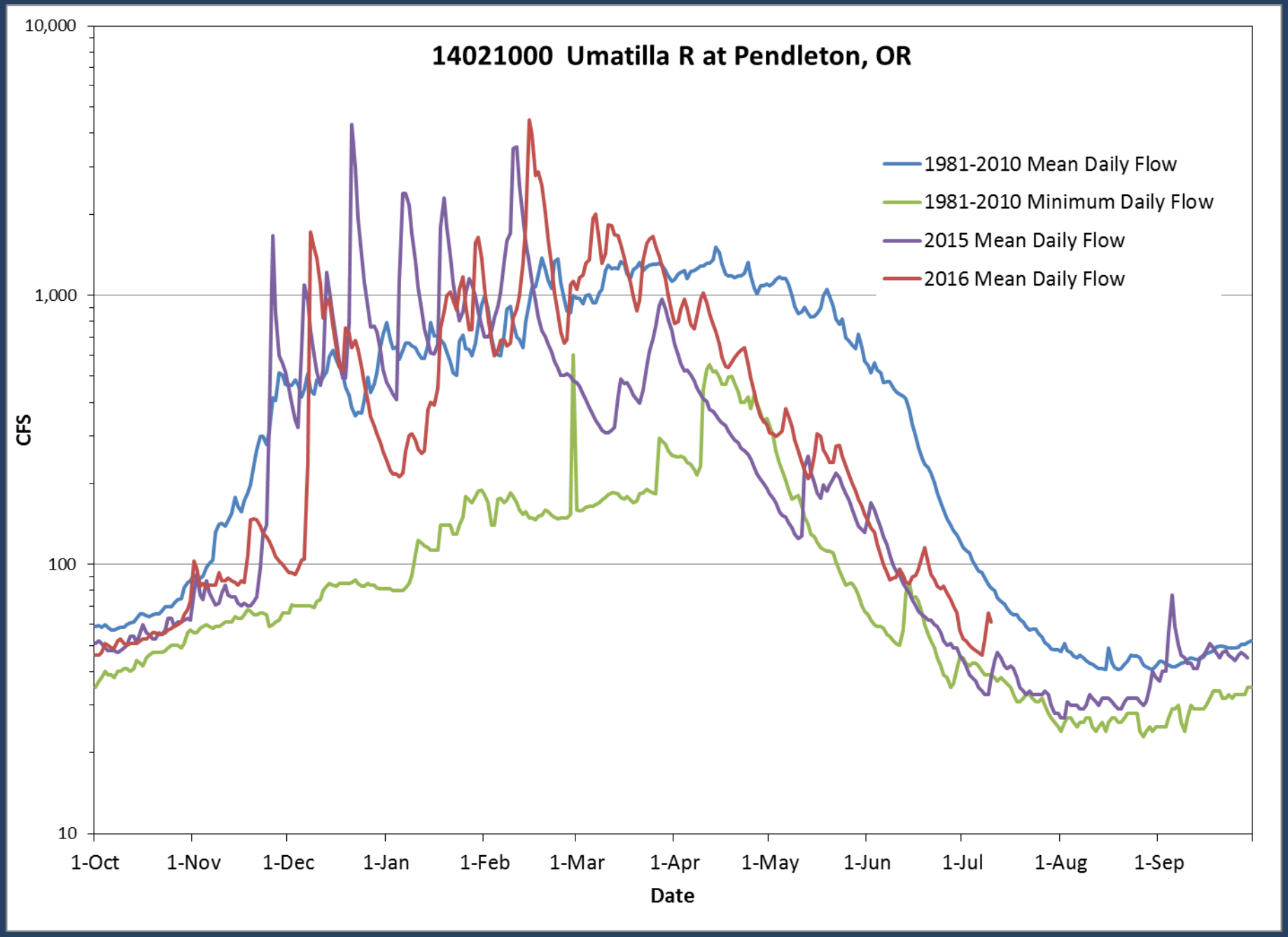

Percent of average stream flow
for OWRD Basins
month of June, 2016
2015 percent of average streamflow
2016 Percent of average streamflow
180%
160%
140%
120%
100%
80%
60%
40%
20%
0%
38%
38%
33%
38%
23%
56%
36%
62%
39%
58%
31%
31%
19%
22%
43%
67%
41%
44%
31%
34%
25%
42%
20%
29%
21%
42%
41%
56%
32%
51%
35%
36%
29%
30%
35%
47%
North Coast
Willamette
Sandy
Hood
Deschutes
John Day
Umatilla
Grande Ronde
Powder
Malheur
Owyhee
Malheur Lake
Goose &...
Klamath
Rogue
Umpqua
South Coast
Mid Coast

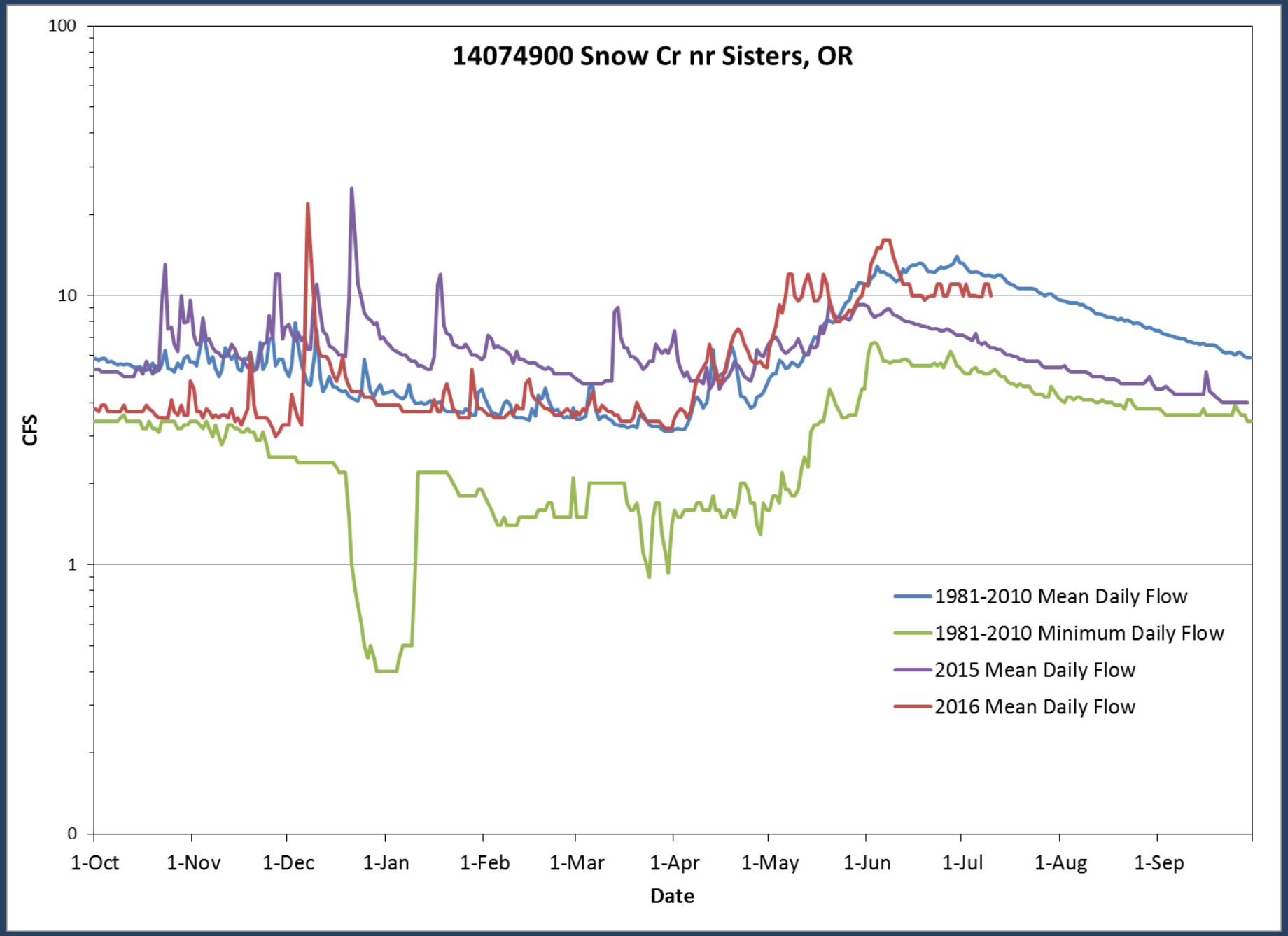

10384000 Chewaucan R nr Paisley, OR
10,000
1,000
100
10
1
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

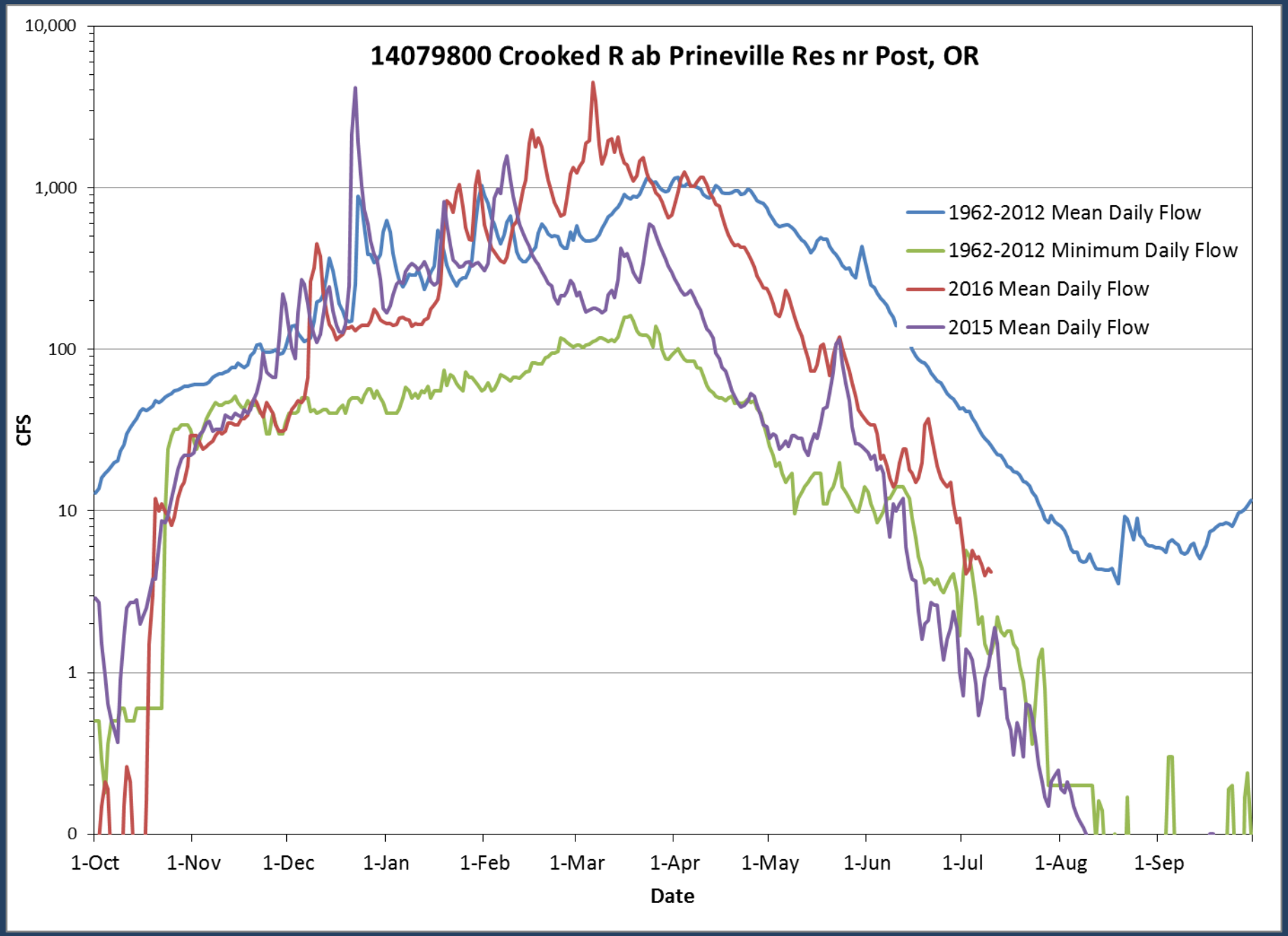

13275105 Powder R at Hudspeth Lane nr Sumpter, OR
1,000.0
100.0
10.0
1.0
0.1
0.0
CFS
1981-2011 Mean Daily Flow
1981-2011 Minimum Dailiy Flow
2015 Mean Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

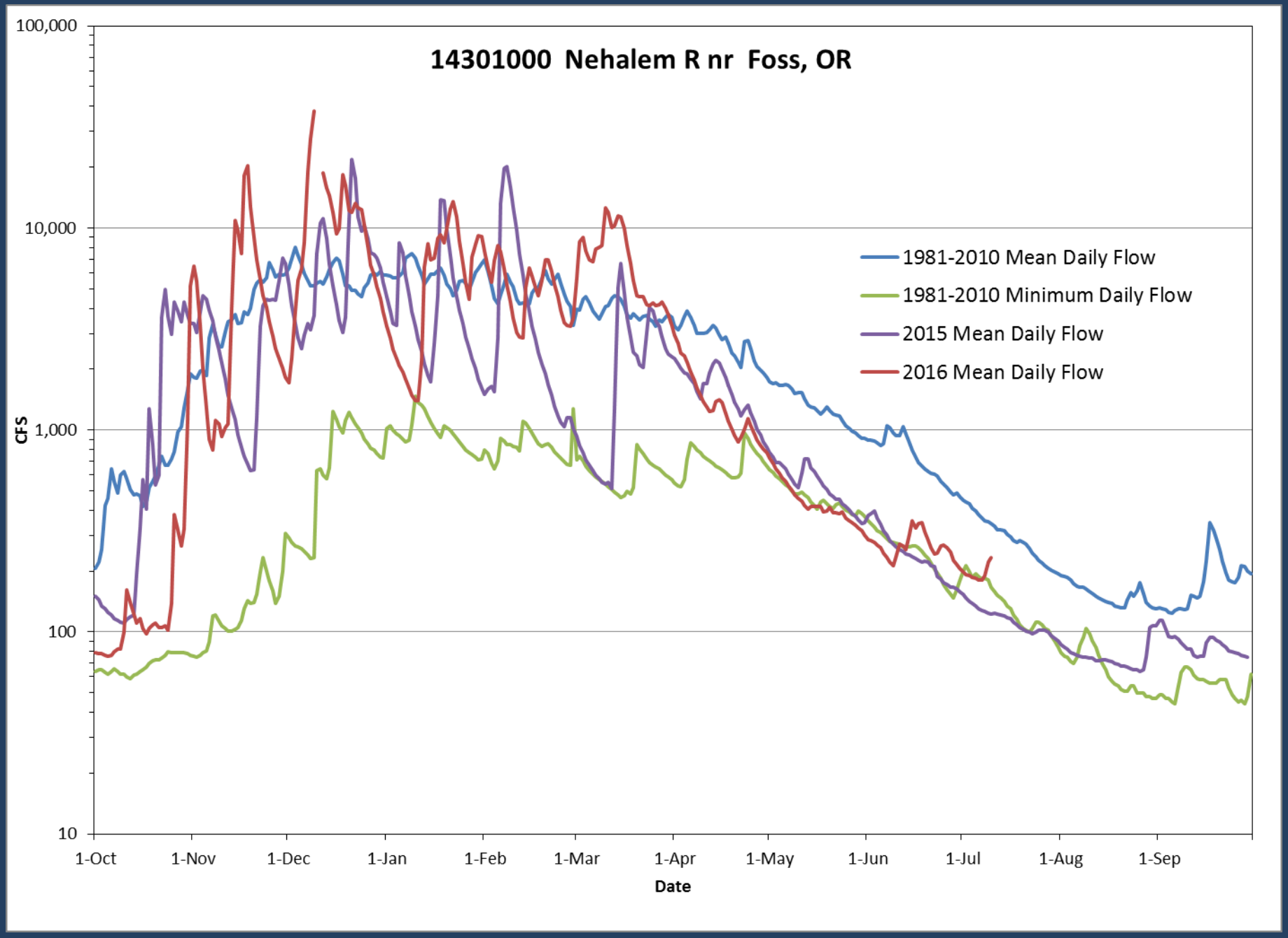

13281200 Rock Cr nr Haines, OR
1,000
100
10
1
0
CFS
1976-2012 Mean Daily Flow
1976-2012 Minimum Dailiy Flow
2015 Mean Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date

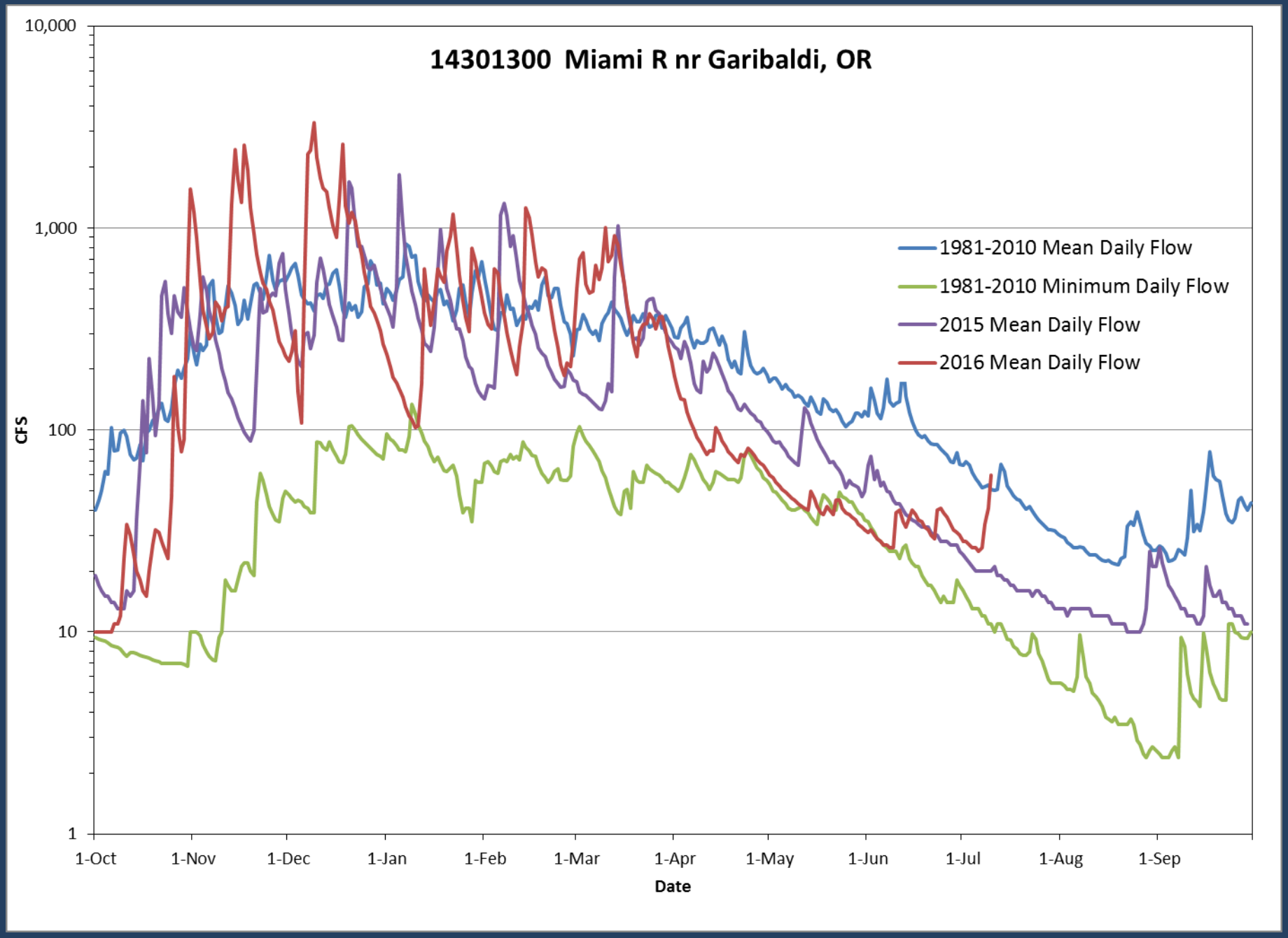

13320000 Catherine Cr nr Union, OR
10,000
1,000
100
10
1
CFS
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date


14021000 Umatilla R at Pendleton, OR
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

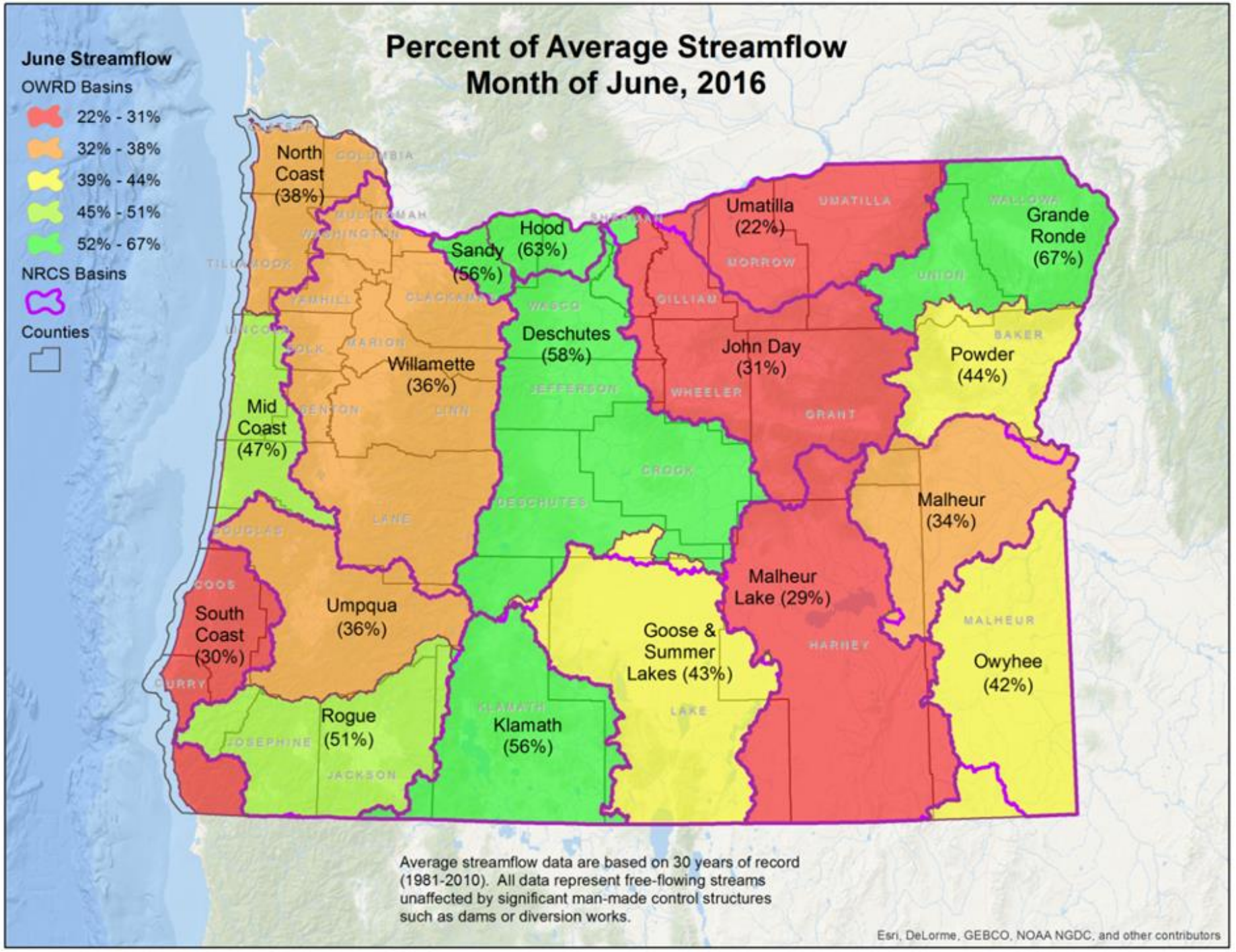

14074900 Snow Cr nr Sisters, OR
100
10
1
0
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

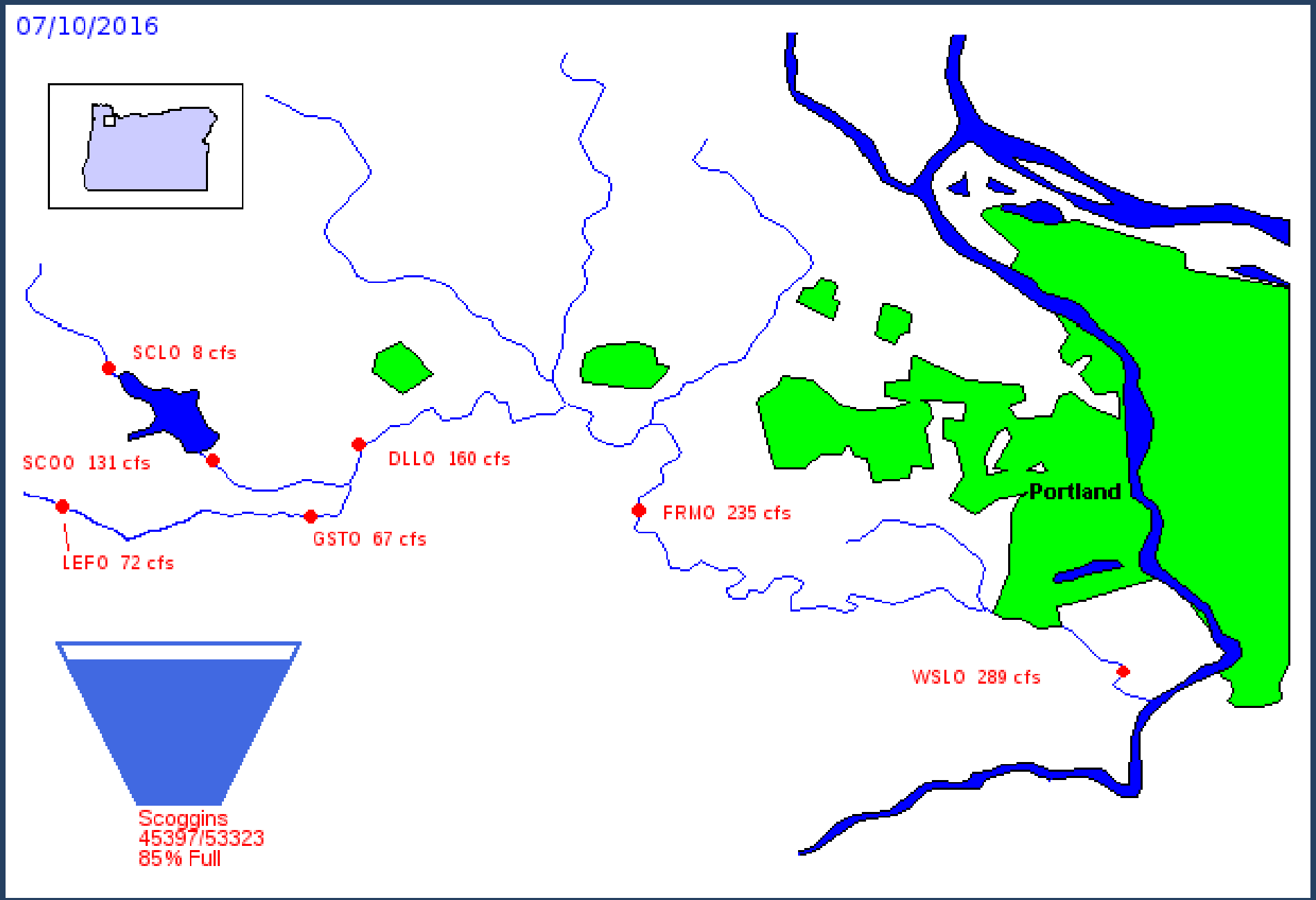

14079800 Crooked R ab Prineville Res nr Post, OR
10,000
1,000
100
10
1
0
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1962-2012 Mean Daily Flow
1962-2012 Minimum Daily Flow
2016 Mean Daily Flow
2015 Mean Daily Flow


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
2015 Mean Daily Flow
2016 Mean Daily Flow

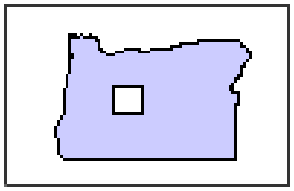

14301300 Miami R nr Garibaldi, OR
10,000
1,000
100
10
1
CFS
1-Oct
1-Nov
1-Dec
1-Jan
1-Feb
1-Mar
1-Apr
1-May
1-Jun
1-Jul
1-Aug
1-Sep
Date
1981-2010 Mean Daily Flow
1981-2010 Minimum Daily Flow
2015 Mean Daily Flow
2016 Mean Daily Flow

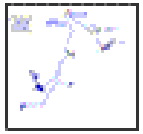
Basin	Water Year percent of average thru June	Percent of average for month of June	Percent of average for 7/10/2016	Number of data points
North Coast	117%	38%	89%	4
Willamette	104%	38%	104%	10
Sandy	101%	56%	92%	3
Hood	119%	62%	85%	3
Deschutes	101%	58%	57%	9
John Day	87%	31%	43%	9
Umatilla	71%	22%	50%	8
Grande Ronde	99%	67%	59%	5
Powder	81%	44%	60%	4
Malheur	93%	34%	57%	2
Owyhee	83%	42%	68%	1
Malheur Lake	77%	29%	34%	3
Goose & Summer Lakes	72%	42%	43%	5
Klamath	86%	56%	75%	5
Rogue	123%	51%	108%	8
Umpqua	117%	36%	130%	4
South Coast	116%	30%	88%	2
Mid Coast	105%	47%	169%	4
West Side	**112%**	**42%**	**111%**	**35**
East Side	**88%**	**44%**	**57%**	**54**
State	**97%**	**44%**	**78%**	**89**


Percent of Average Streamflow
Month of June, 2016
June Streamflow
OWRD Basins
22% - 31%
32% - 38%
39% - 44%
45% - 51%
52% - 67%
NRCS Basins
Counties
North Coast (38%)
Sandy (56%)
Hood (63%)
Umatilla (22%)
Grande Ronde (67%)
Deschutes (58%)
John Day (31%)
Powder (44%)
Willamette (36%)
Mid Coast (47%)
Malheur (34%)
Malheur Lake (29%)
Umpqua (36%)
South Coast (30%)
Goose & Summer Lakes (43%)
Owyhee (42%)
Rogue (51%)
Klamath (56%)
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.
Esri, DeLorme, GEBCO, NOAA NGDC, and other contributors


07/10/2016
SCLO 8 cfs
SCOO 131 cfs
DLLO 160 cfs
LEFO 72 cfs
GSTO 67 cfs
FRMO 235 cfs
Portland
WSLO 289 cfs
Scoggins
45397/53323
85% Full

07/10/2016





Deschutes ESA

CULO 610 cfs

CROO 1339 cfs

Haystack
5281/5600
94% Full

Ochoco
33975/44247
77% Full

CRSO 147 cfs

Prineville

MLCO 3 cfs

CAPO 80 cfs

OCRO 3 cfs

OCHO 13 cfs

CRCO 149 cfs

CRPO 4 cfs

PRVO 249 cfs

DEBO 181 cfs

Bend

Crane Prairie
43674/55300
79% Full

BENO 1970 cfs

CRAO 197 cfs

Prineville
117407/148640
79% Full

LAPO 72 cfs

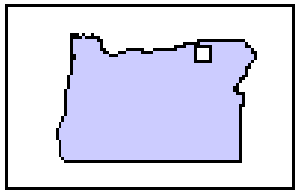
Wickiup
88777/200000
44% Full

WICO 1359 cfs

Crescent Lake
60448/86900
70% Full

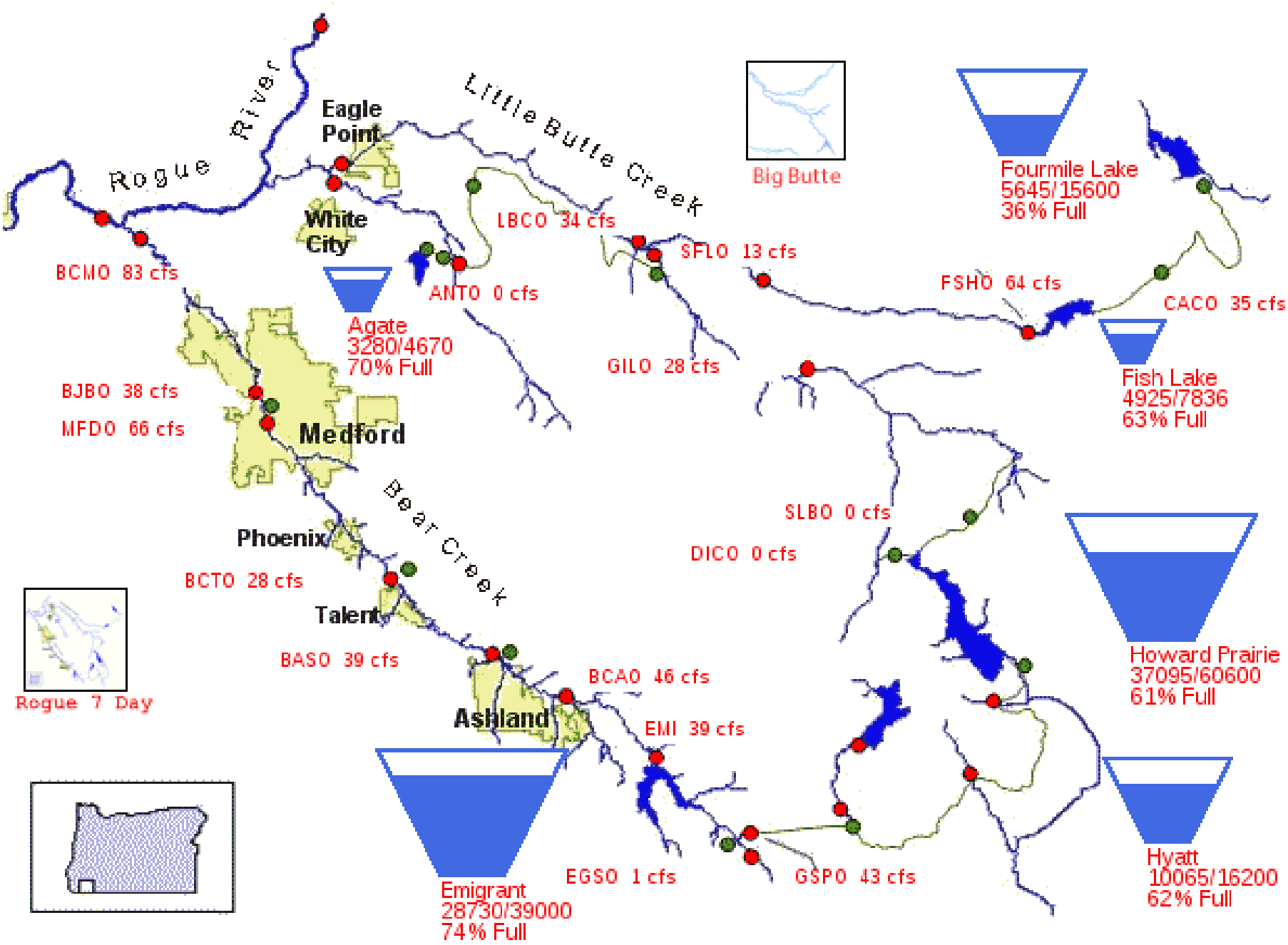
CREO 28 cfs

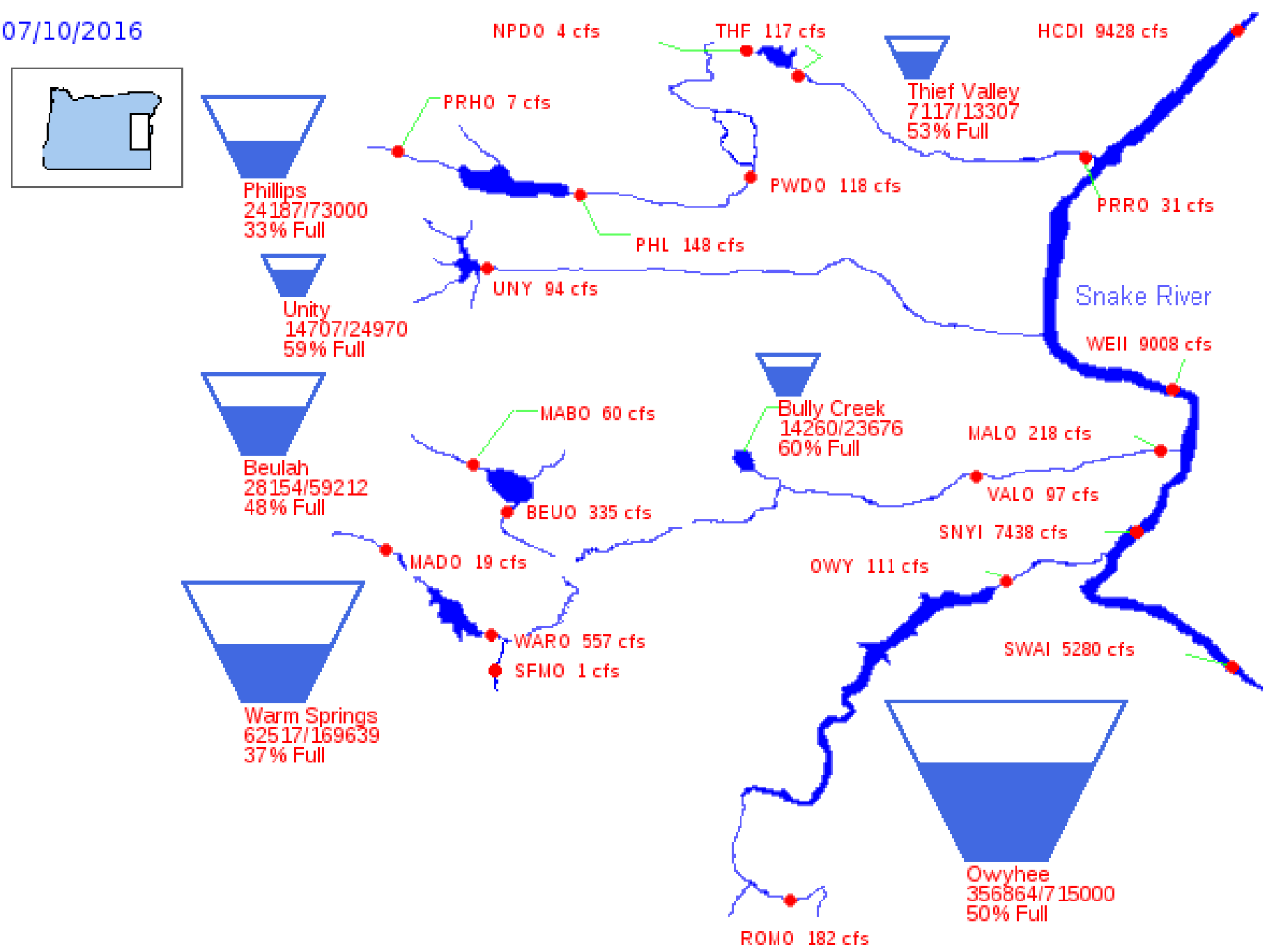
07/10/2016



WEPO 102 cfs
UMAO 128 cfs
WEUO 3 cfs
SBEO 138 cfs
UMTO 125 cfs
CSRO 71 cfs
Cold Springs
13793/38000
36% Full
Hermiston
CSAO 108 cfs
FCSO 0 cfs
FURO 13 cfs
MAXO 32 cfs
DLEO 6 cfs
UMDO 18 cfs
FCEO 0 cfs
ALNO MISSING cfs
WESO 171 cfs
UMUO 163 cfs
YOKO 209 cfs
WCRO 2 cfs
PDTO 59 cfs
Pendleton
BIRO 0 cfs
MCKO 133 cfs
McKay
38399/65534
59% Full
MYKO 3 cfs

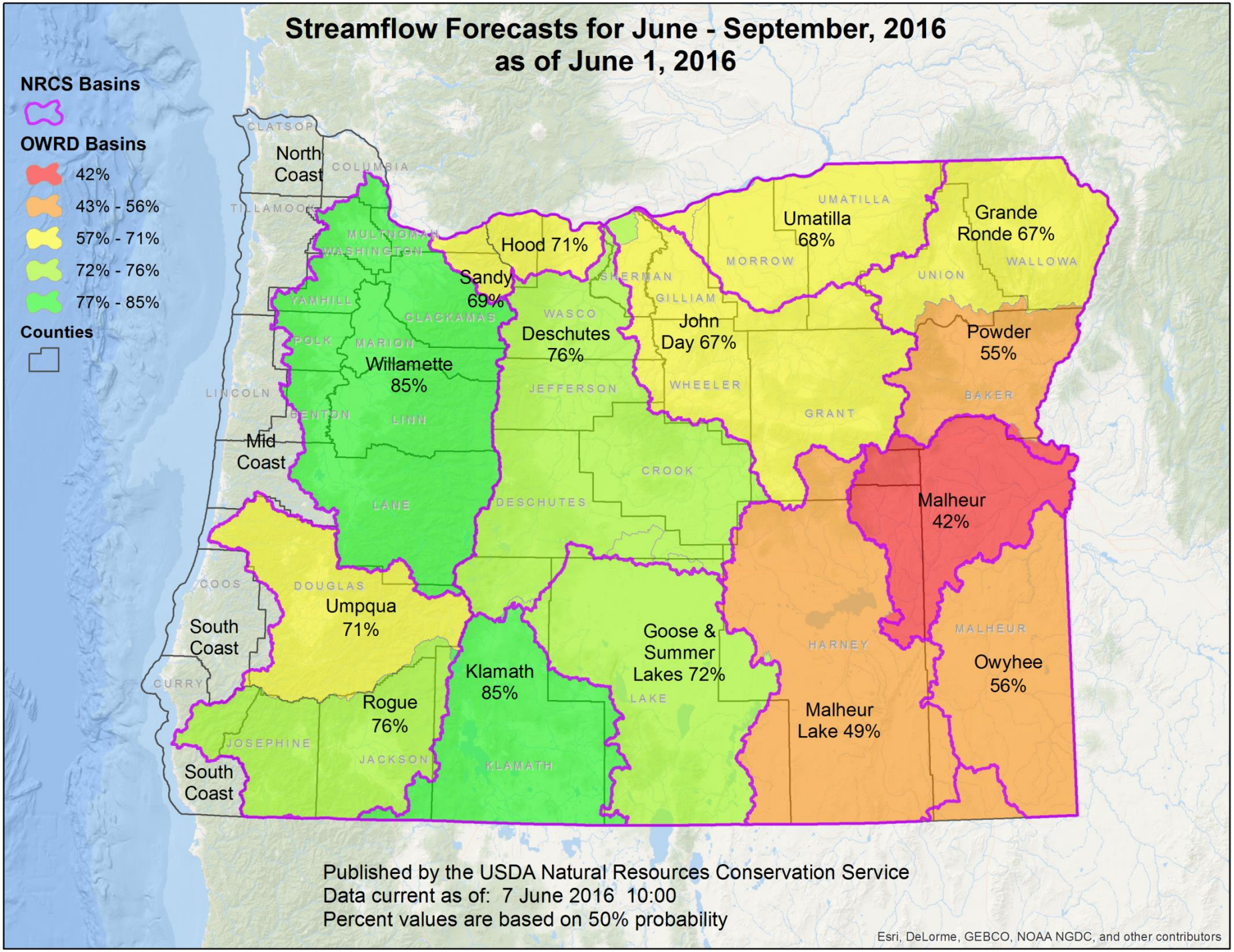
07/10/2016


Rogue River
Eagle Point
Little Butte Creek
White City
Big Butte
Fourmile Lake
5645/15600
36% Full
LBCO 34 cfs
SFLO 13 cfs
BCMO 83 cfs
ANTO 0 cfs
FSHO 64 cfs
CACO 35 cfs
Agate
3280/4670
70% Full
GILO 28 cfs
Fish Lake
4925/7836
63% Full
BJBO 38 cfs
MFDO 66 cfs
Medford
SLBO 0 cfs
Phoenix
Bear Creek
DICO 0 cfs
BCTO 28 cfs
Howard Prairie
37095/60600
61% Full
Talent
BASO 39 cfs
BCAO 46 cfs
Ashland
EMI 39 cfs
Rogue 7 Day
Hyatt
10065/16200
62% Full
EGSO 1 cfs
GSPO 43 cfs
Emigrant
28730/39000
74% Full


07/10/2016
NPDO 4 cfs
THF 117 cfs
HCDI 9428 cfs
Thief Valley
7117/13307
53% Full
PRHO 7 cfs
PWDO 118 cfs
PRRO 31 cfs
Phillips
24187/73000
33% Full
PHL 148 cfs
UNY 94 cfs
Unity
14707/24970
59% Full
Snake River
WEII 9008 cfs
Bully Creek
14260/23676
60% Full
MABO 60 cfs
MALO 218 cfs
Beulah
28154/59212
48% Full
VALO 97 cfs
BEUO 335 cfs
SNYI 7438 cfs
MADO 19 cfs
OWY 111 cfs
WARO 557 cfs
SWAI 5280 cfs
SFMO 1 cfs
Warm Springs
62517/169639
37% Full
Owyhee
356864/715000
50% Full
ROMO 182 cfs

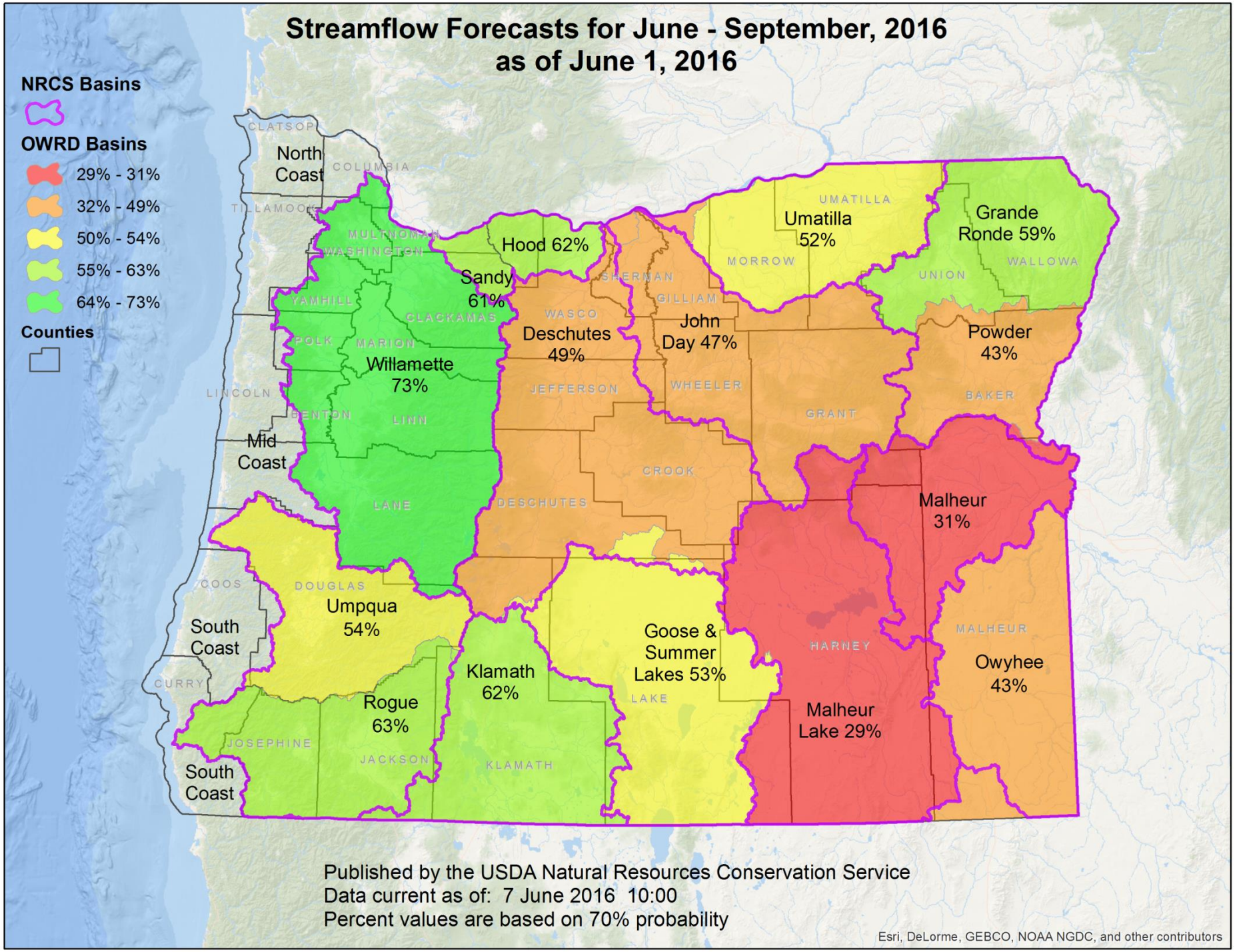
Thank You

Streamflow Forecasts for June - September, 2016
as of June 1, 2016



Published by the USDA Natural Resources Conservation Service
Data current as of: 7 June 2016 10:00
Percent values are based on 50% probability

Streamflow Forecasts for June - September, 2016
as of June 1, 2016



Published by the USDA Natural Resources Conservation Service
Data current as of: 7 June 2016 10:00
Percent values are based on 70% probability

Water Supply Availability Committee

July 2016

Marc Stewart

James Parham

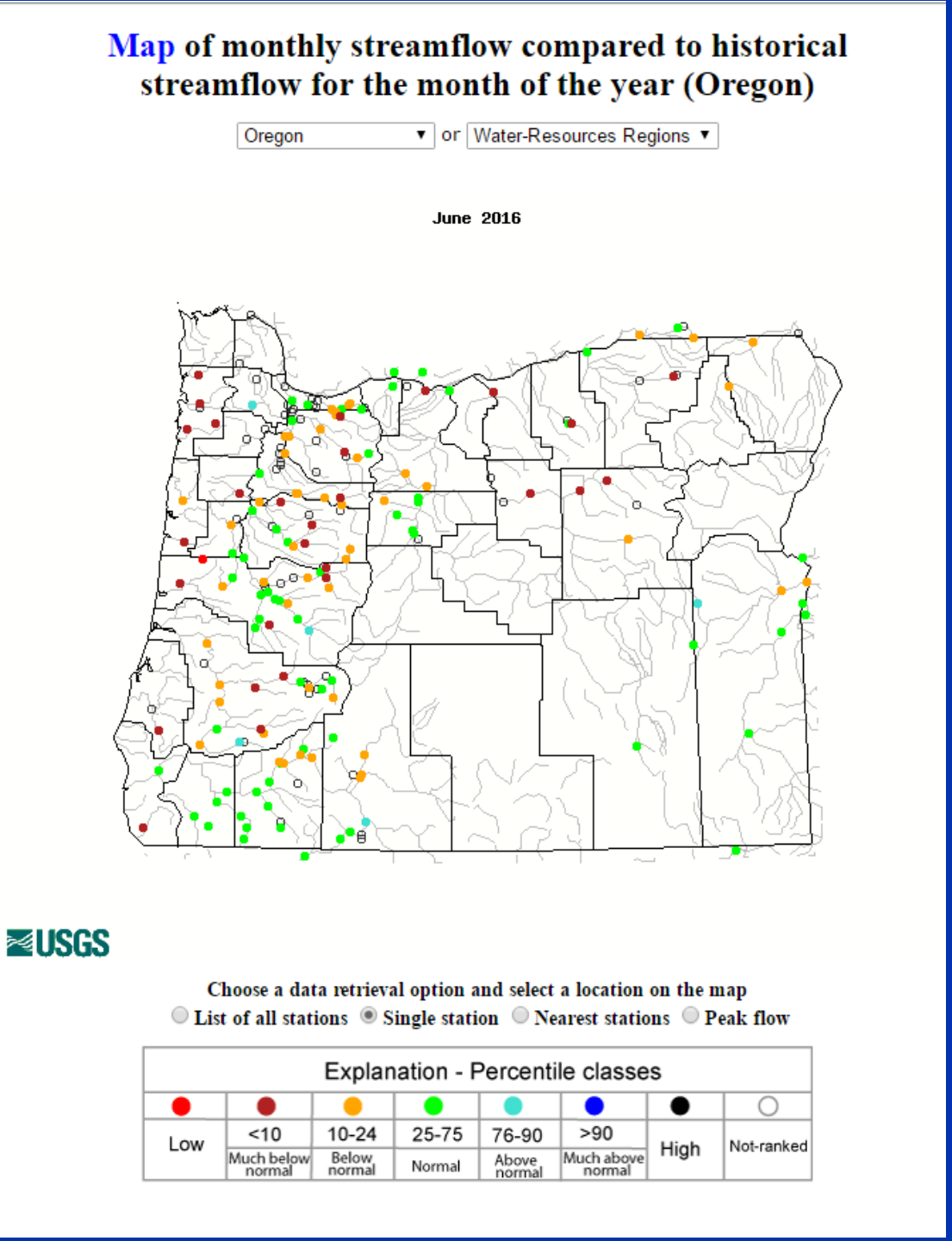
Keith Overton

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



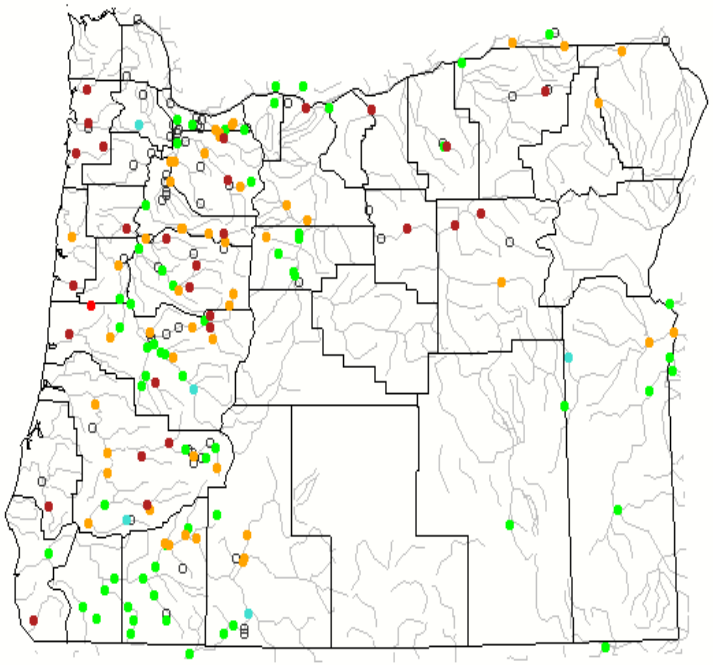
Map of 28-day average streamflow compared to historical streamflow for the day of the year (Oregon)

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

Map of monthly streamflow compared to historical streamflow for the month of the year (Oregon)

Oregon or Water-Resources Regions

June 2016



USGS

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

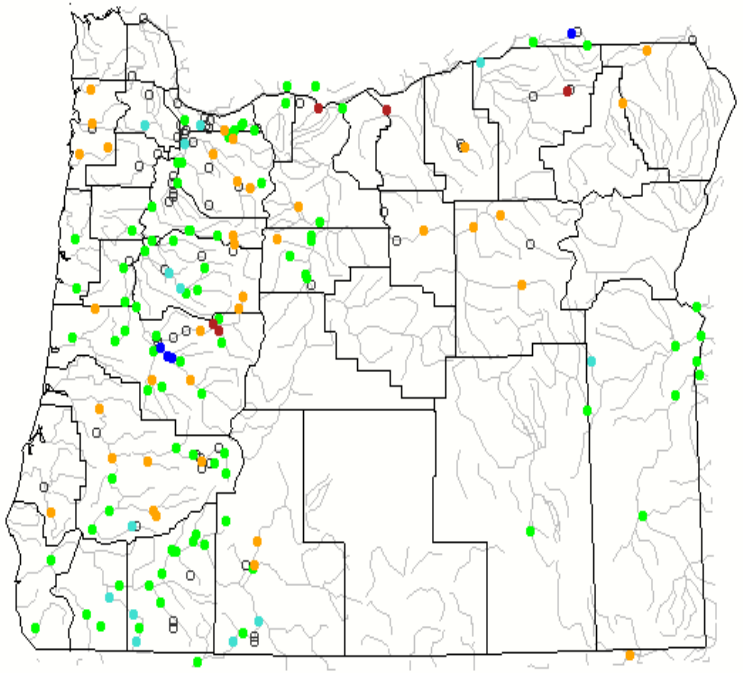
List of all stations | Single station | Nearest stations | Peak flow

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

Oregon or Water-Resources Regions | All Days

Monday, July 11, 2016



USGS

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

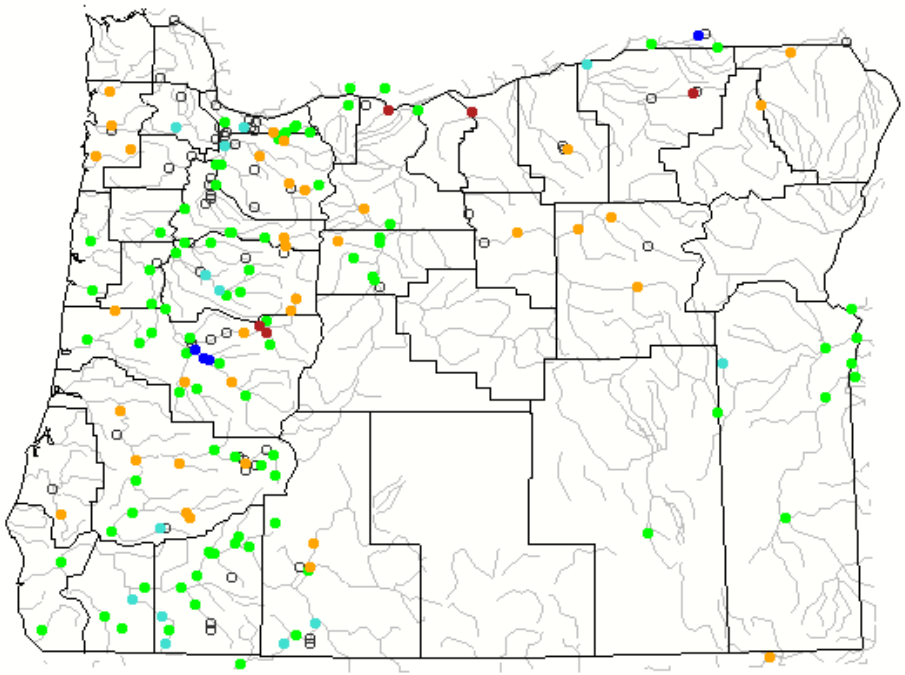
List of all stations | Single station | Nearest stations

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

Oregon ▾ or Water-Resources Regions ▾ All Days

Monday, July 11, 2016



USGS

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

○ List of all stations ◉ Single station ○ Nearest stations

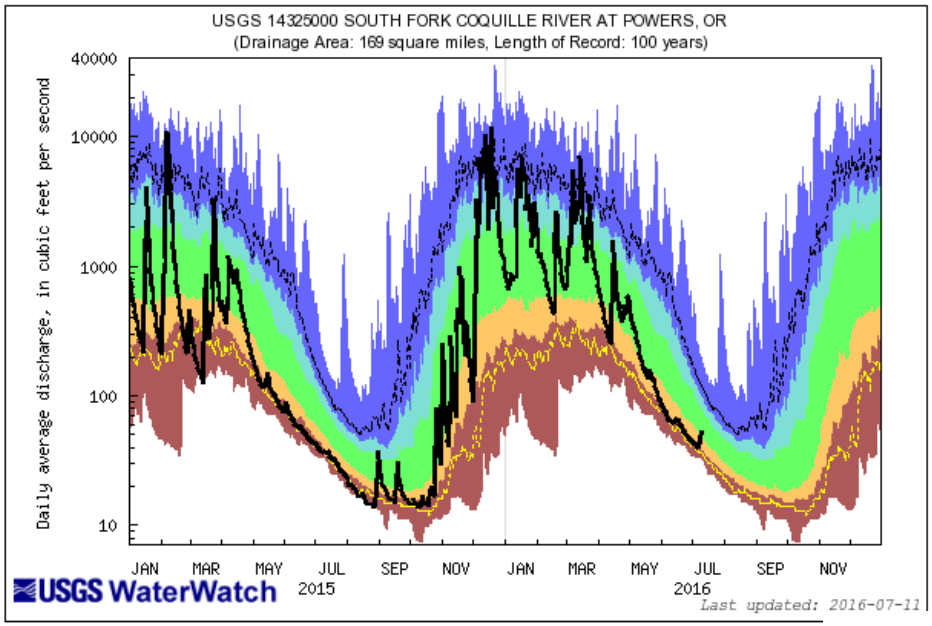
Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

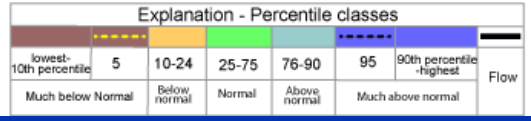
Map of 7-day average streamflow compared to historical streamflow for the day of the year (07/11)

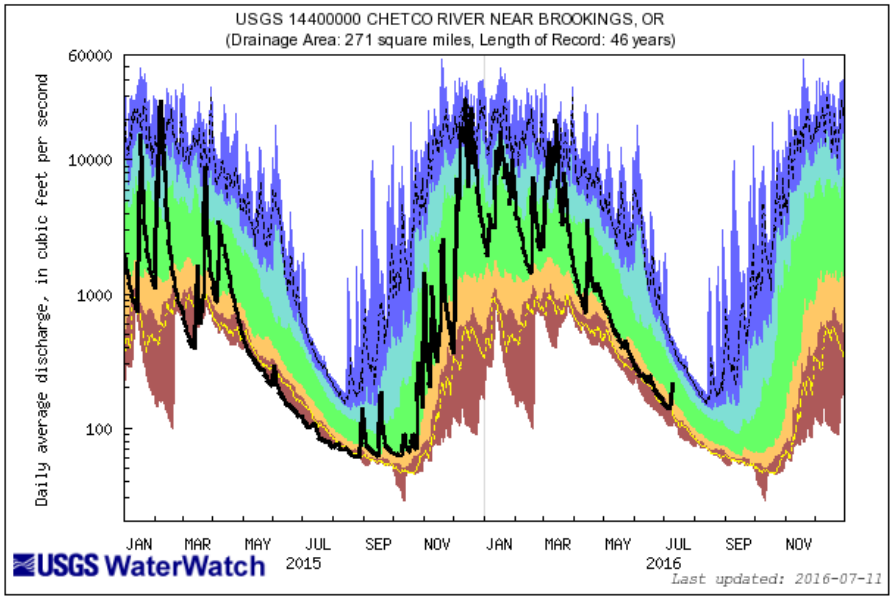
Obvious Basins with Stressed Streamflow (some gages below 25%)

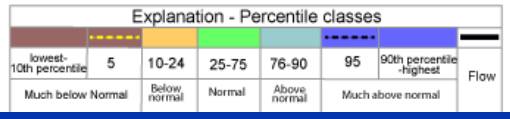
- Coastal
- Grande Ronde.
- Upper John Day
- Umatilla
- Umpqua
- Upper Willamette

South Coast



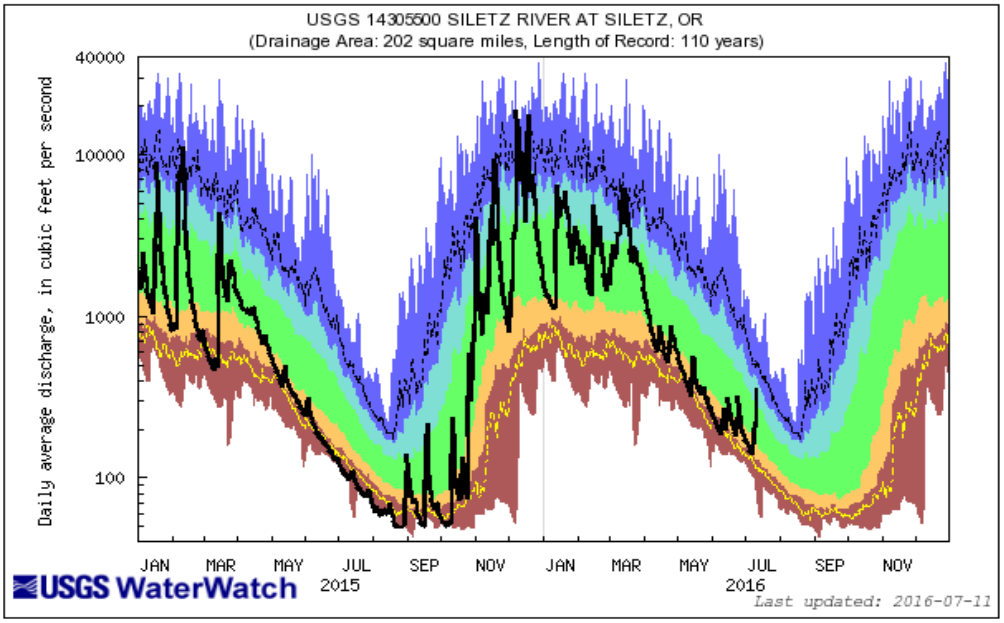


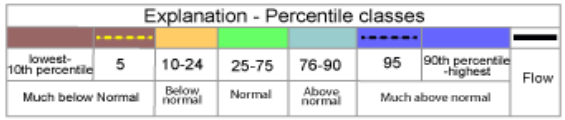


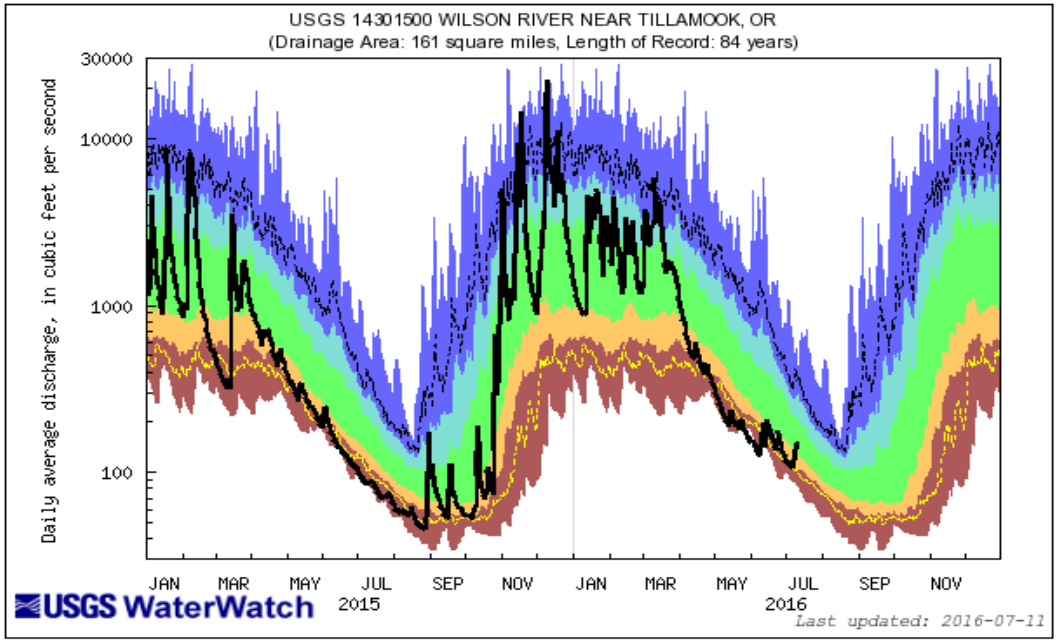


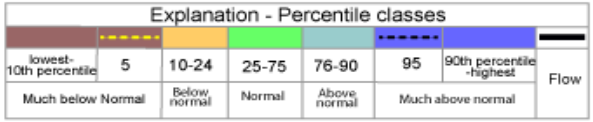
USGS

North Coast



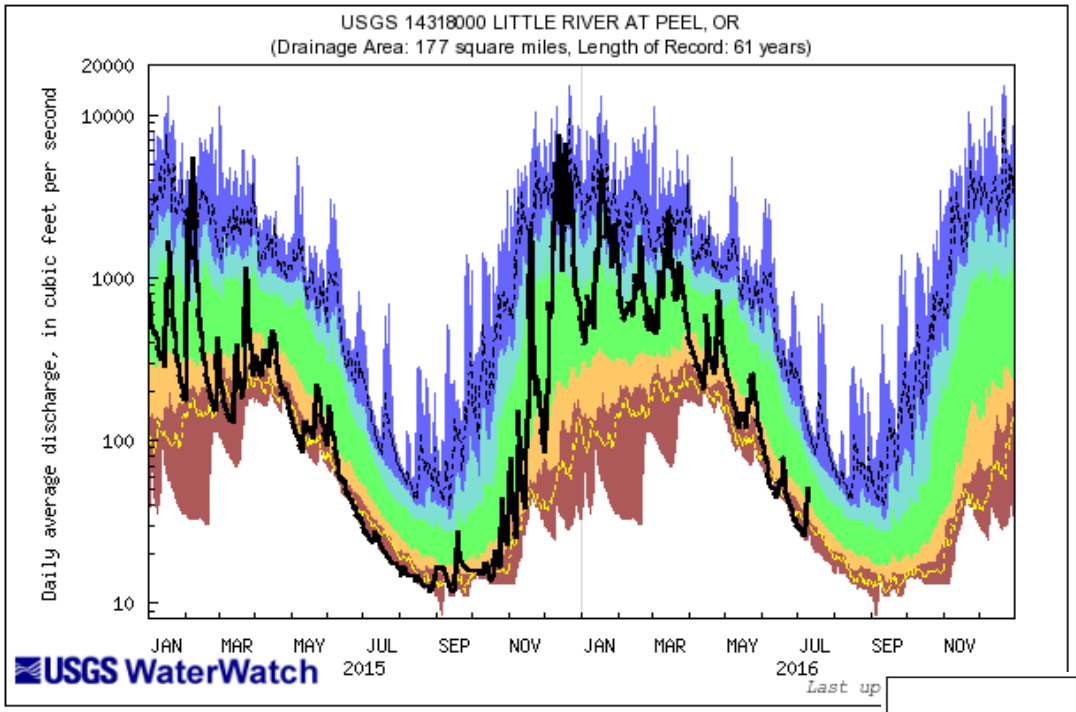


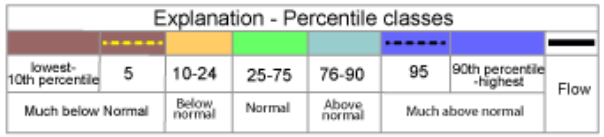


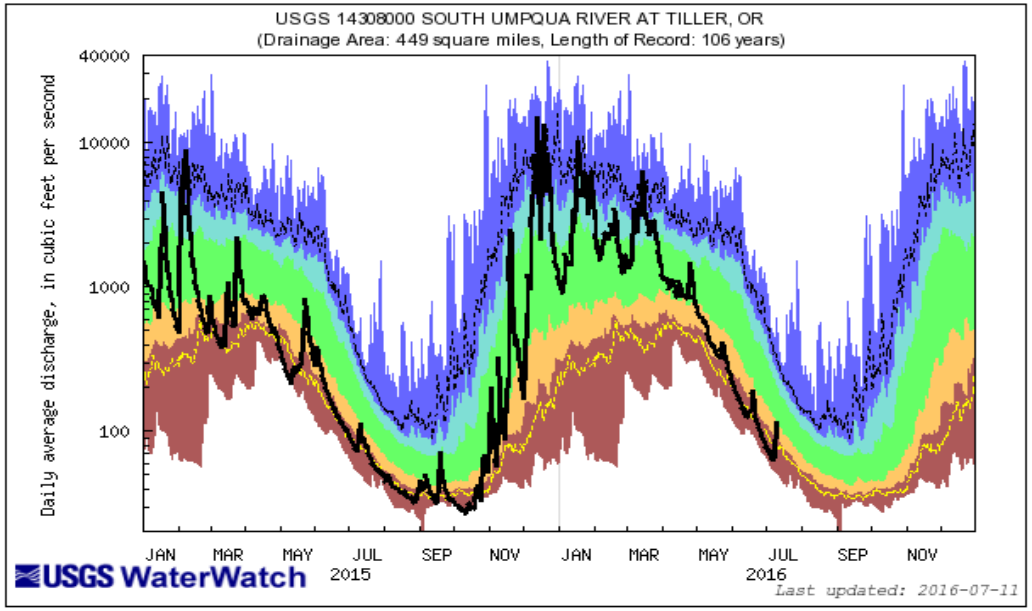


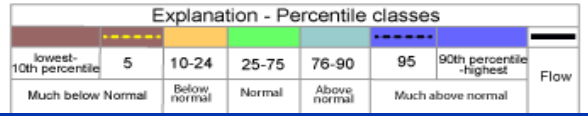
USGS

Umpqua


USGS 14318000 LITTLE RIVER AT PEEL, OR
(Drainage Area: 177 square miles, Length of Record: 61 years)
Daily average discharge, in cubic feet per second
20000
10000
1000
100
10
JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV
2015
2016
USGS WaterWatch
Last up

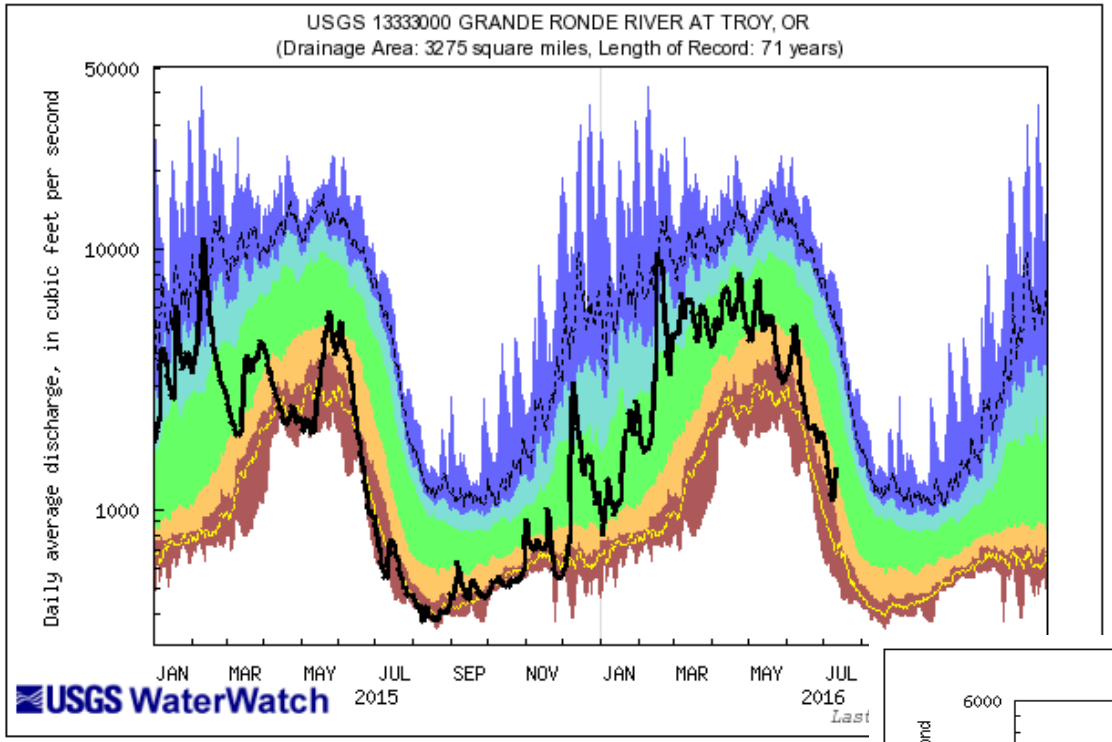

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal

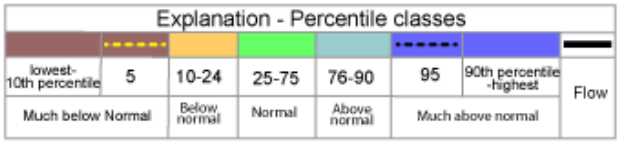

USGS 14308000 SOUTH UMPQUA RIVER AT TILLER, OR
(Drainage Area: 449 square miles, Length of Record: 106 years)
Daily average discharge, in cubic feet per second
40000
10000
1000
100
JAN MAR MAY JUL SEP NOV JAN MAR MAY JUL SEP NOV
2015
2016
USGS WaterWatch
Last updated: 2016-07-11

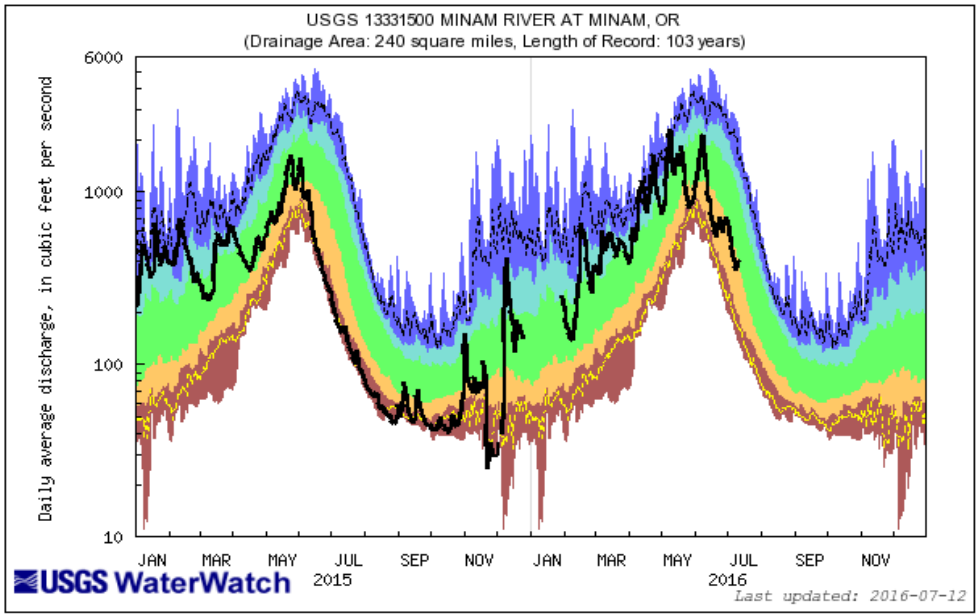

Explanation - Percentile classes
lowest-10th percentile
5
10-24
25-75
76-90
95
90th percentile -highest
Flow
Much below Normal
Below normal
Normal
Above normal
Much above normal

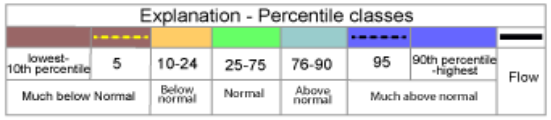
USGS

Grande Ronde



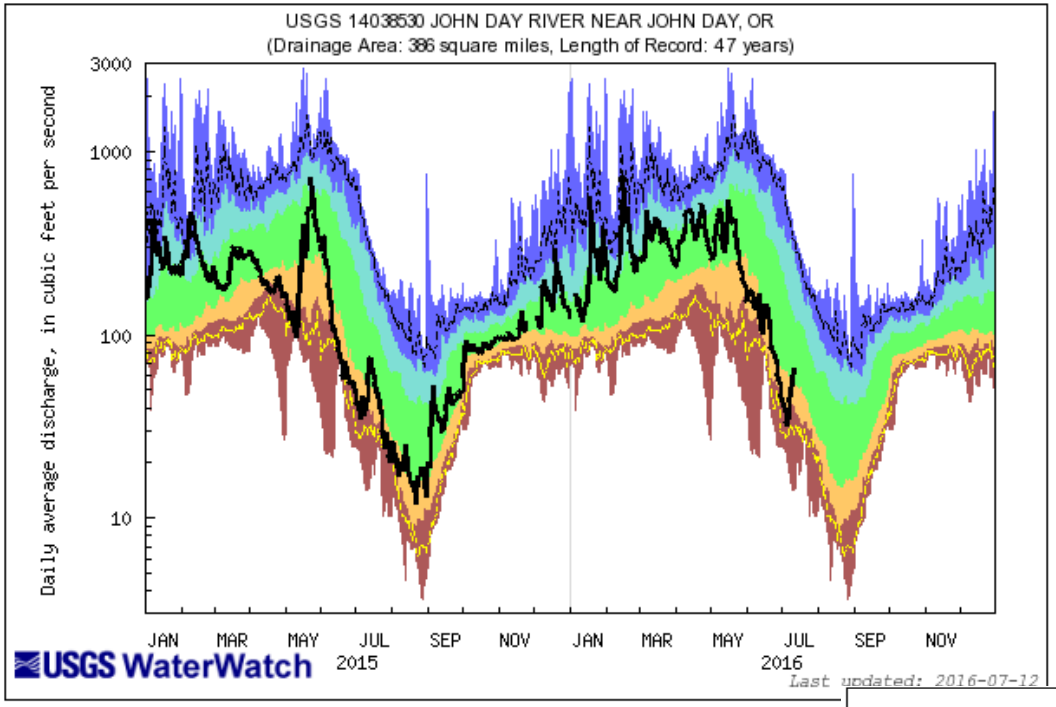


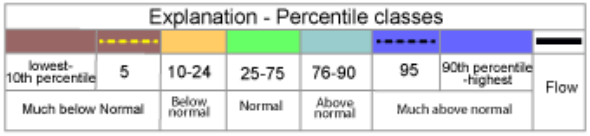


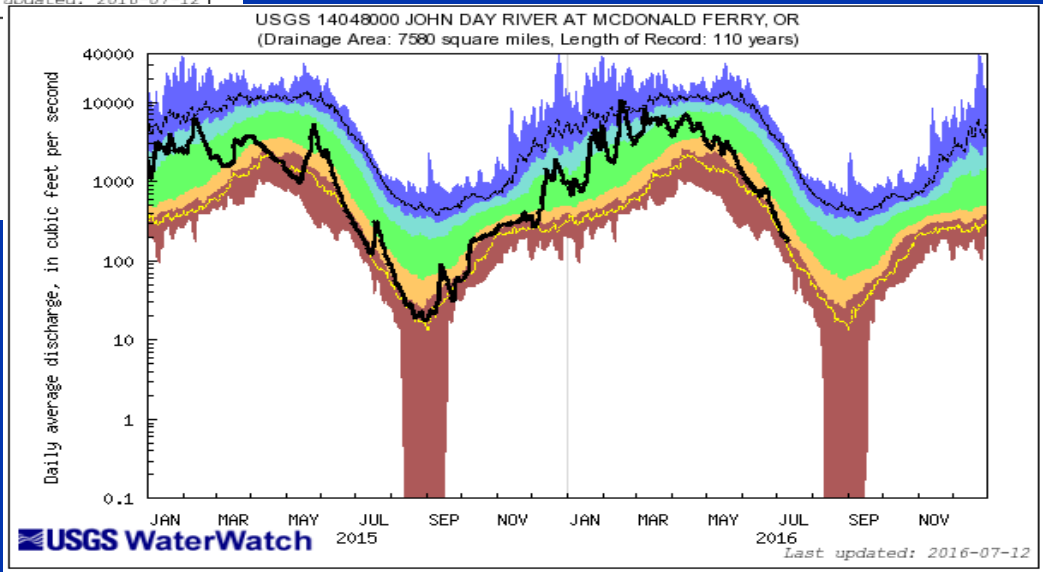


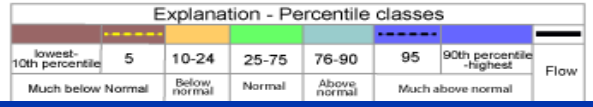
USGS

John Day



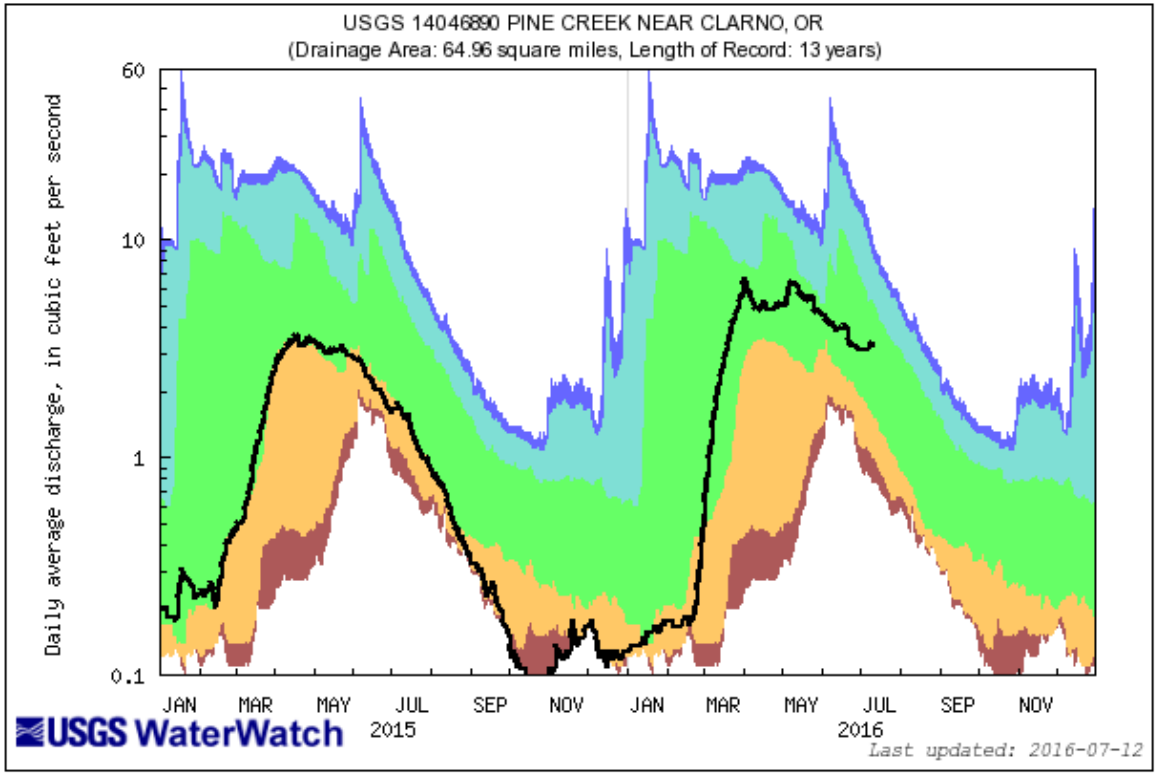


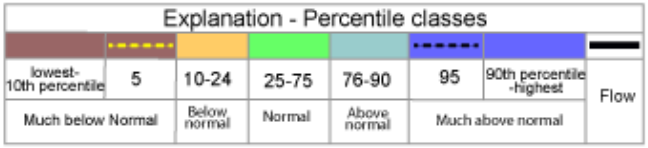




USGS

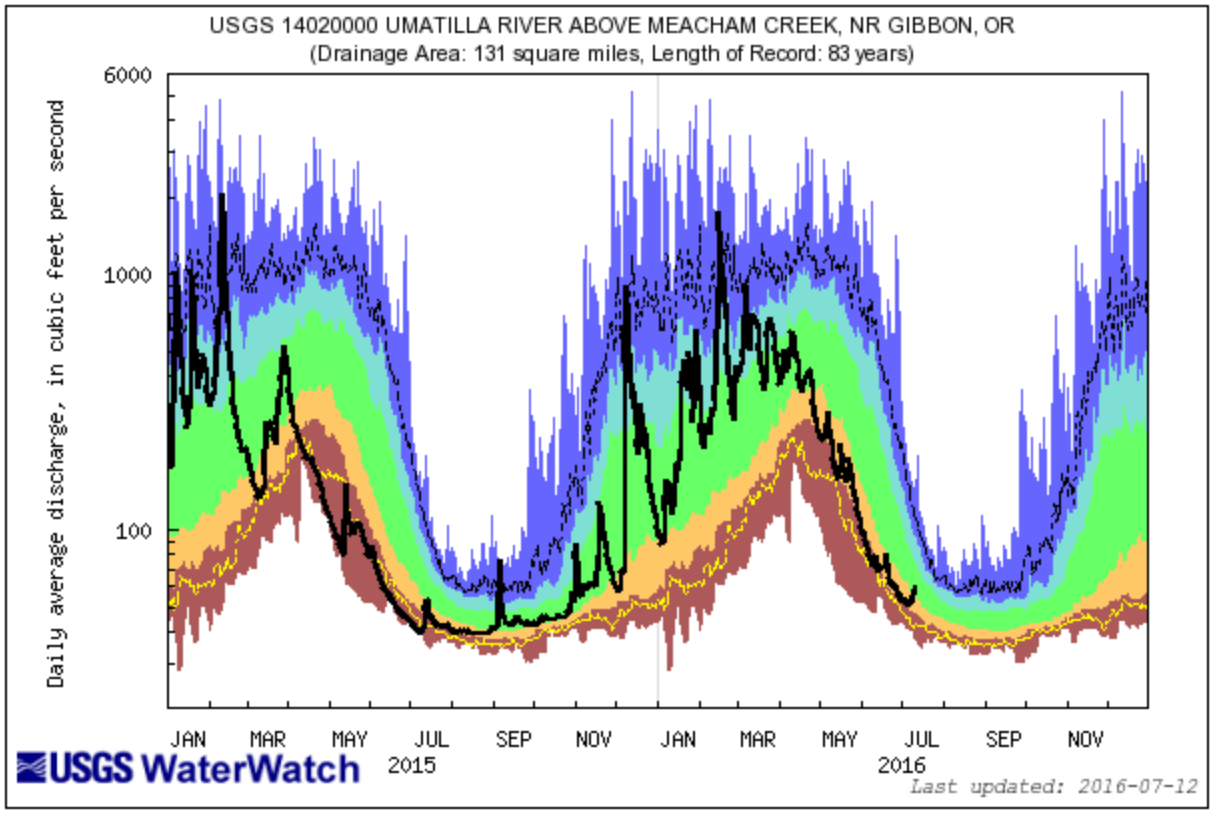
John Day

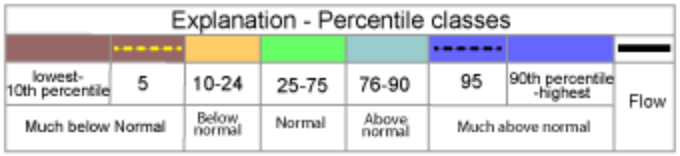




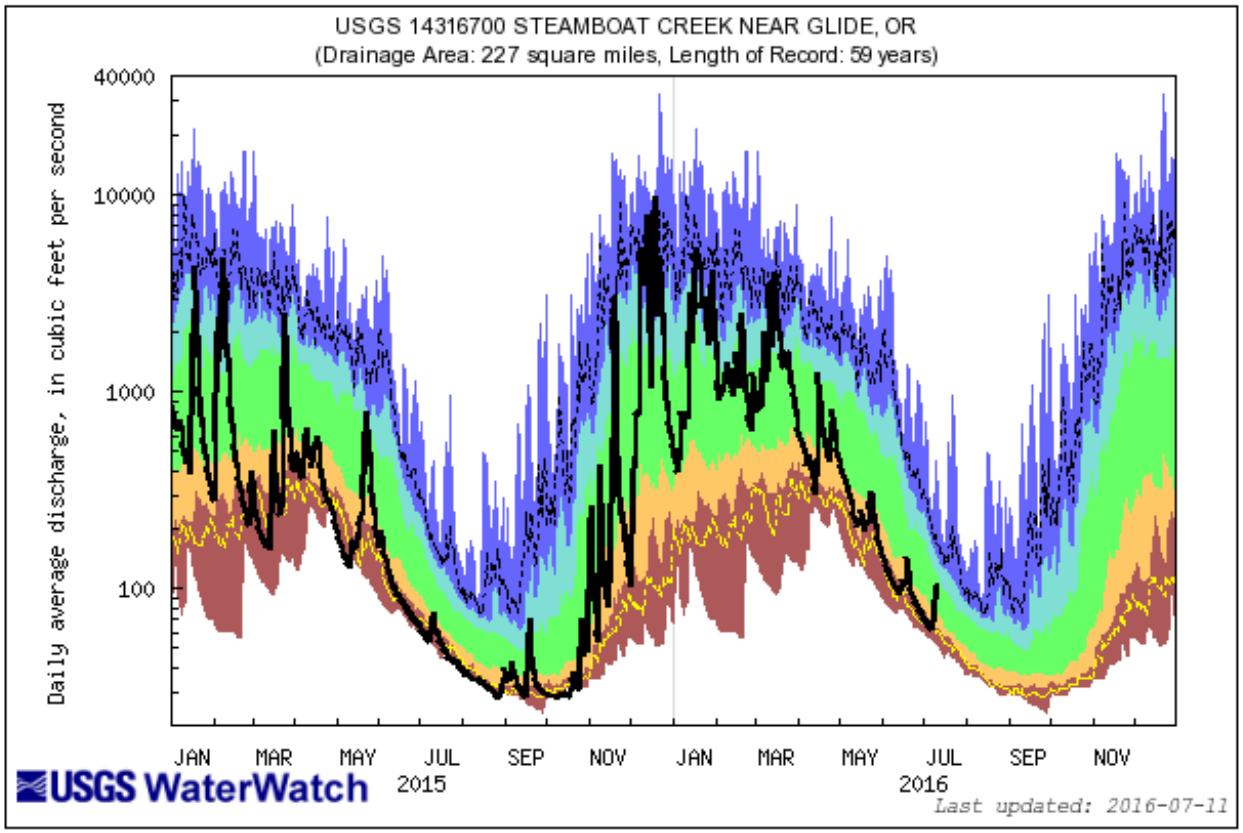
USGS

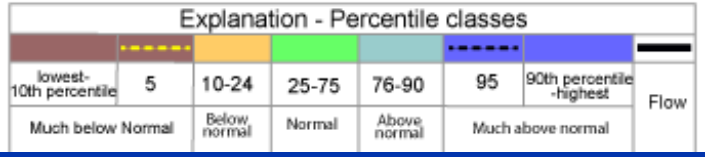
UMATILLA





USGS

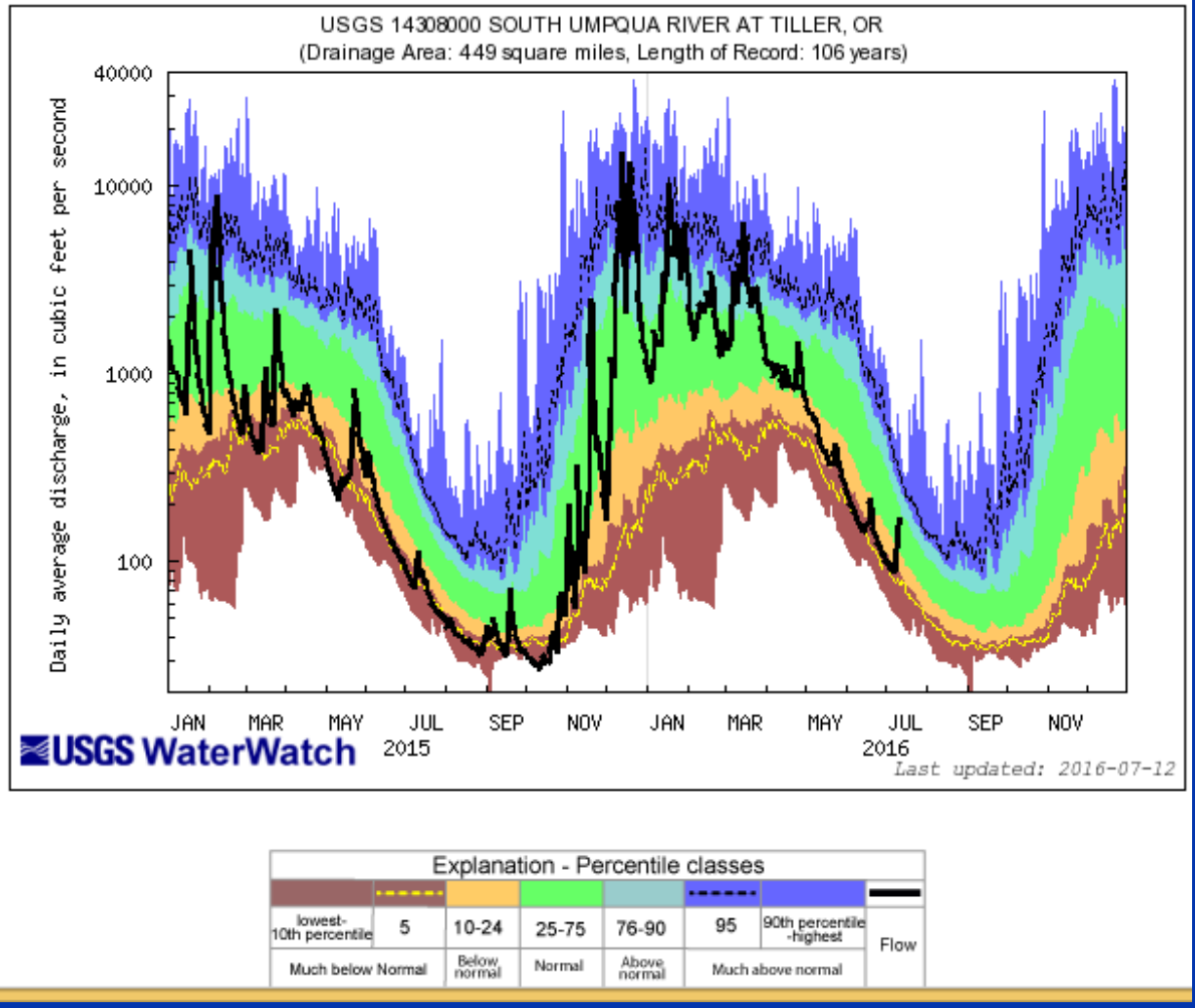

USGS 14316700 STEAMBOAT CREEK NEAR GLIDE, OR
(Drainage Area: 227 square miles, Length of Record: 59 years)
Daily average discharge, in cubic feet per second
40000
10000
1000
100
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-07-11


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

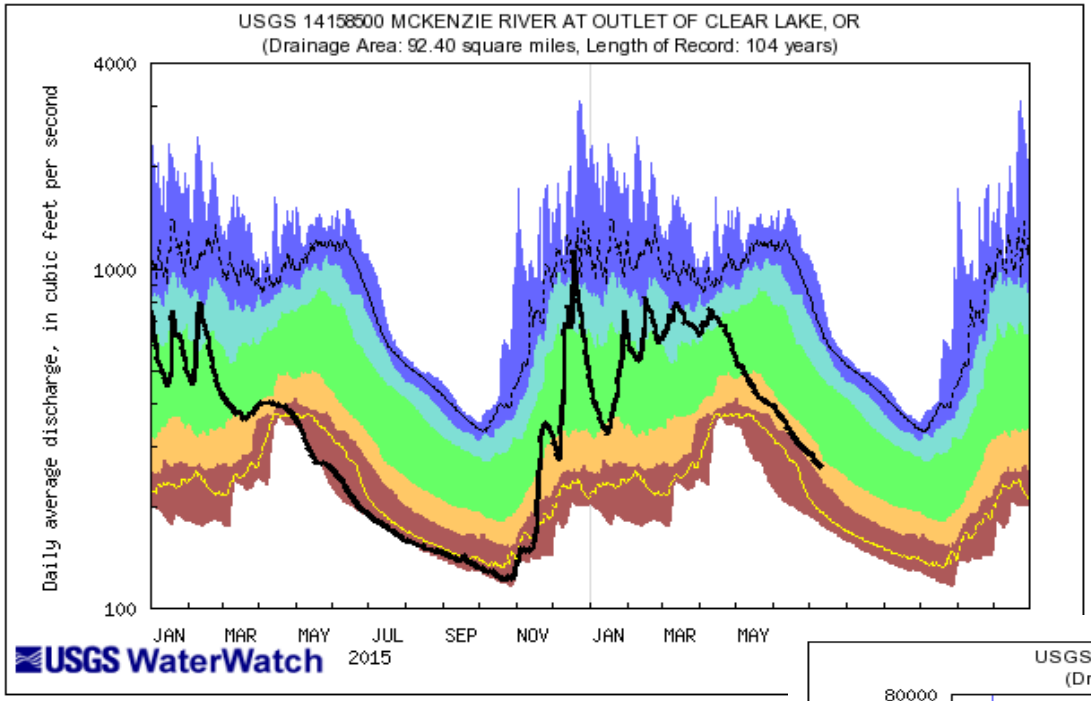
Umpqua

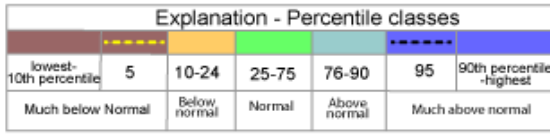
USGS

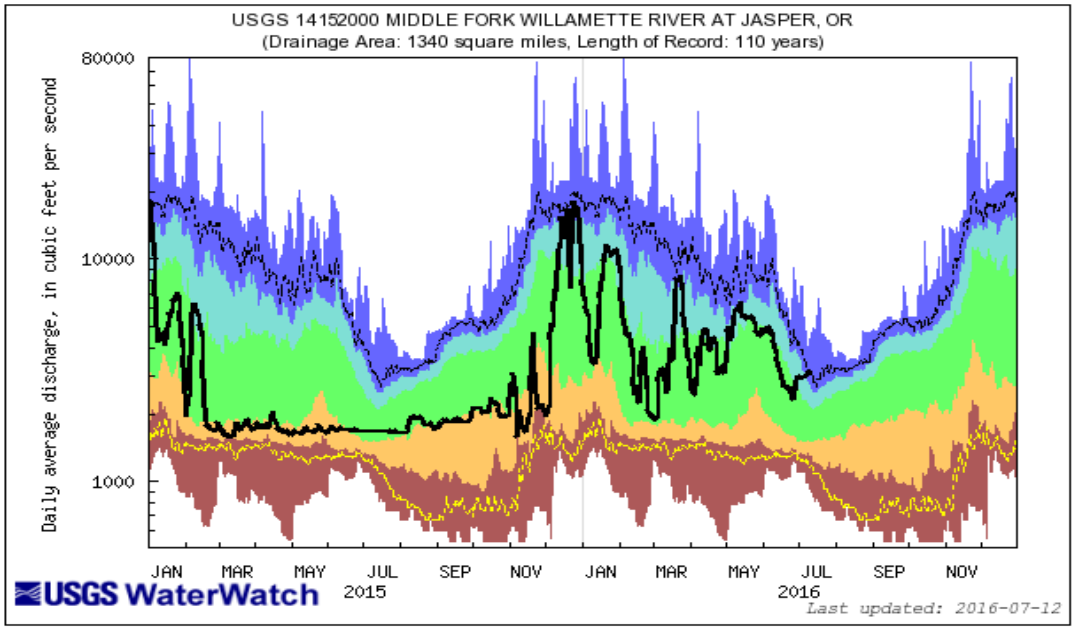
Umpqua

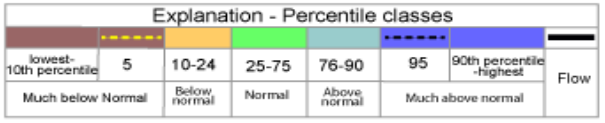

USGS 14308000 SOUTH UMPQUA RIVER AT TILLER, OR
(Drainage Area: 449 square miles, Length of Record: 106 years)
Daily average discharge, in cubic feet per second
40000
10000
1000
100
JAN
MAR
MAY
JUL
SEP
NOV
JAN
MAR
MAY
JUL
SEP
NOV
2015
2016
USGS WaterWatch
Last updated: 2016-07-12
Explanation - Percentile 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

Upper Willamette



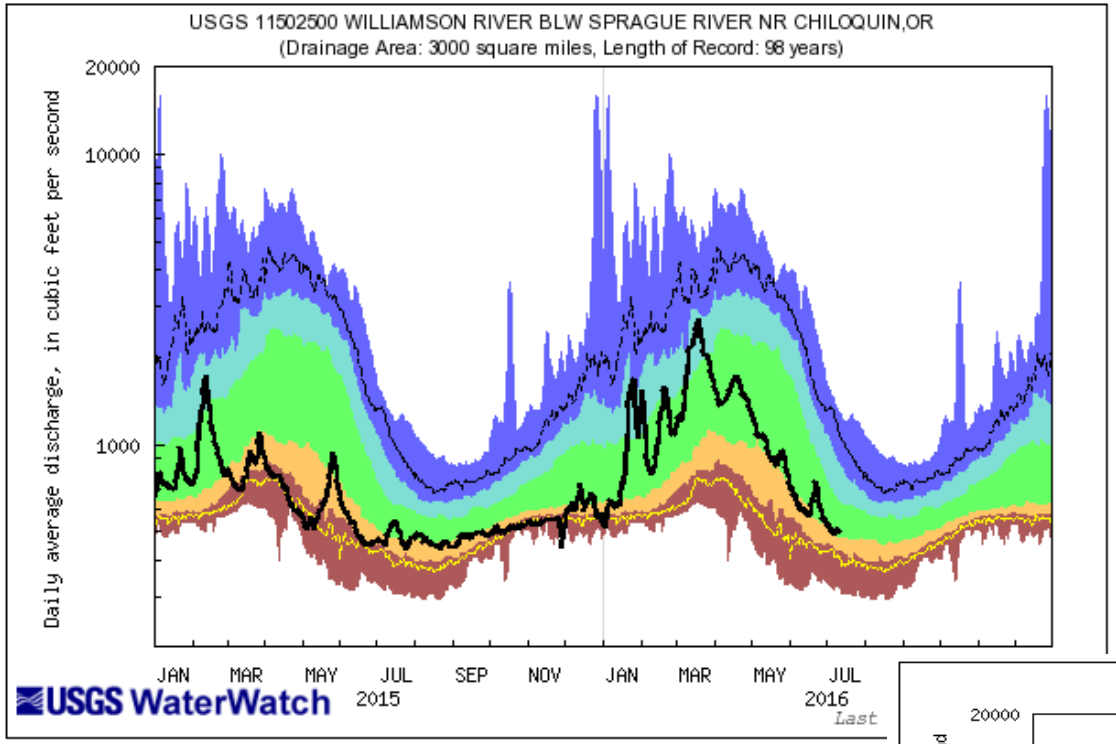


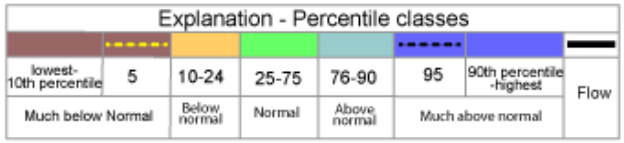


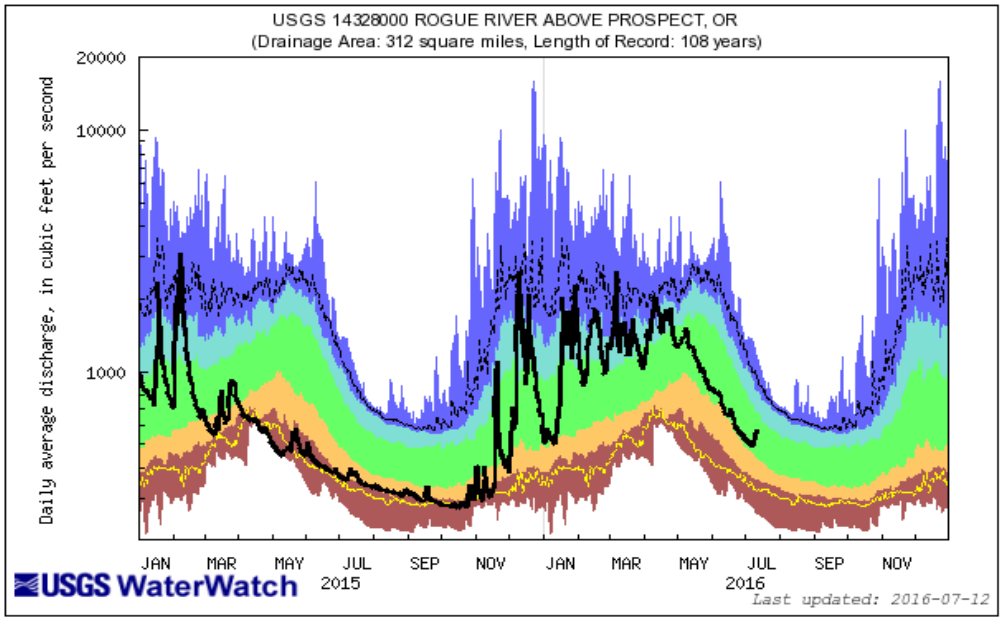


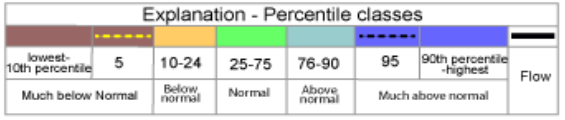
USGS

Klamath and Rogue









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US GEOLOGICAL SURVEY, OREGON WATER SCIENCE CENTER
WATER AVAILABILITY REPORT FOR JUNE 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 June: Percent of average
Donner Und Blitzen nr Frenchglen	Harney	175	59	-47	79
(*)Deep Creek above Adel	Lake County	99	50	-66	81
(*)Chewaucan River near Paisley	Lake County	124	49	-67	95
Williamson River near Chiloquin	Klamath	627	66	-35	83
Owyhee River near Rome	Owyhee	326	41	-74	83
(*)NF Malheur River near Beulah	Malheur	76	46	-61	89
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	2,932	55	-40	88
Umatilla River nr Gibbon	Umatilla Lower John Day	72	40	-62	92
John Day River at Service Crk	Upper John Day	715	29	-67	84
(*)Little Deschutes River nr LaPine	Upper Deschutes	136	54	-51	98
Hood River nr Hood River	Lower Deschutes Mt.Hood	577	68	-34	119
Willamette River at Salem	Willamette	9,947	68	-32	104
Wilson River near Tillamook	North Coast	154	39	-28	136
Umpqua River near Elkton	Rogue/Umpqua	1,903	52	-50	123
Rogue River near Agness	Rogue/Umpqua	3,484	93	-22	128
SF Coquille River at Powers	South Coast	62	30	-68	118
Chetco River near Brookings	South Coast	223	30	-54	112

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

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

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