

Oregon Water Supply Availability Committee

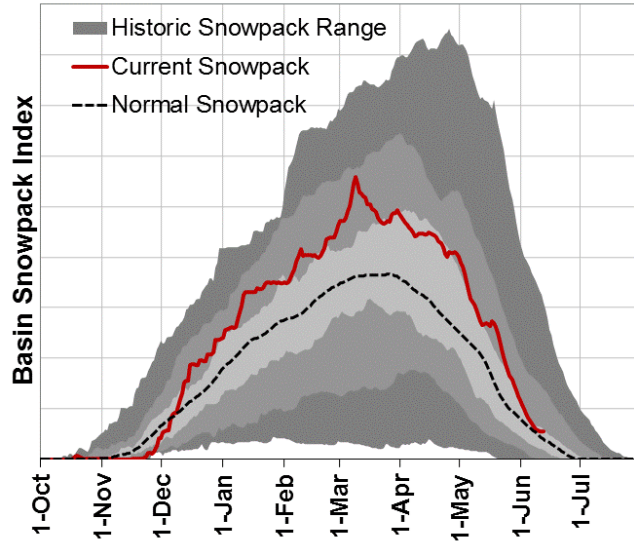
June 13, 2017



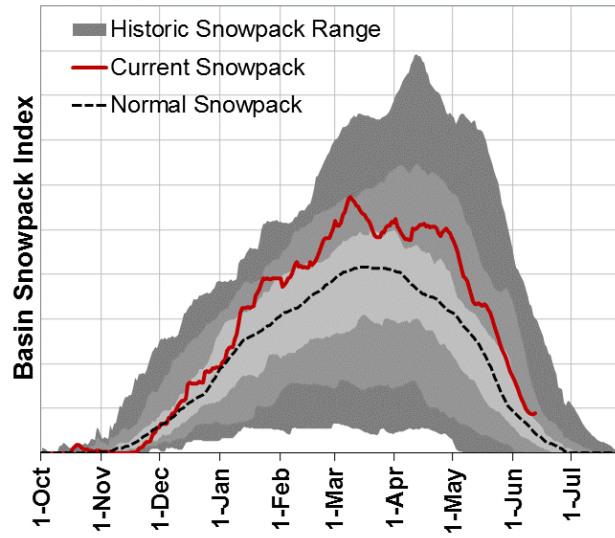
H. Scott Oviatt
Snow Survey Supervisory Hydrologist
USDA NRCS Snow Survey and Water
Supply Forecasting Program
Scott.Oviatt@or.usda.gov
503-414-3271
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/or/snow/>

Water Year 2017 – June 12th

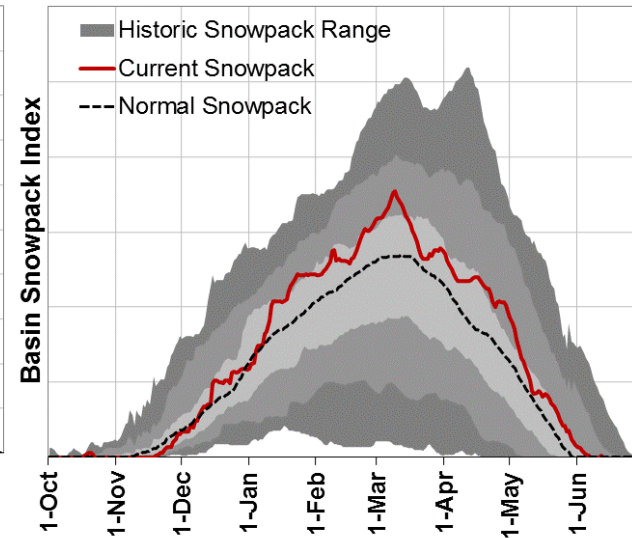
Willamette



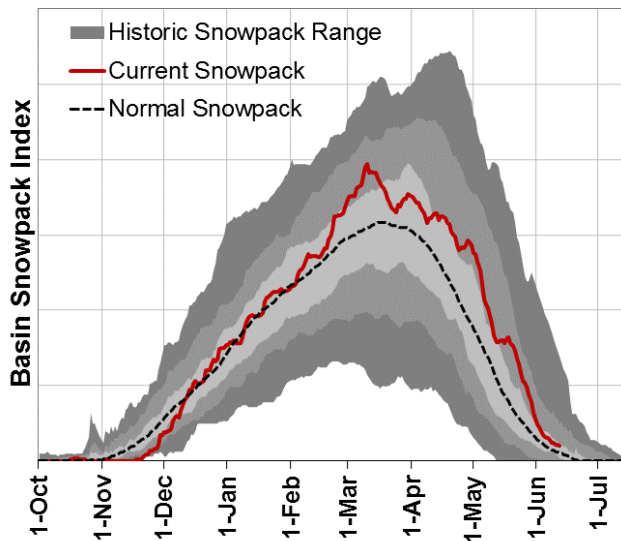
Rogue/Umpqua



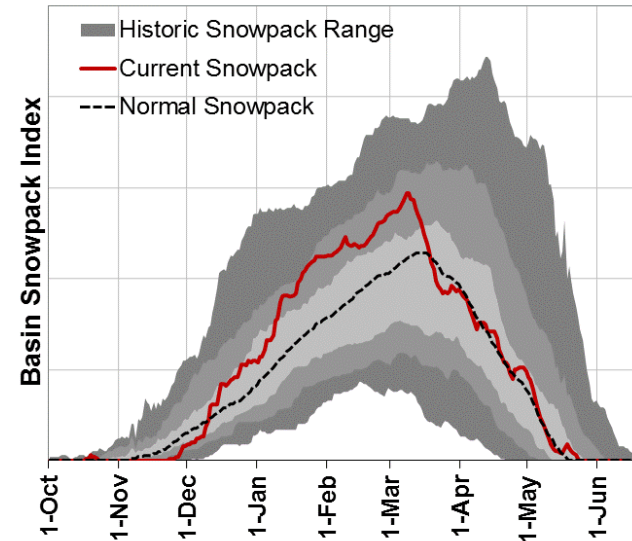
Klamath



John Day

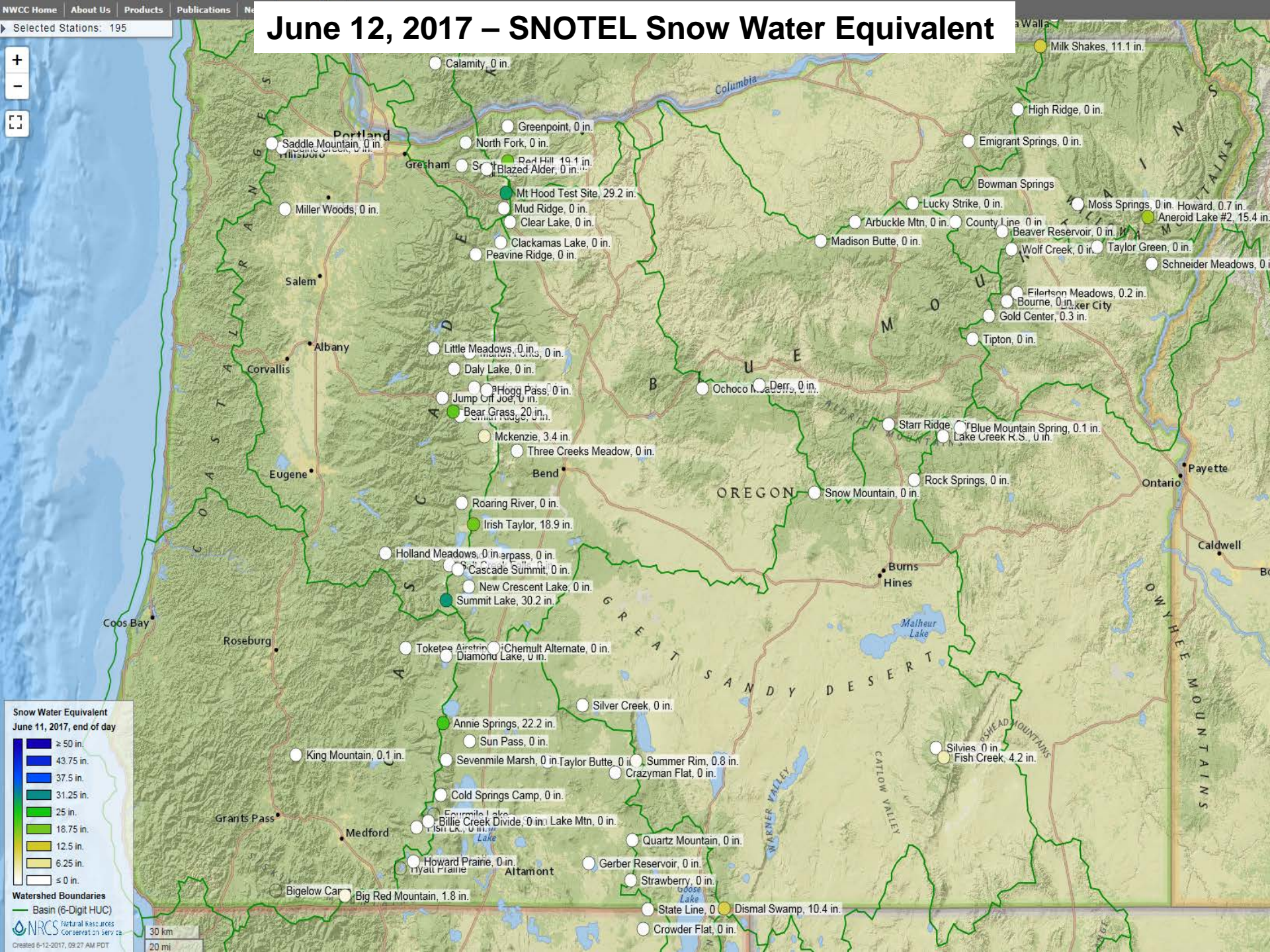


Grande Ronde/Powder/Burnt



Owyhee/Malheur

June 12, 2017 – SNOTEL Snow Water Equivalent



Snow Water Equivalent
June 11, 2017, end of day

Dark Blue	≥ 50 in.
Blue	43.75 in.
Light Blue	37.5 in.
Teal	31.25 in.
Green	25 in.
Light Green	18.75 in.
Yellow-Green	12.5 in.
Yellow	6.25 in.
White	≤ 0 in.

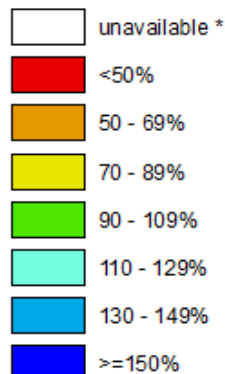
Watershed Boundaries
Basin (6-Digit HUC)

Statewide SNOTEL Precipitation is 128% of normal

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

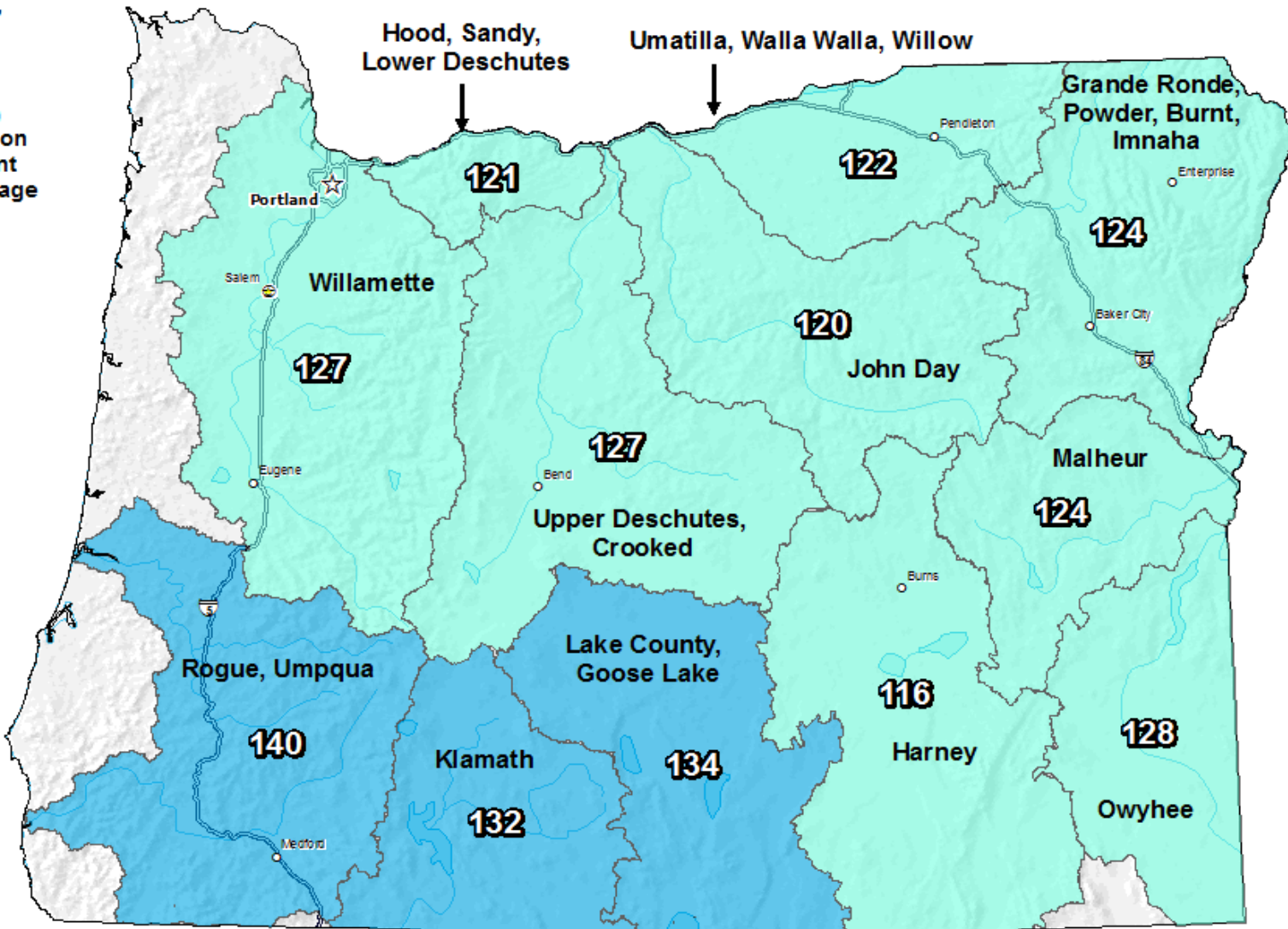
Jun 12, 2017

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



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

Provisional Data
Subject to Revision

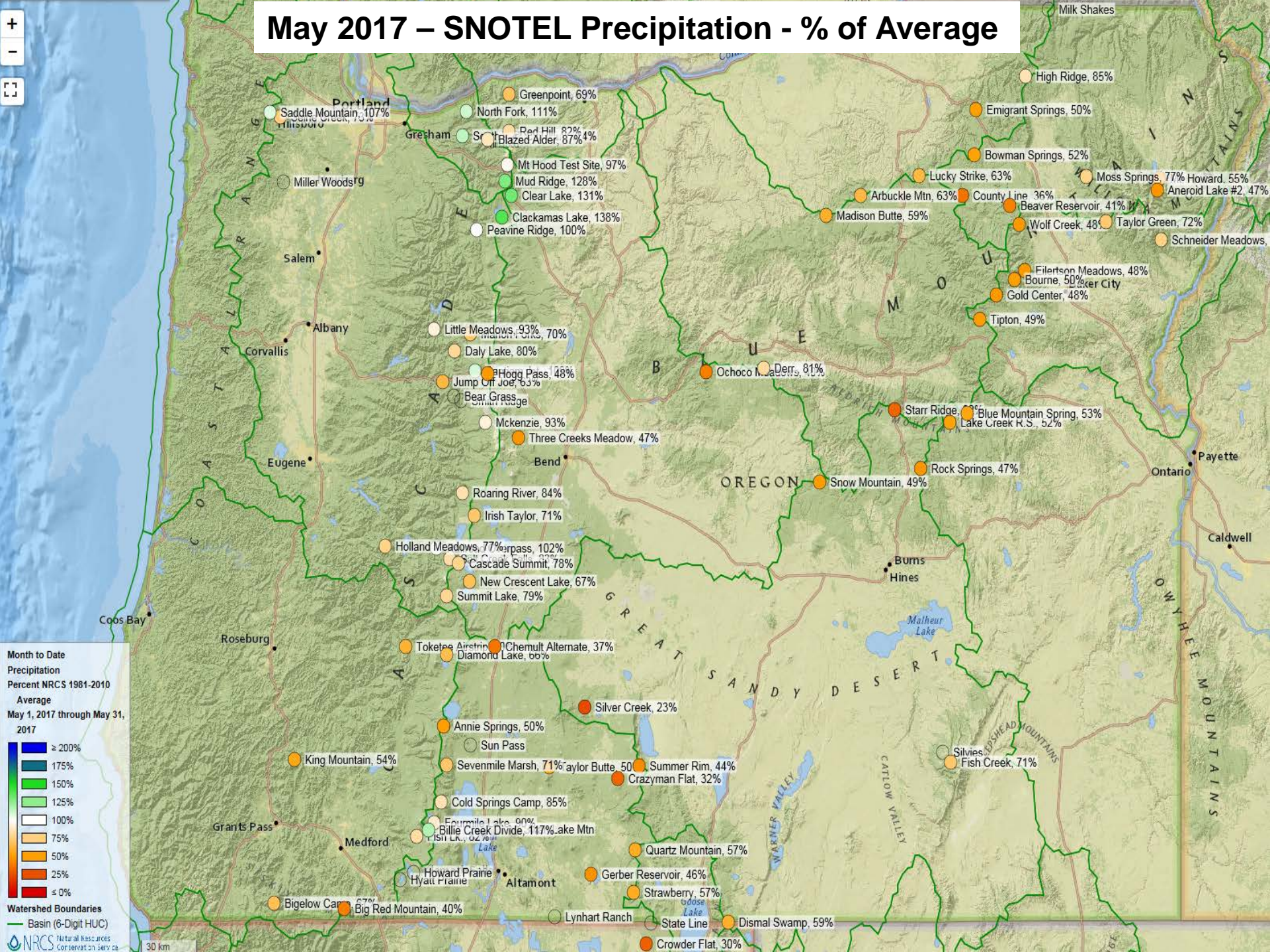


The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

0 10 20 40 60 80 100 Miles

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

May 2017 – SNOTEL Precipitation - % of Average

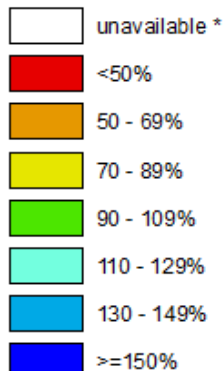


Statewide SNOTEL Precipitation is 131% of normal

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

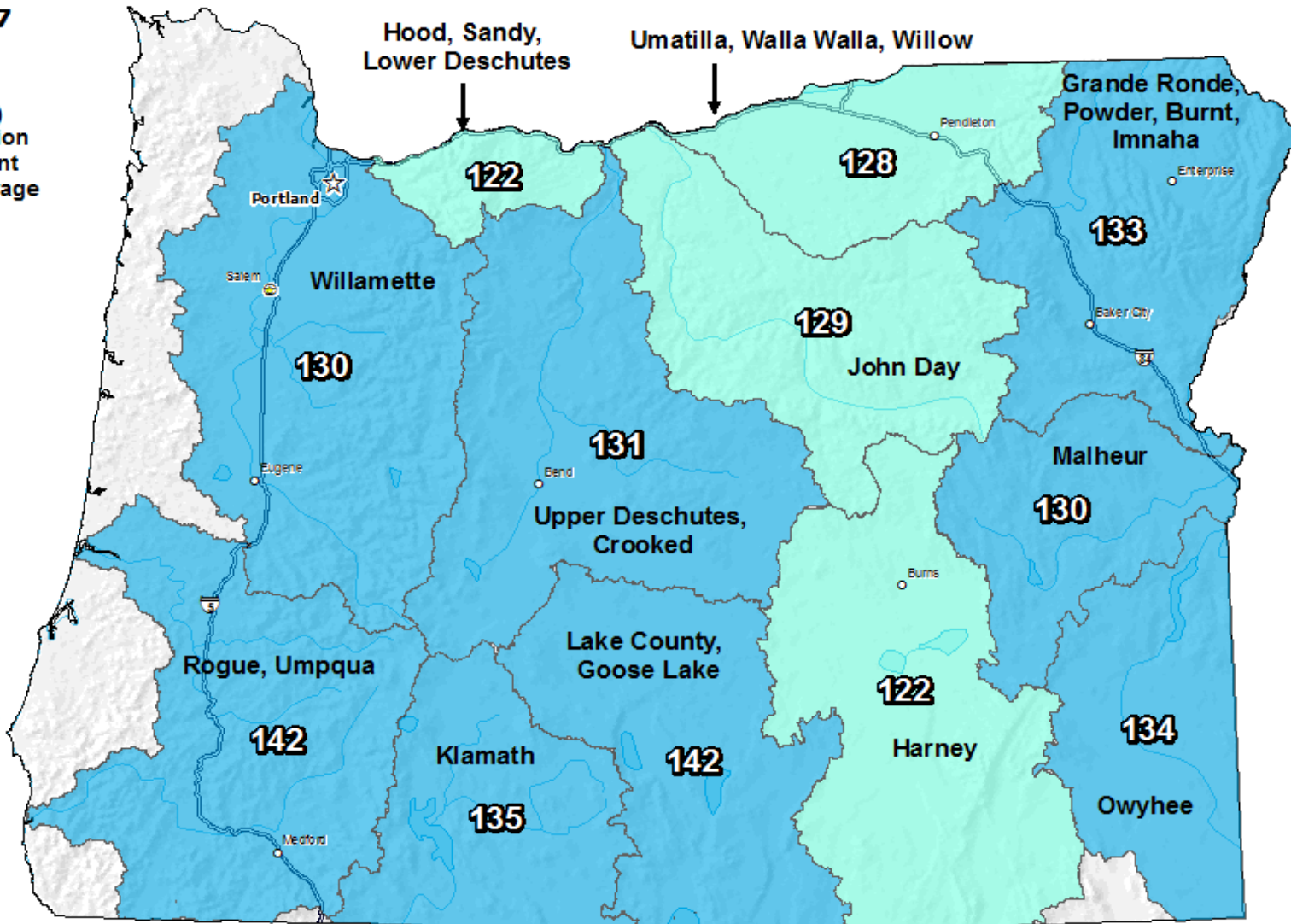
May 08, 2017

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

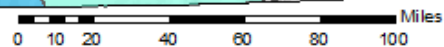


* Data unavailable at time of posting or measurement is not representative at this time of year

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).

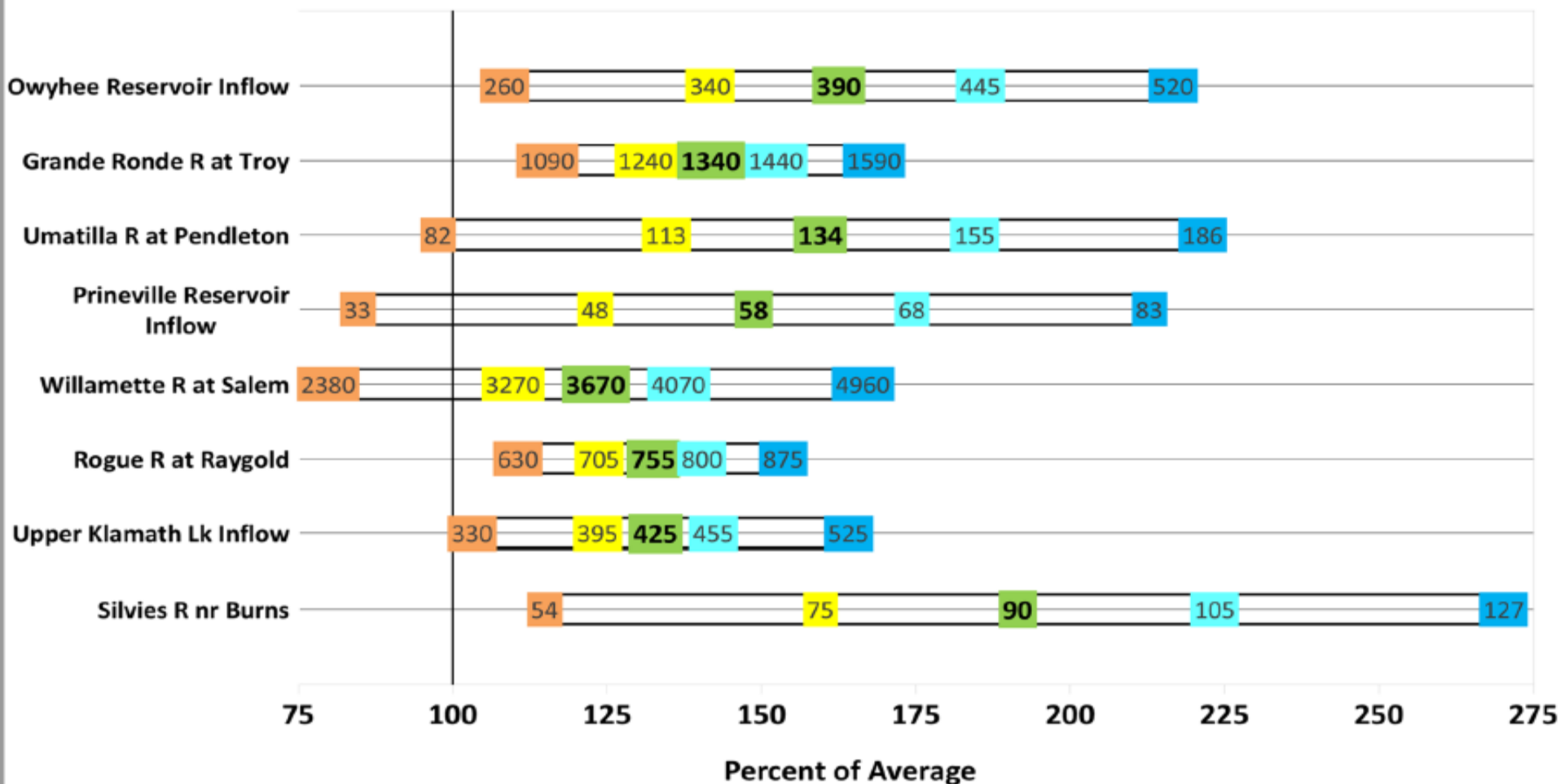


Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

May 1, 2017

Summary of Streamflow Forecasts across Oregon

May through September Forecast Volumes at a Selection of Streamflow Points
(Volumes listed in KAF)



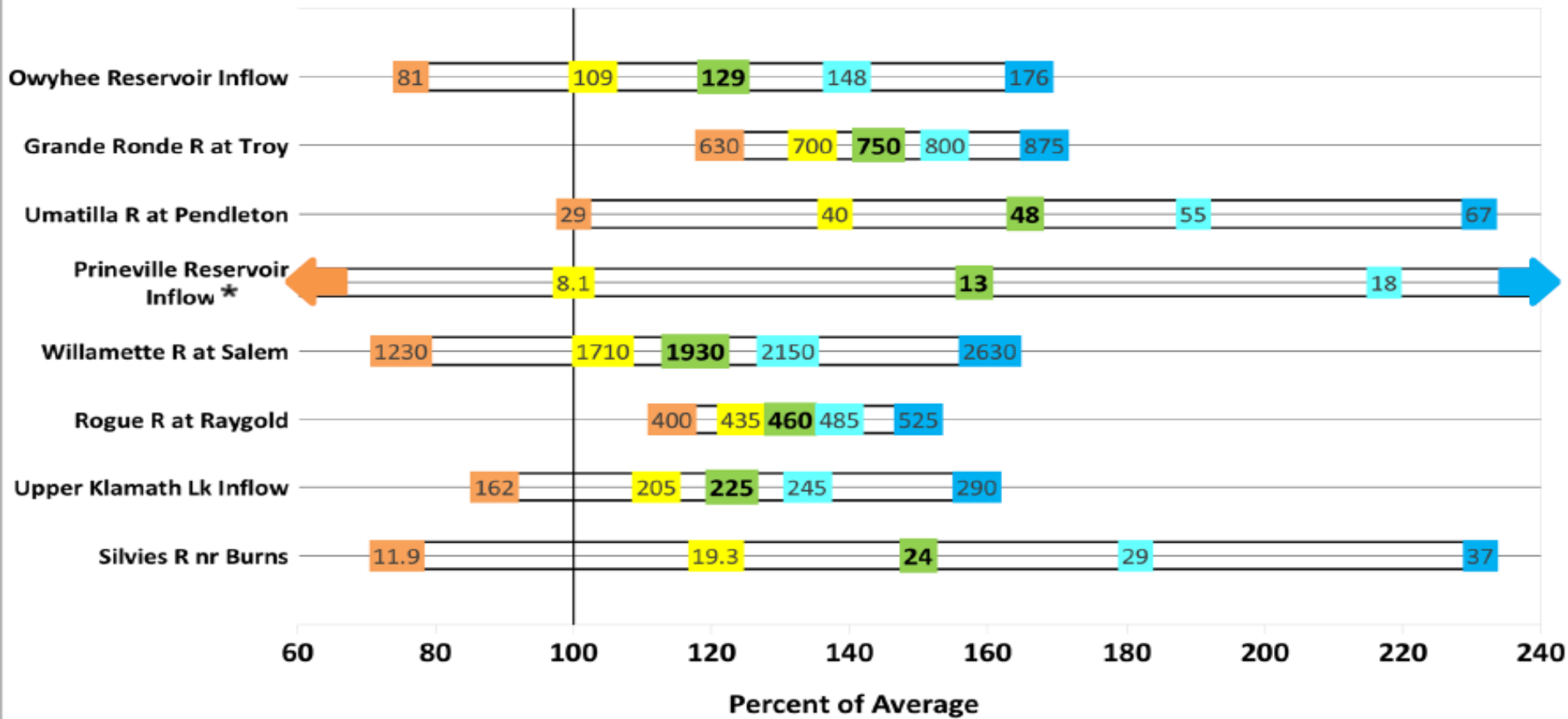
Legend: ←-----Drier-----**Future Conditions**-----Wetter-----→

90% Exceedance Forecast (KAF) There is a 90% chance that flows will exceed this volume.	70% Exceedance Forecast (KAF) There is a 70% chance that flows will exceed this volume.	50% Exceedance Forecast (KAF) There is a 50% chance that flows will exceed this volume.	30% Exceedance Forecast (KAF) There is a 30% chance that flows will exceed this volume.	10% Exceedance Forecast (KAF) There is a 10% chance that flows will exceed this volume.
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June 1, 2017

Summary of Streamflow Forecasts across Oregon

June through September Forecast Volumes at a Selection of Streamflow Points
(Volumes listed in KAF)



Legend: ←-----Drier-----Future Conditions-----Wetter-----→

90% Exceedance Forecast (KAF)

There is a 90% chance that flows will exceed this volume.

70% Exceedance Forecast (KAF)

There is a 70% chance that flows will exceed this volume.

50% Exceedance Forecast (KAF)

There is a 50% chance that flows will exceed this volume.

30% Exceedance Forecast (KAF)

There is a 30% chance that flows will exceed this volume.

10% Exceedance Forecast (KAF)

There is a 10% chance that flows will exceed this volume.

* For this forecast point, the 90% and 10% exceedance forecasts are outside the bounds of this graphic. For more information, please refer to the basin forecast table on page 14.

Thank you!

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD).

To file a complaint of discrimination write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Oregon Water Supply Availability Committee

June 13, 2017



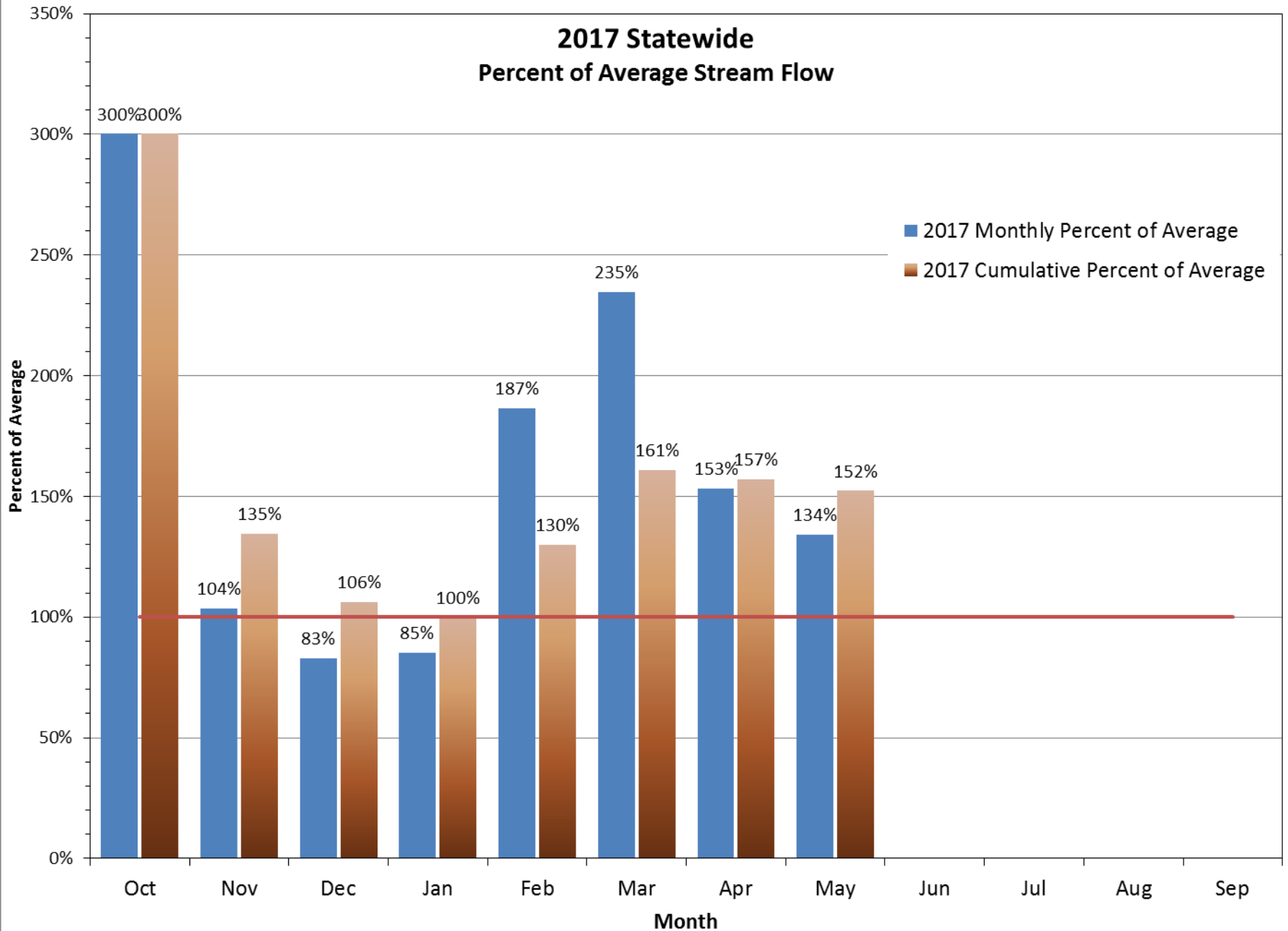
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Surface Water Conditions Report
Water Supply Availability Committee

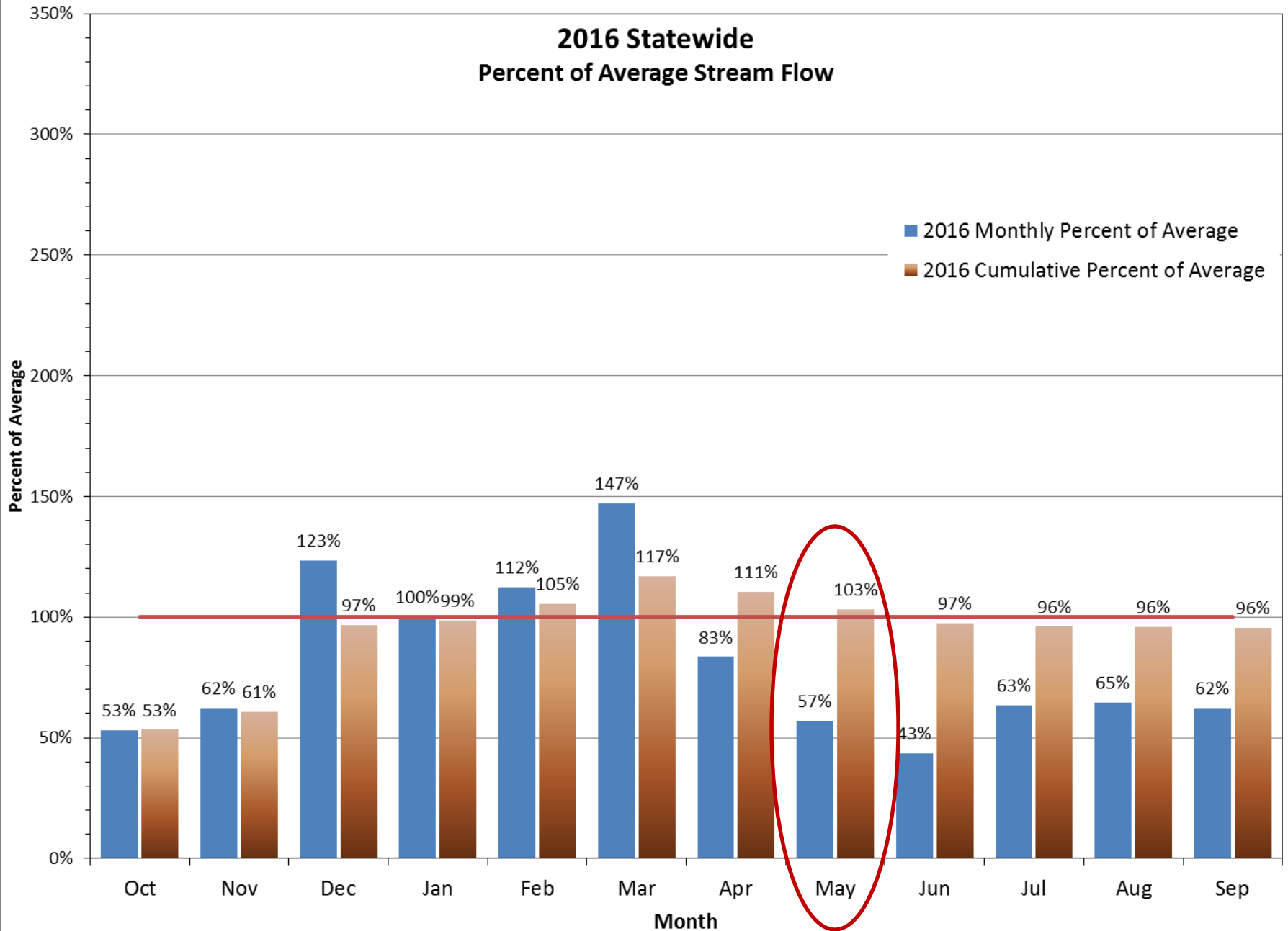


Ken Stahr
Oregon Water Resources
Department
June 13, 2017

2017 Statewide Percent of Average Stream Flow



2016 Statewide Percent of Average Stream Flow



Percent of Average Streamflow Month of May, 2017

Percent of Average Streamflow

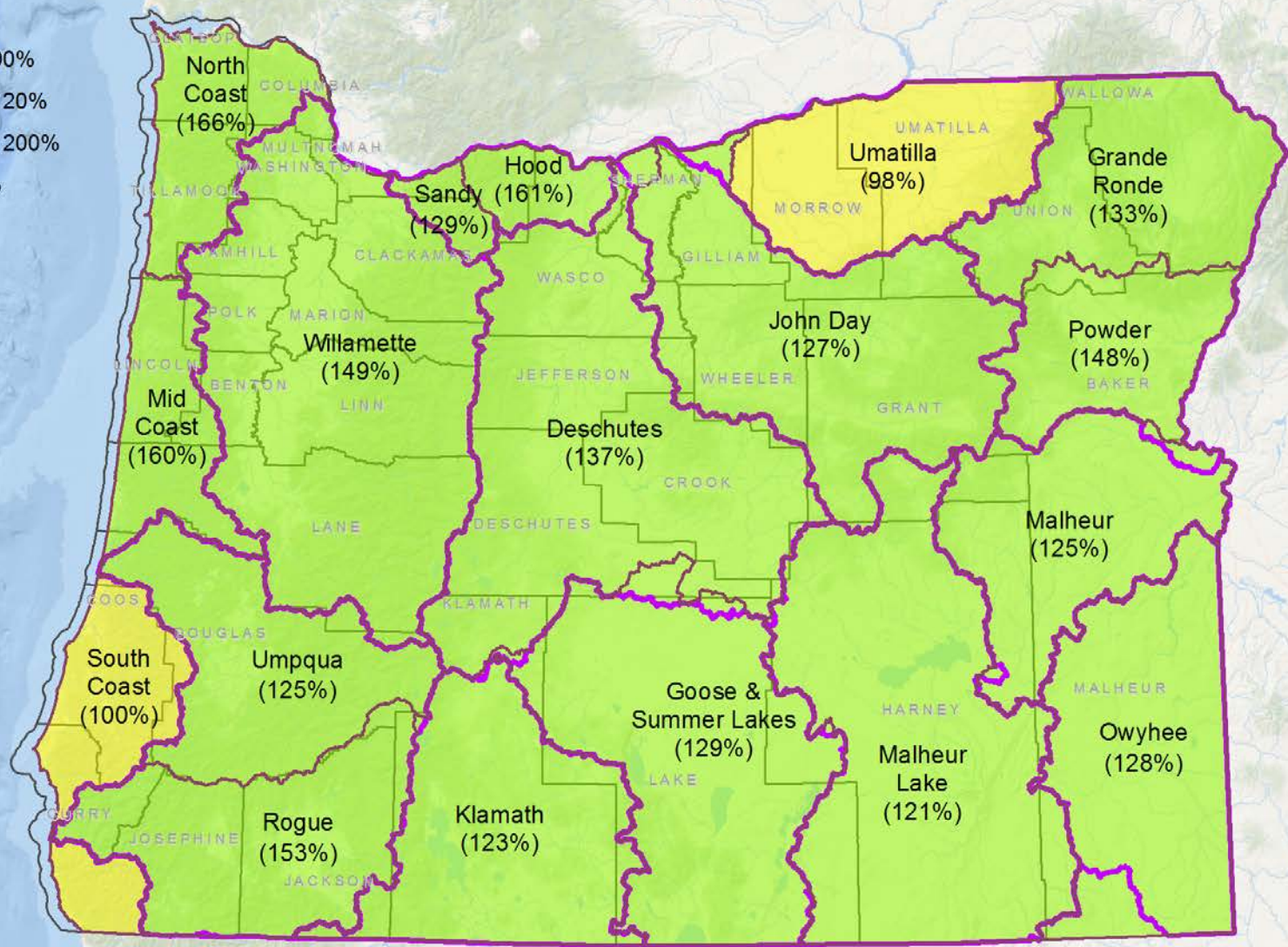
WRD Basin

-  < 87%
-  87% - 90%
-  91% - 120%
-  121% - 200%
-  > 200%

NRCS Basin



County



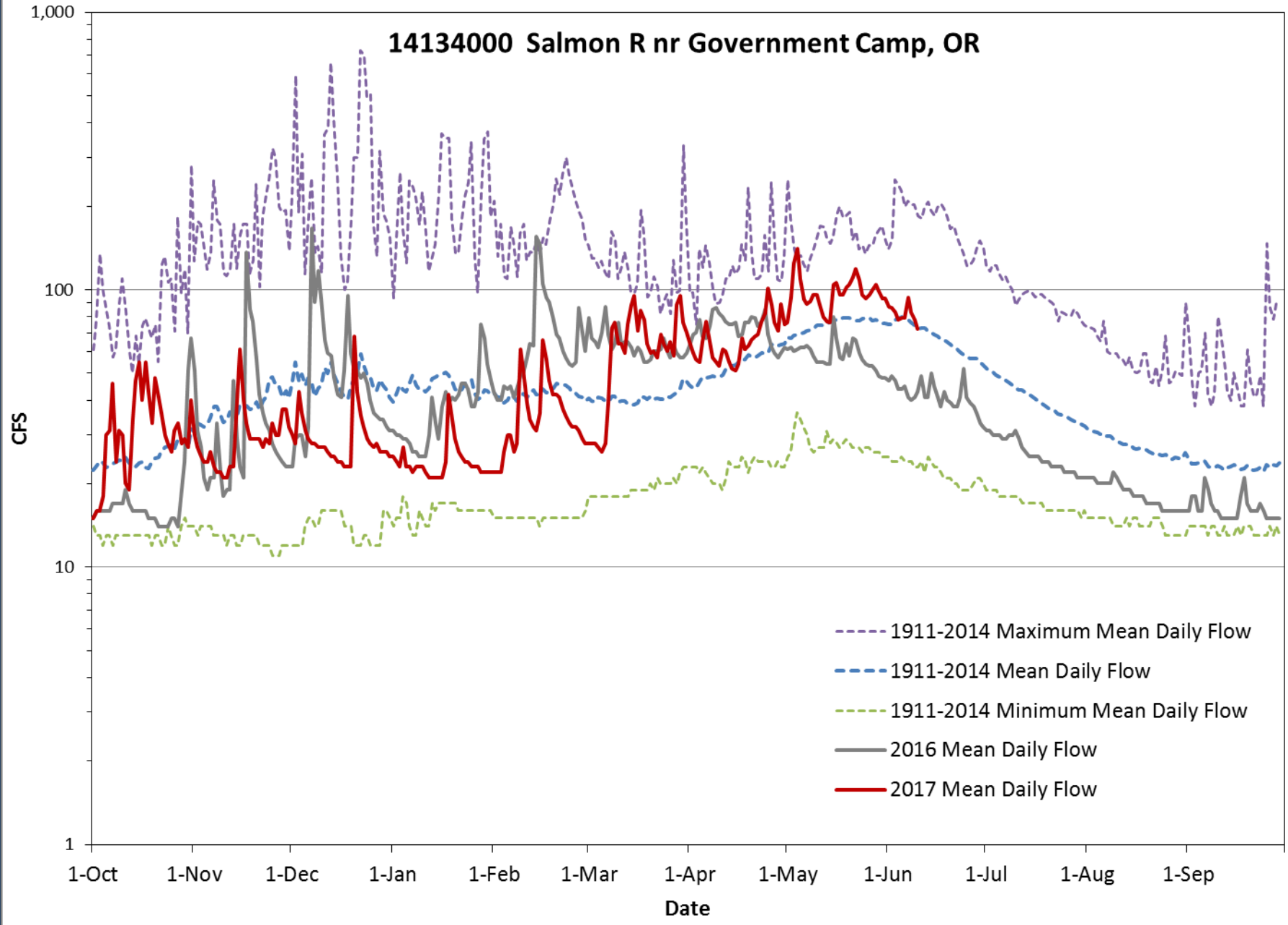
Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.

Basin	Water Year % of average thru May	% of average for May	% of average for 06/10/2017	# of data points
North Coast	155%	166%	60%	4
Willamette	145%	149%	88%	11
Sandy	111%	129%	75%	3
Hood	118%	161%	110%	3
Deschutes	136%	138%	102%	9
John Day	157%	127%	88%	9
Umatilla	133%	96%	54%	8
Grande Ronde	146%	133%	122%	5
Powder	164%	148%	149%	4
Malheur	185%	125%	138%	2
Owyhee	156%	128%	103%	1
Malheur Lake	153%	121%	74%	3
Goose & Summer Lakes	193%	130%	120%	5
Klamath	148%	123%	70%	5
Rogue	173%	153%	127%	8
Umpqua	151%	125%	74%	4
South Coast	167%	100%	98%	2
Mid Coast	156%	160%	107%	5
West Side	151%	140%	90%	37
East Side	153%	130%	103%	54
State	153%	134%	98%	91



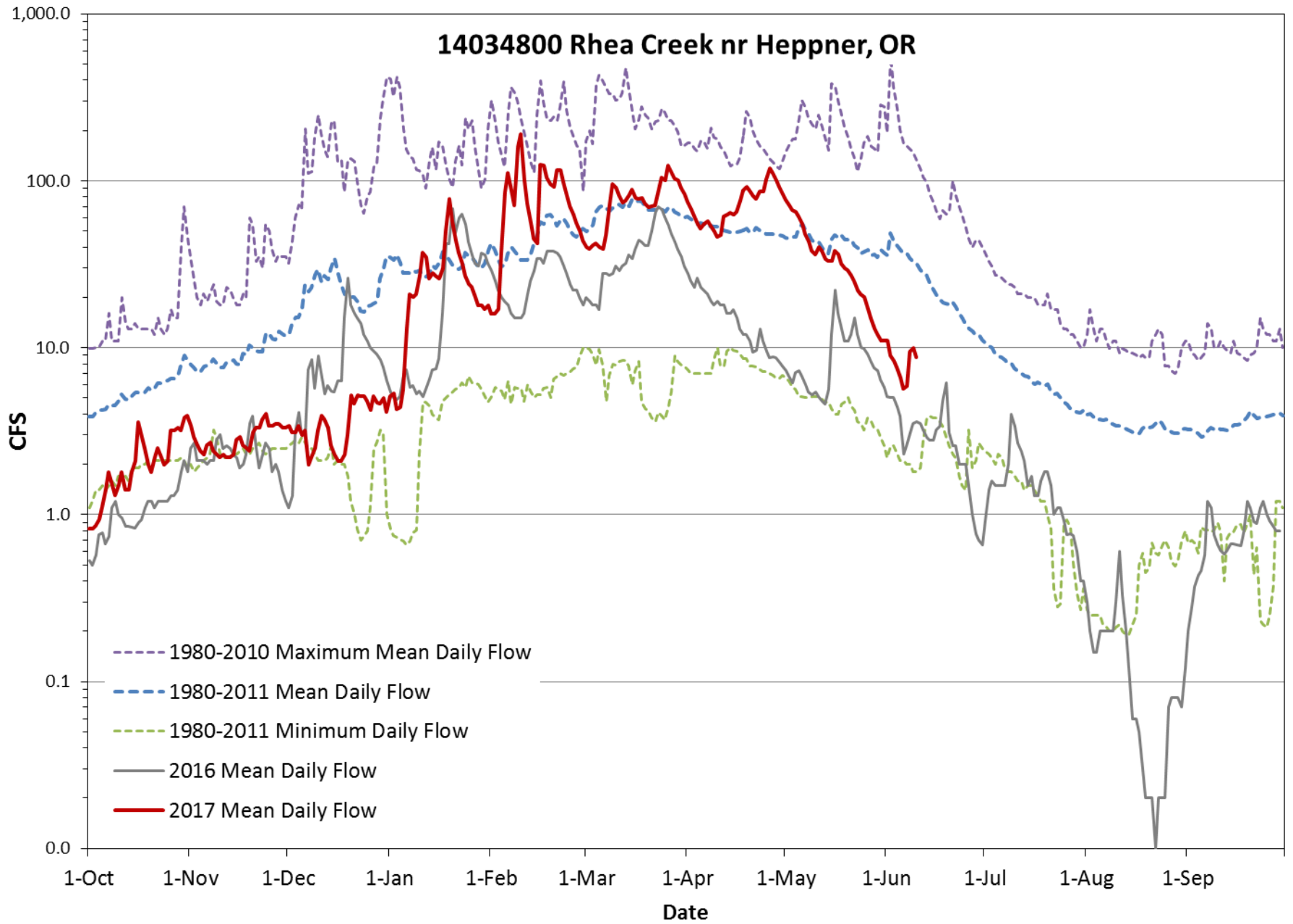
Sandy

14134000 Salmon R nr Government Camp, OR



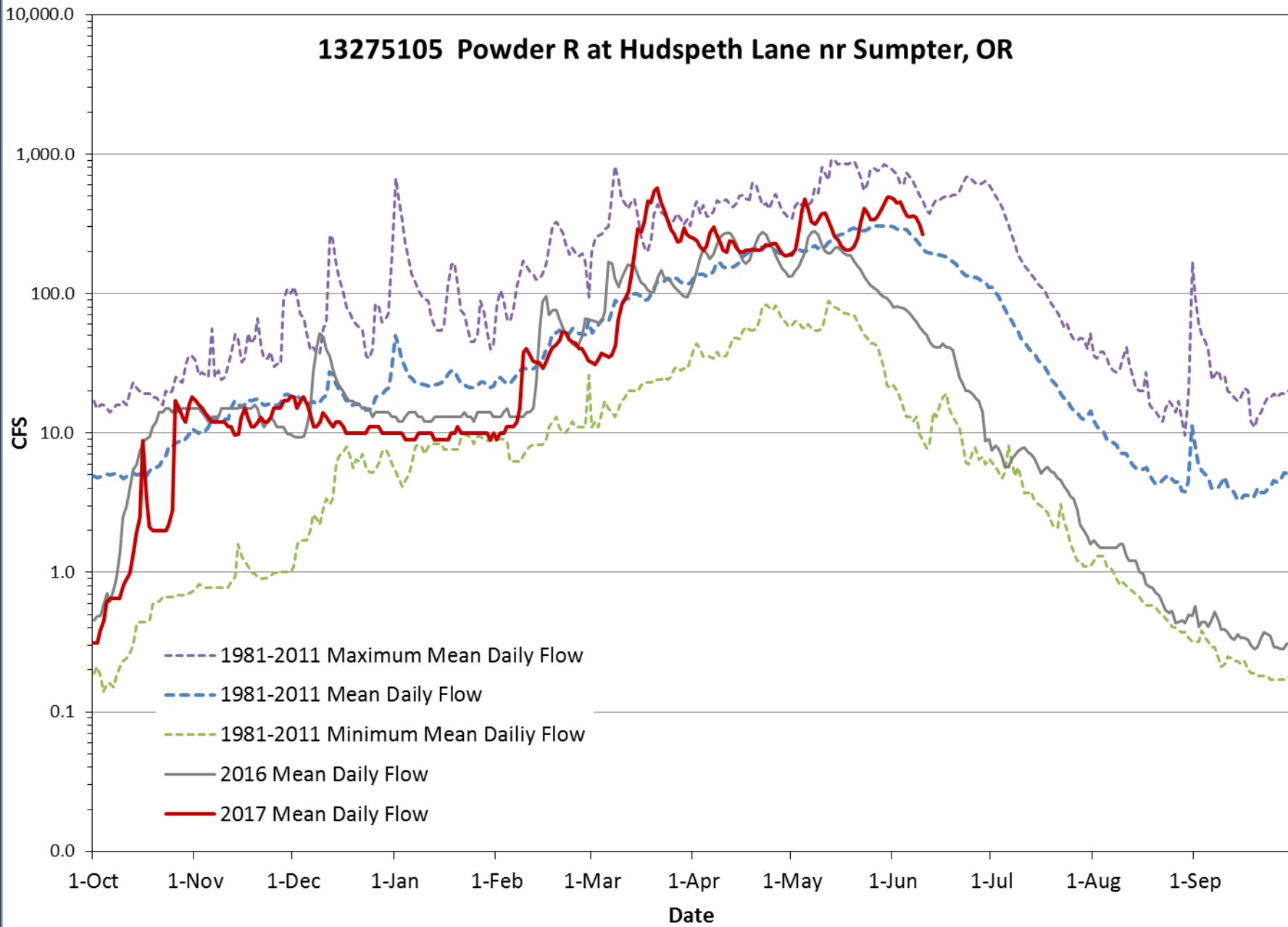
Umatilla

14034800 Rhea Creek nr Heppner, OR



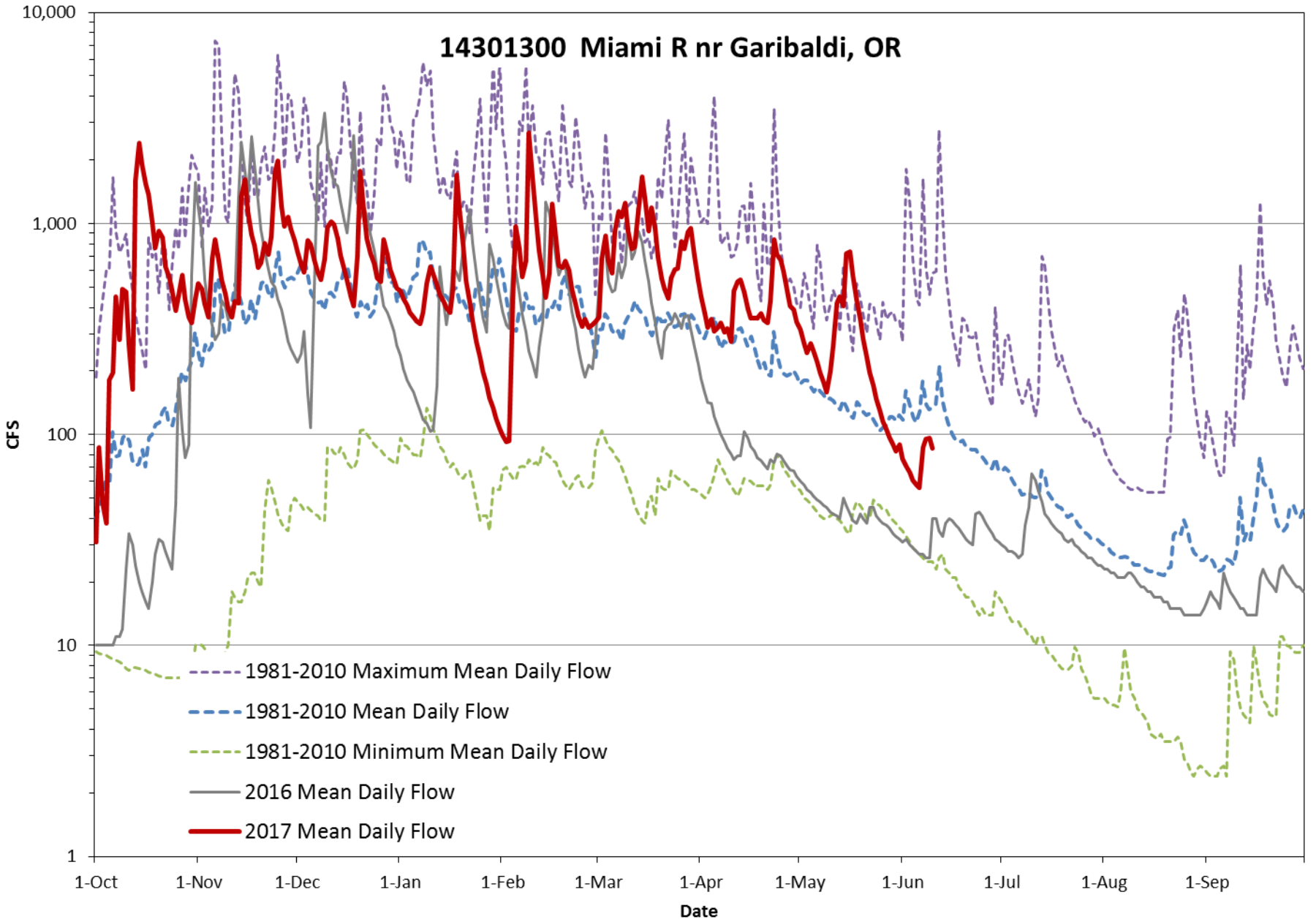
Powder

13275105 Powder R at Hudspeth Lane nr Sumpter, OR



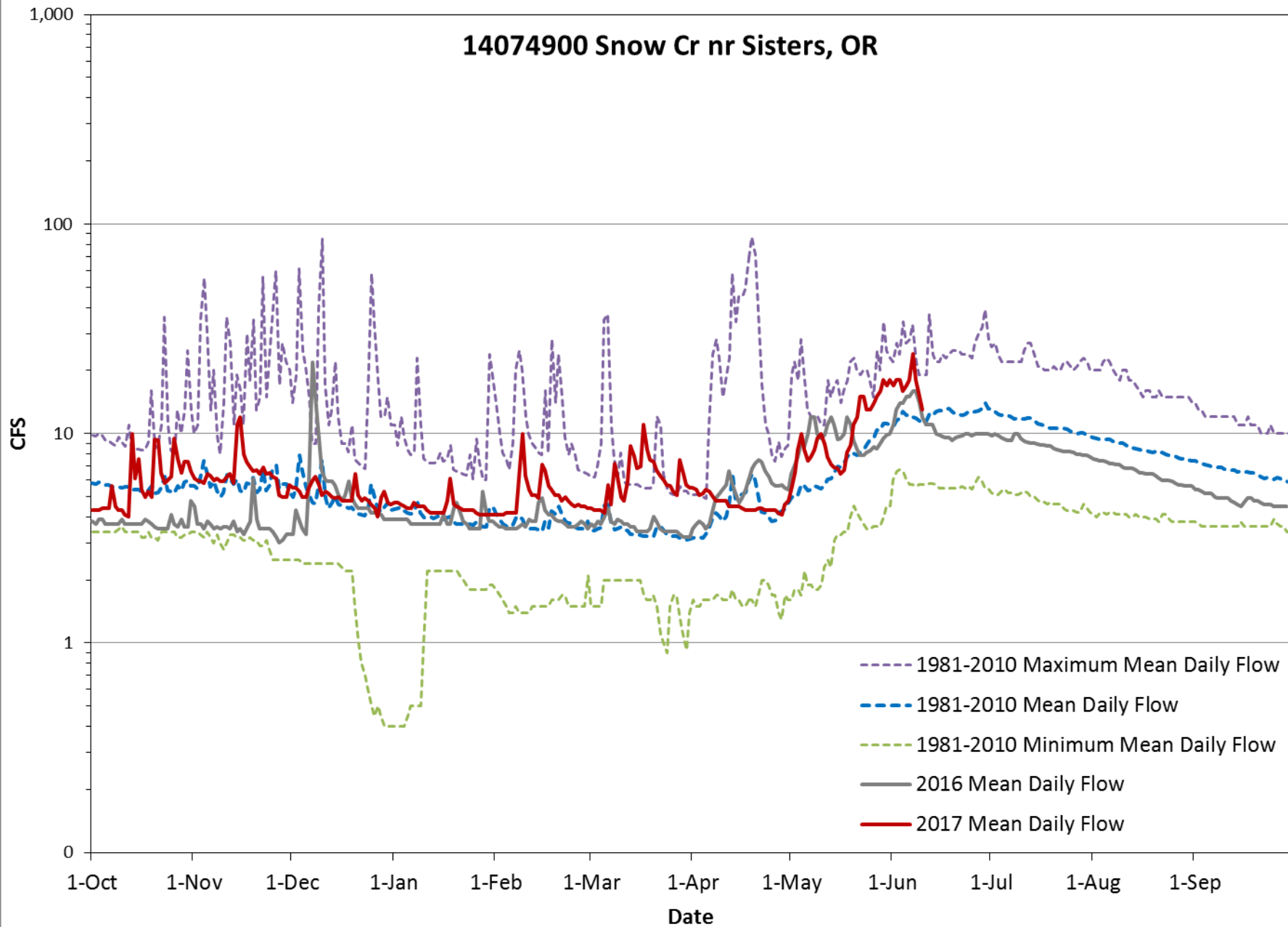
North Coast

14301300 Miami R nr Garibaldi, OR



Deschutes

14074900 Snow Cr nr Sisters, OR



Storage

Reservoir Storage Summary for the end of May, 2017

Percent of Average Storage

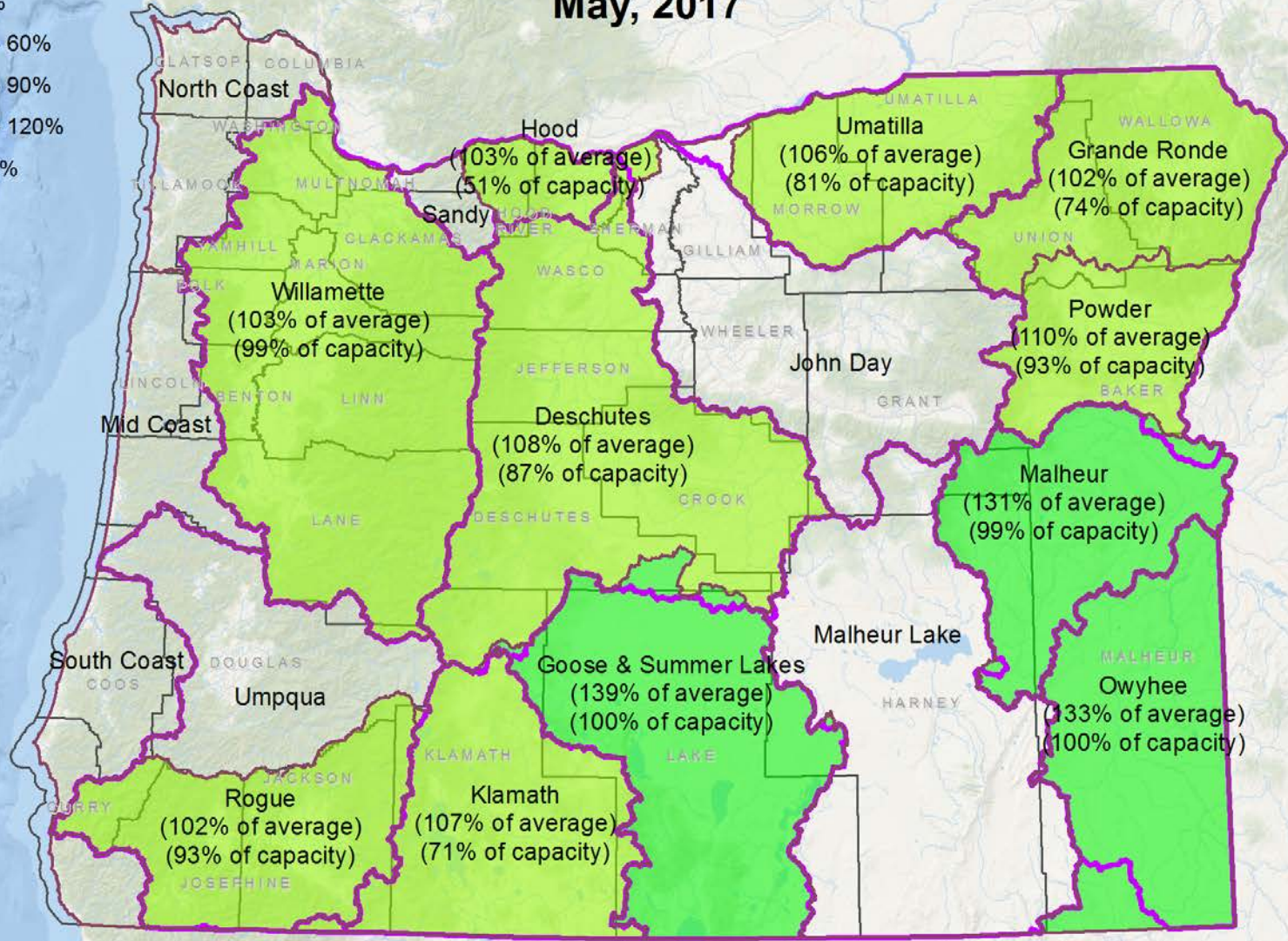
WRD Basin

- < 35%
- 36% - 60%
- 61% - 90%
- 91% - 120%
- > 120%

NRCS Basin

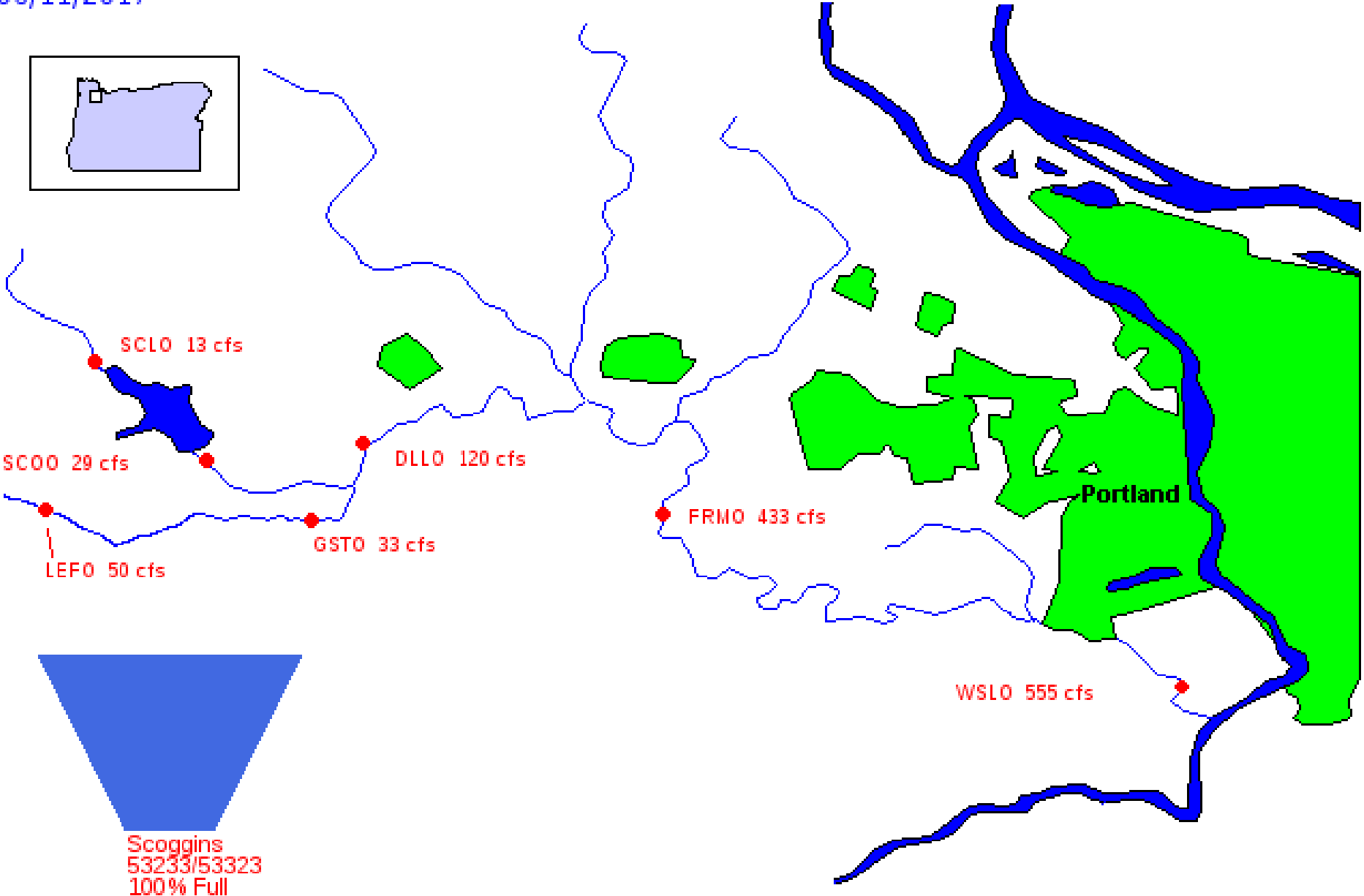
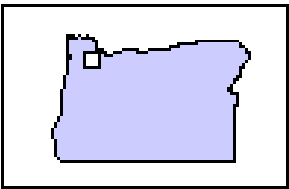


County



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

06/11/2017



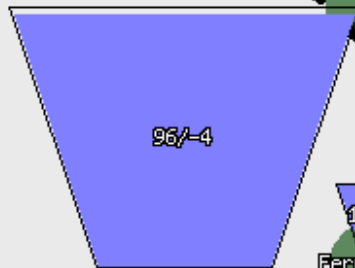
The Willamette Basin

LEGEND

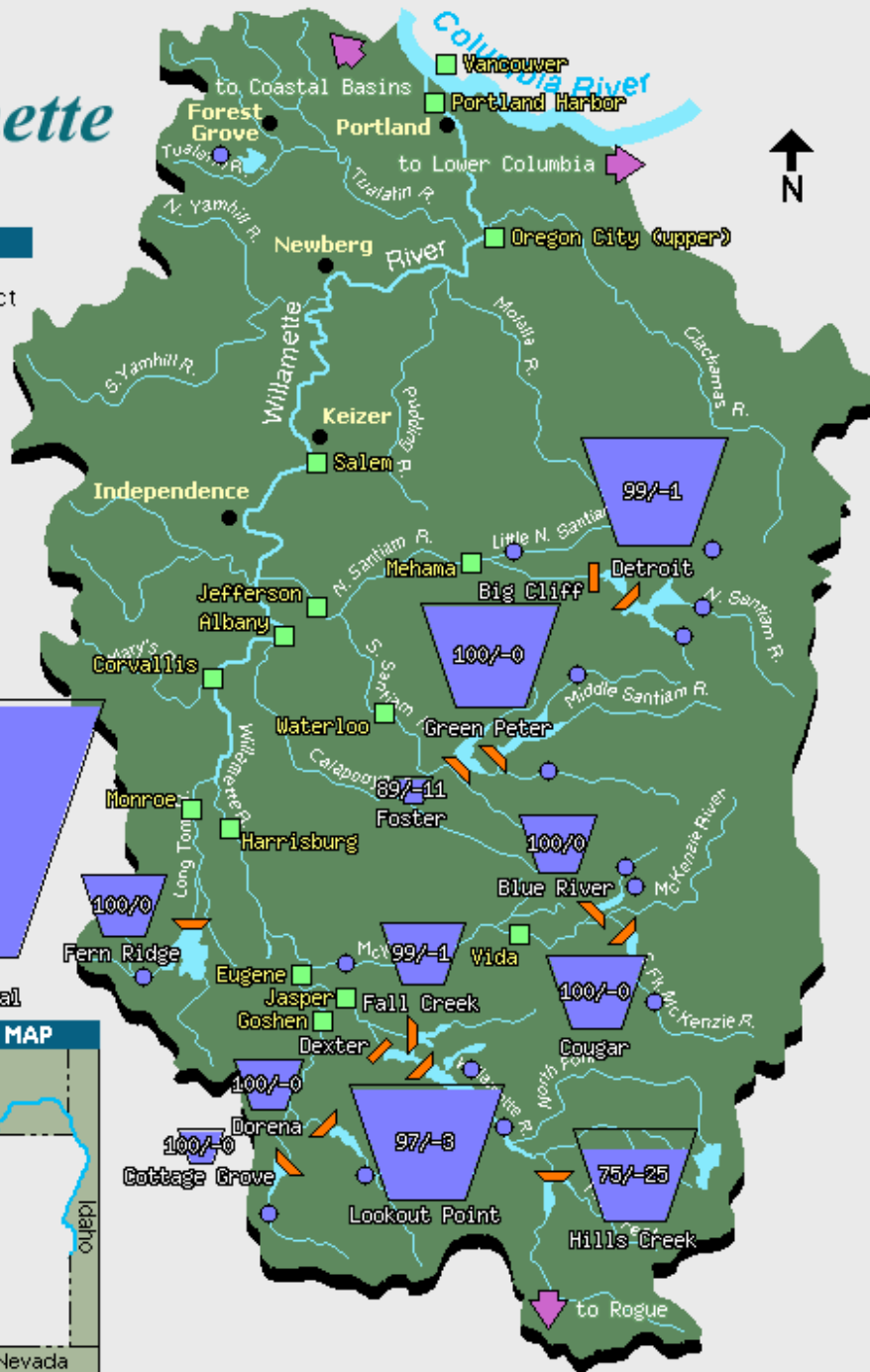
-  Storage Project
-  Run of River
-  Gage
-  No Alerts
-  Bank Full
-  Flood Stage

Overview

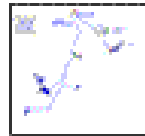
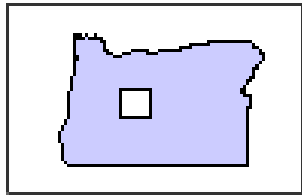
Annual



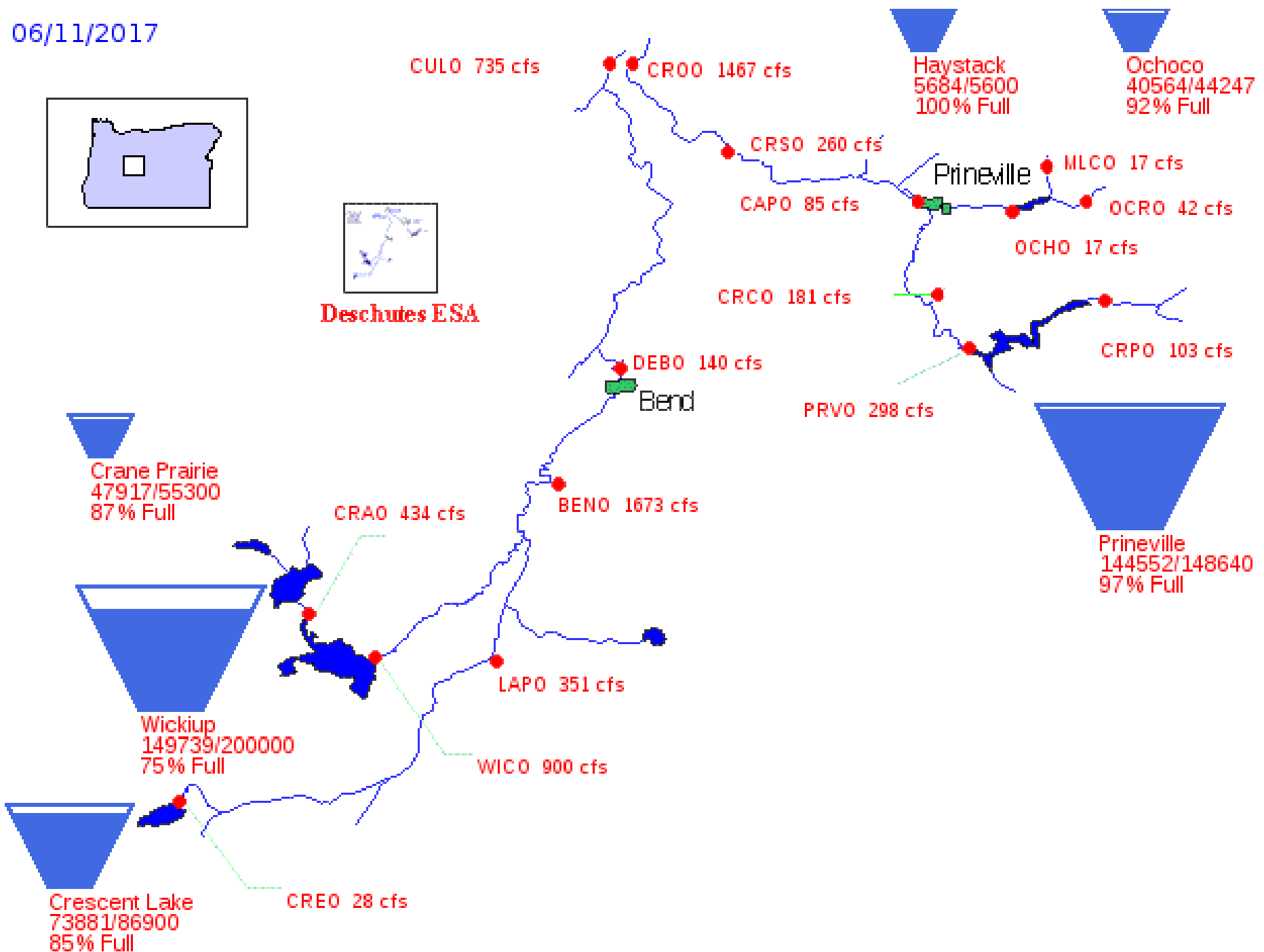
Willamette Total



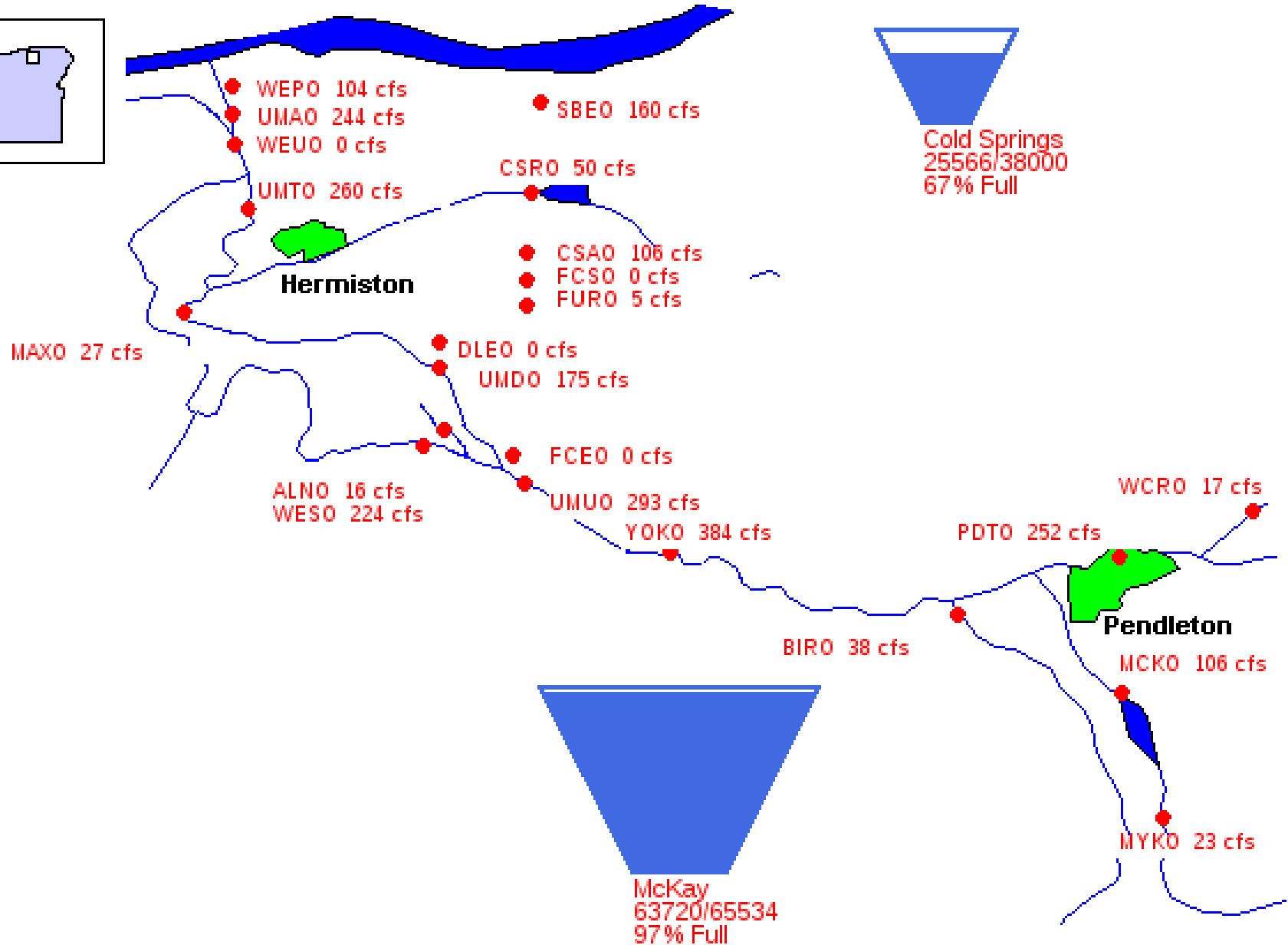
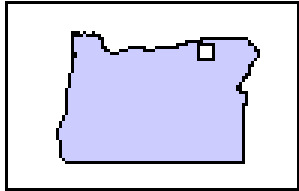
06/11/2017

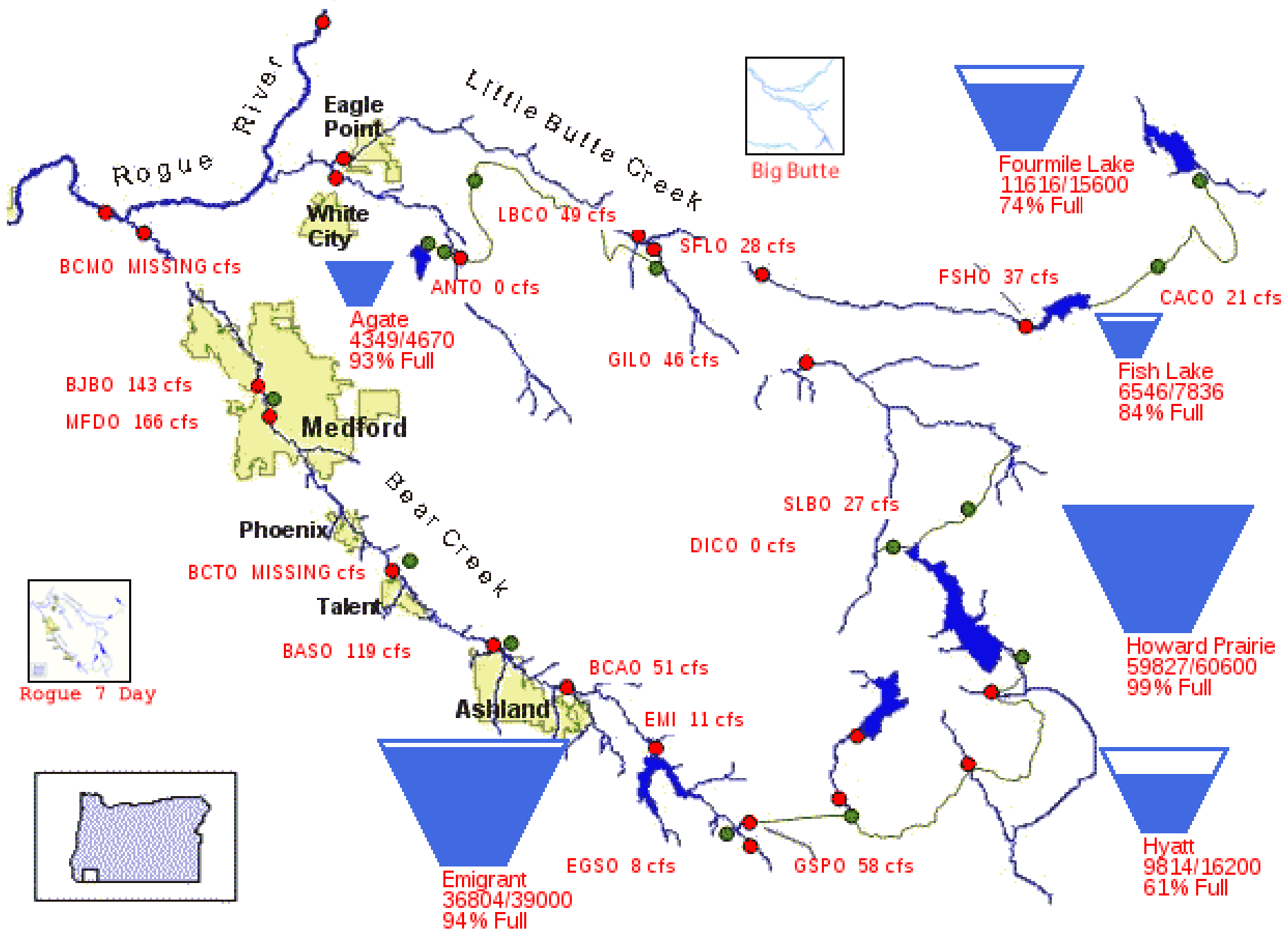


Deschutes ESA



06/11/2017

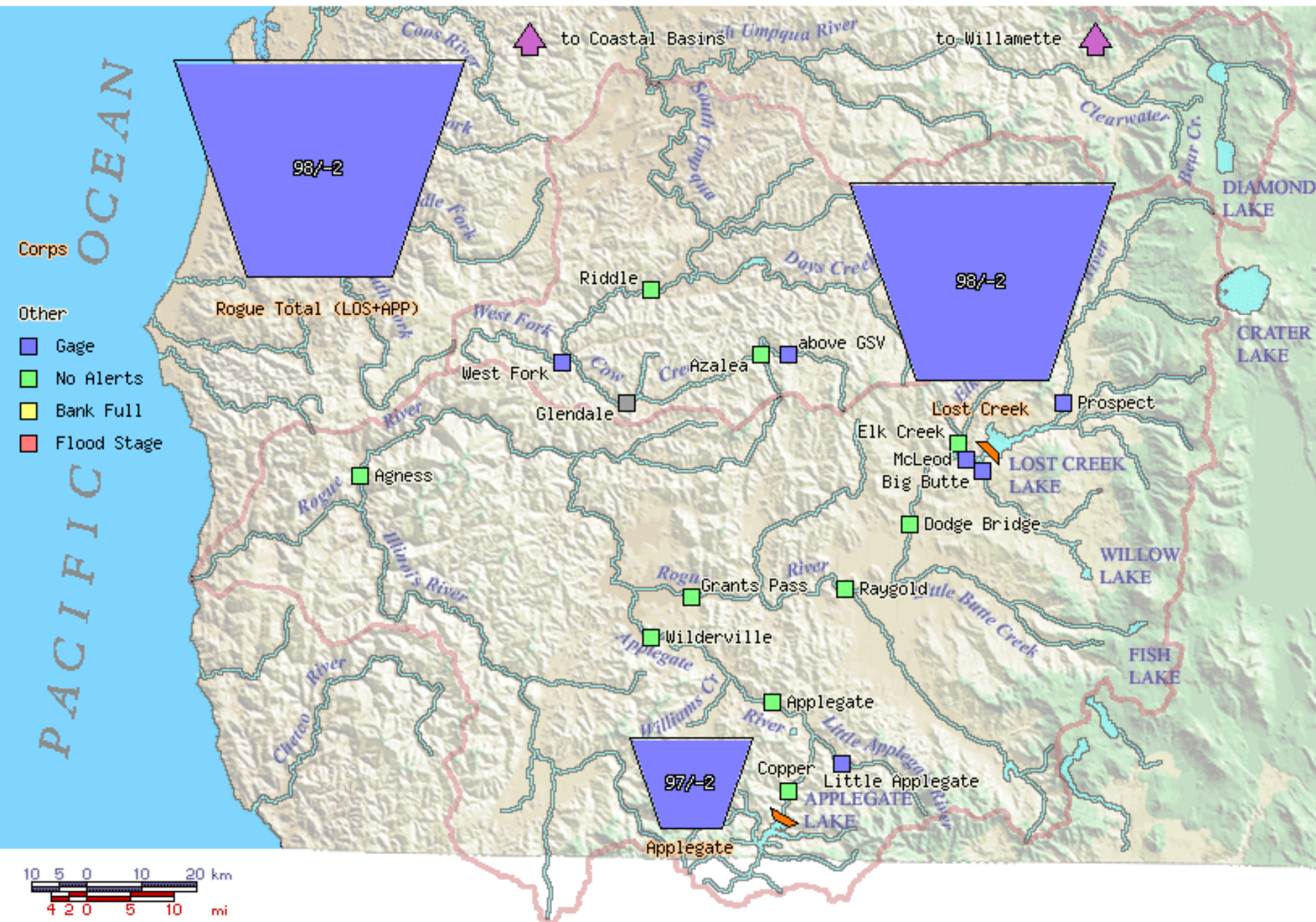




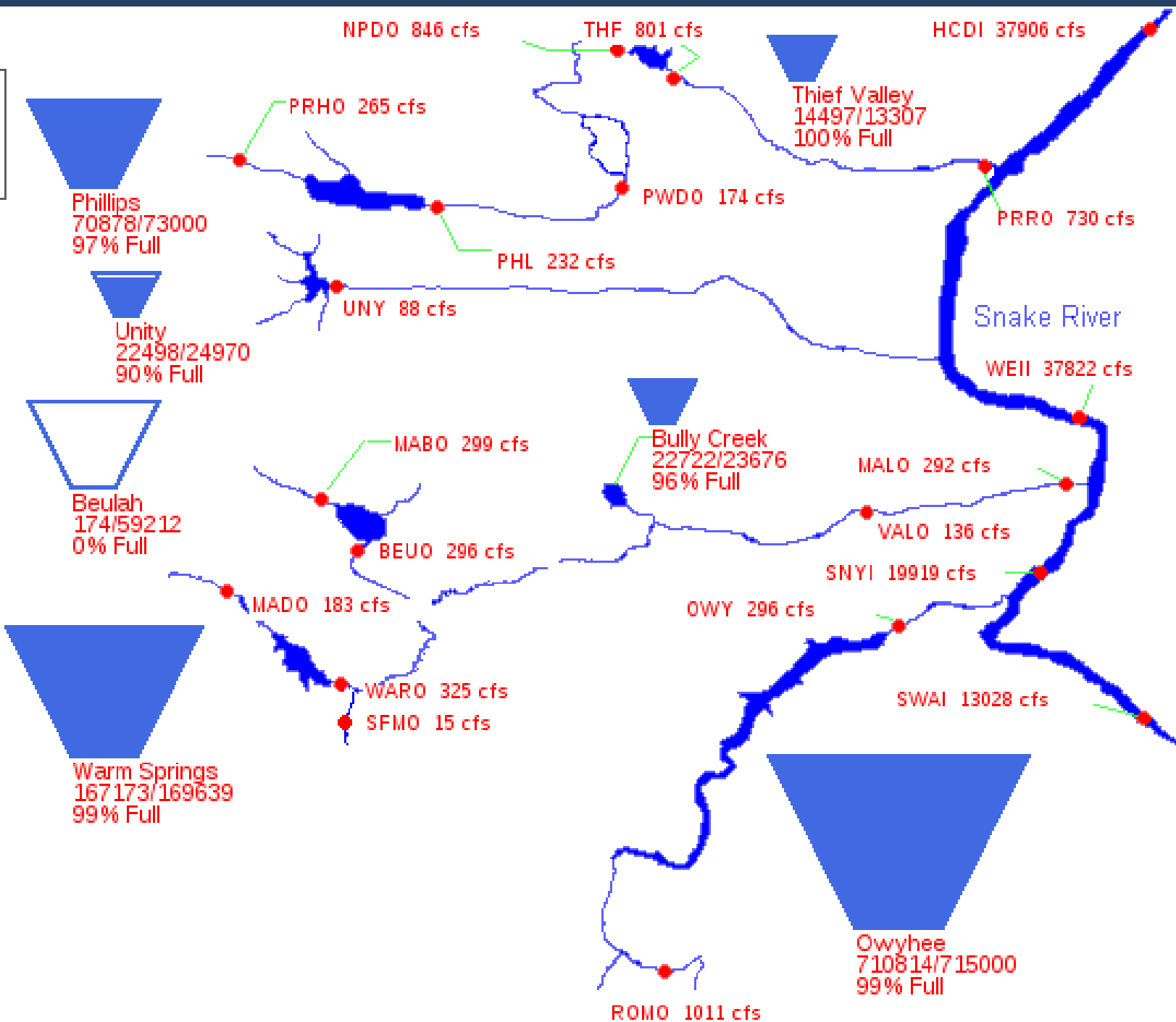
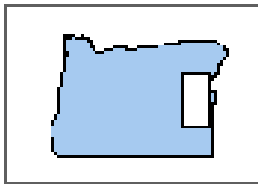
Corps

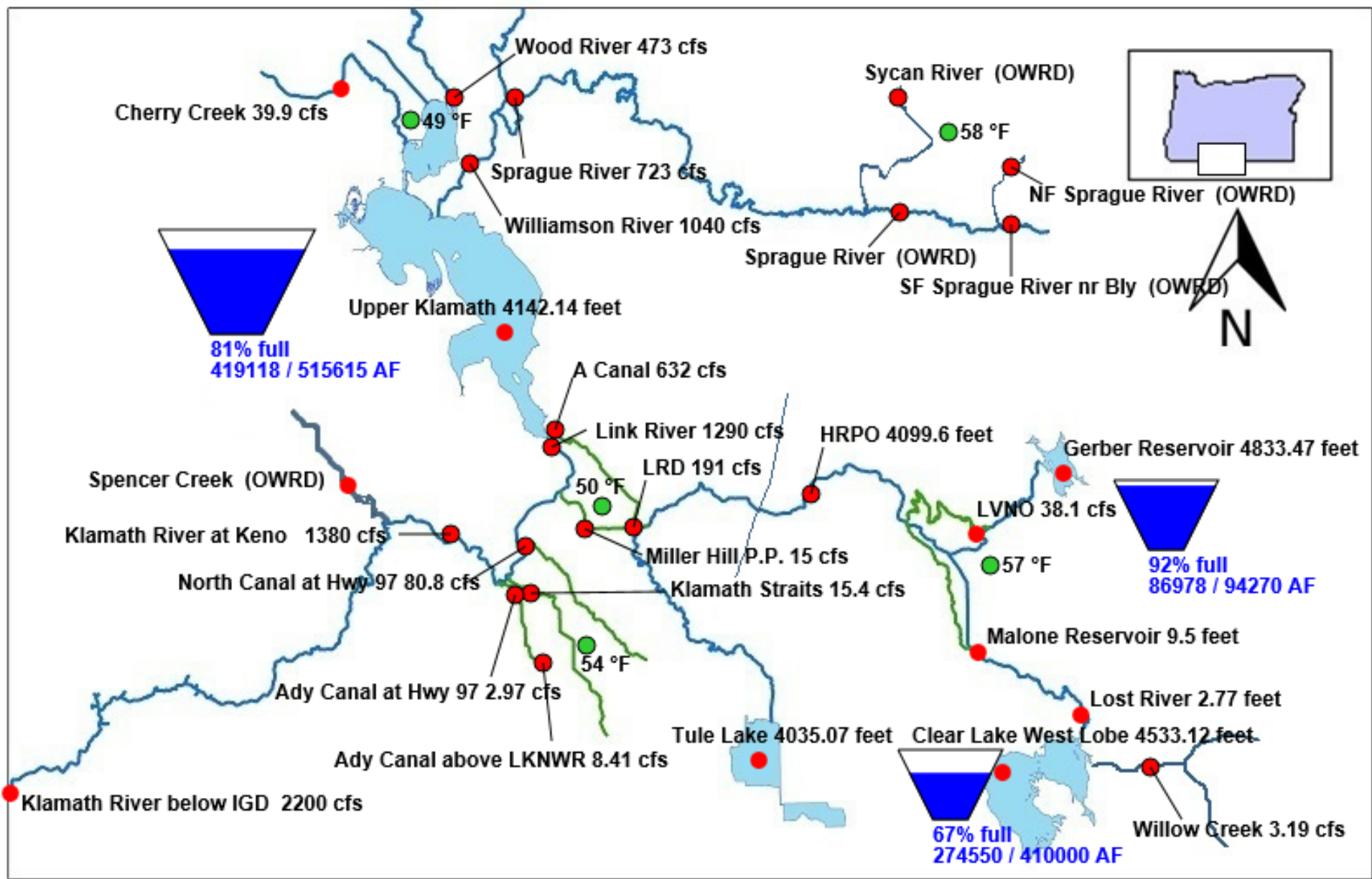
Other

- Gage
- No Alerts
- Bank Full
- Flood Stage



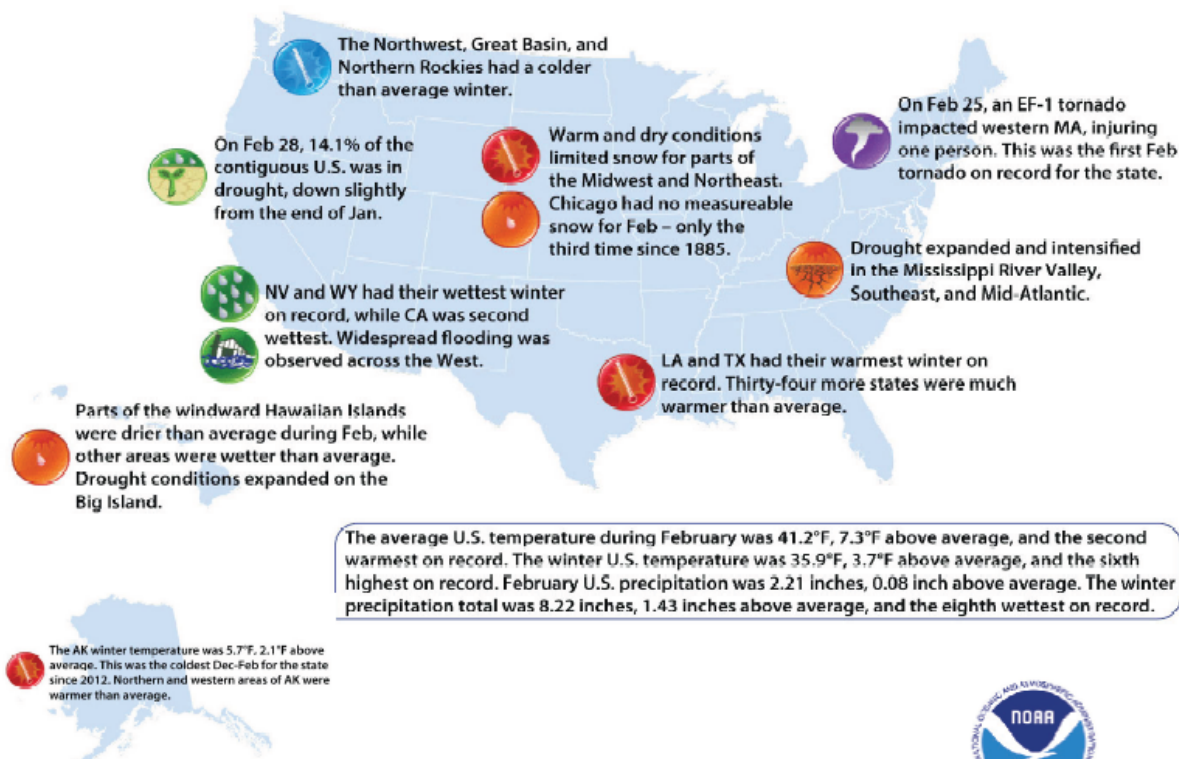
06/11/2017





Updates

Significant Events for December 2016 - February 2017



Dec-Feb Highlights for the West

Wettest winter (Dec-Feb) on record for NV, WY; 2nd wettest for CA

Well above normal snowpack in Sierra Nevada, southern Cascades, central and southern Rockies

Major flooding, travel impacts across West due to abundant precipitation

Cooler than normal temperatures across northern tier of West, above normal in Four Corners area

Second warmest winter on record for NM; 6th warmest for AZ

Significant reduction in drought conditions across West

Sea surface temperatures near normal along West Coast; large area of northeast Pacific cooler than normal

ENSO-neutral conditions favored through spring, some models favor El Niño development by summer





Search Records

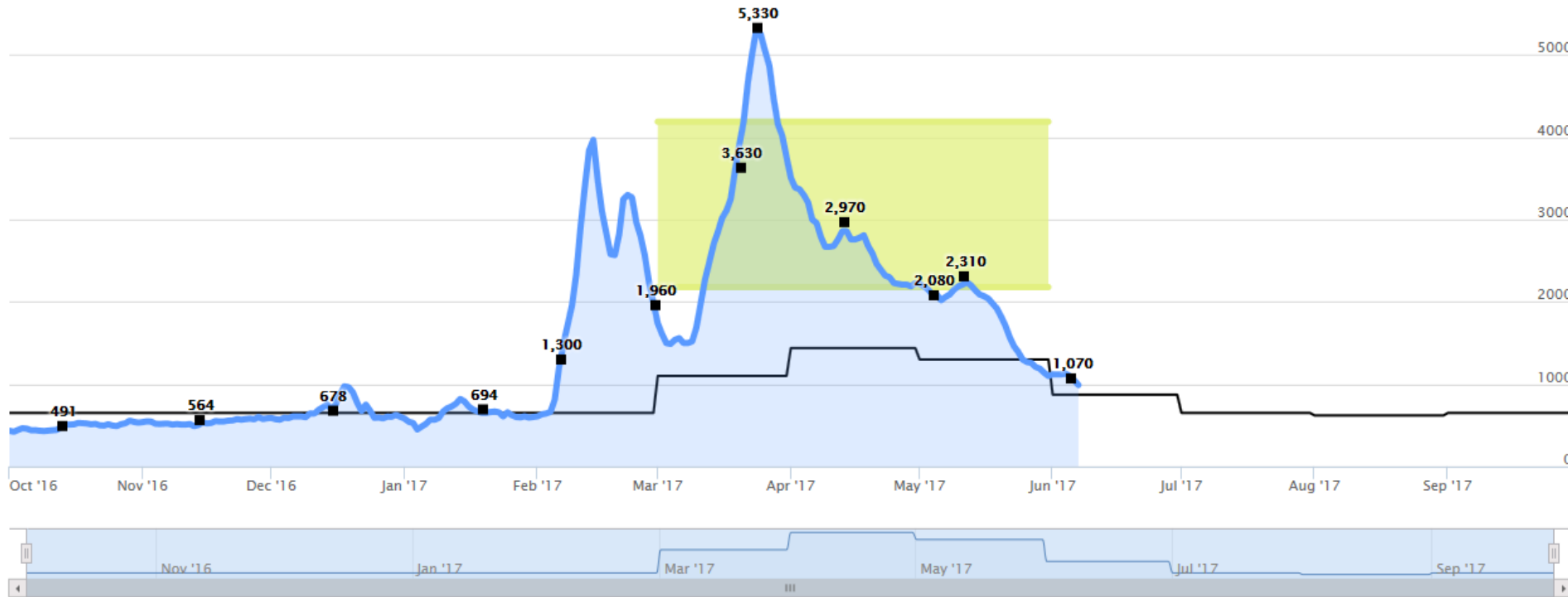
Claim Char:
 Claim Nbr:
 Start Date:
 End Date:

Tool Tips Off:

Lower Williamson River (KA-625, Gaging Station: 11502550)

Zoom

From To



— Instream Claim
 Habitat High Flows
 — Mean Daily Flow
 ■ Measurement

Thank You

Surface Water Conditions Report
Water Supply Availability Committee



http://apps.wrd.state.or.us/apps/gw/gw_info/gw_hydrograph/Charts.aspx?gw_logid=KLAM0053134

Justin Iverson
Oregon Water Resources
Department
July 12, 2017

Water Supply Availability Committee

June 2017

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

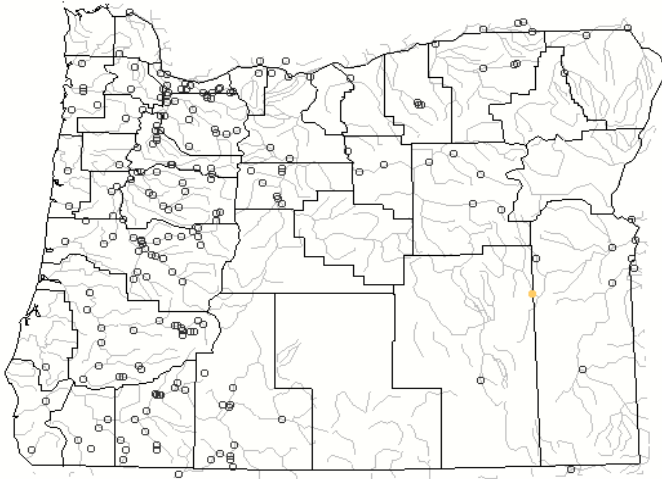
http://or.water.usgs.gov/sw_studies/index.html

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

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

Oregon or Water-Resources Regions

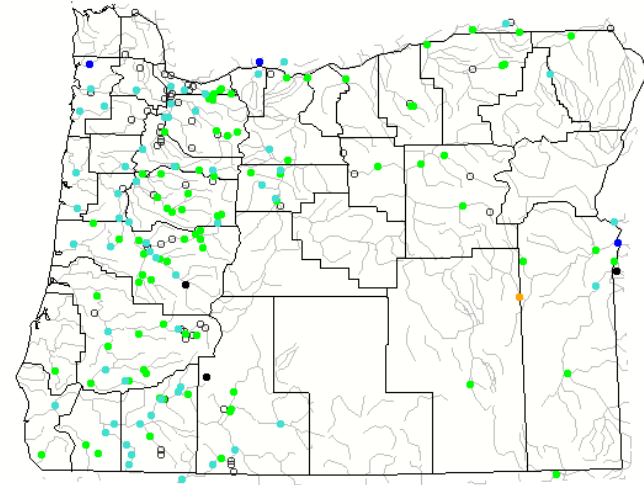
May 2017



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

Oregon or Water-Resources Regions

Monday, June 12, 2017



Search USGS streamgage

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				
●	●	●	●	○
New low	<=5	6-9	10-24	Not ranked
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	



Search USGS streamgage

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

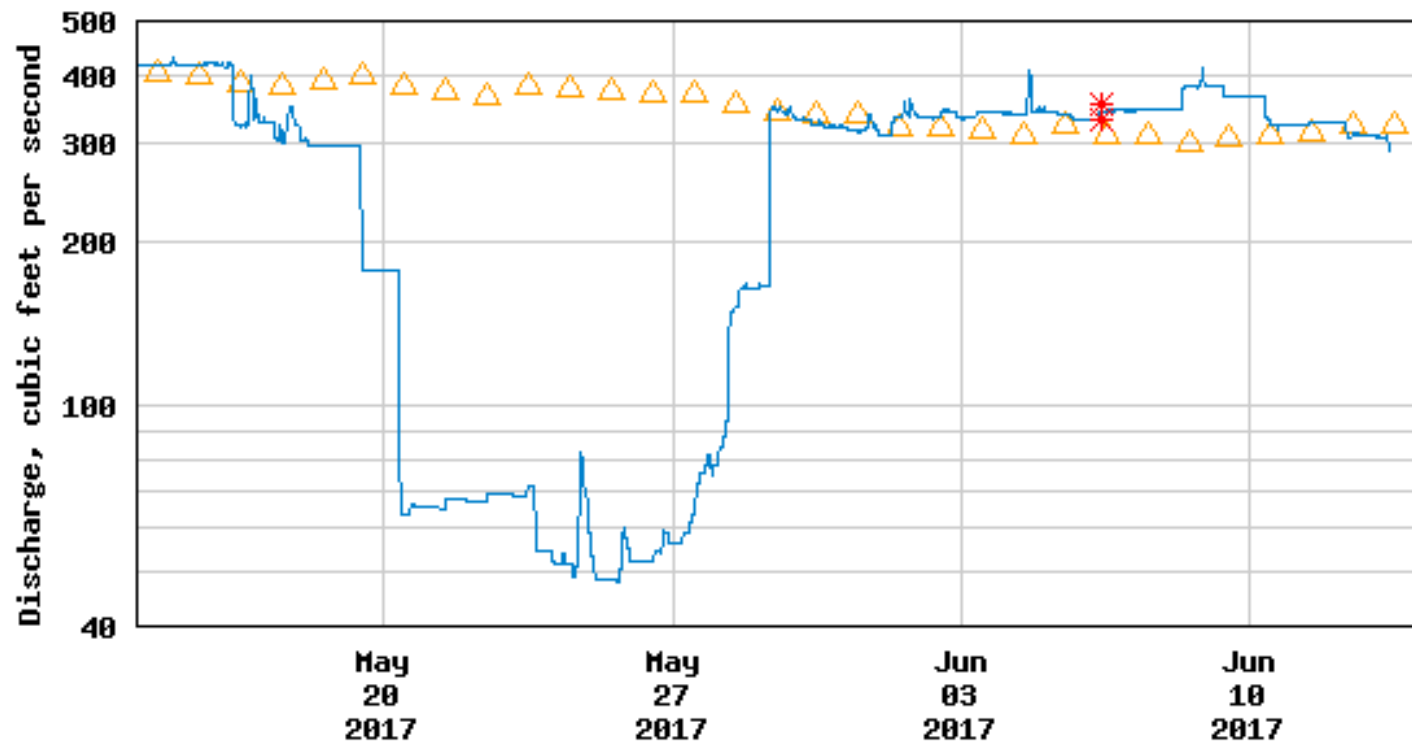
- List of all stations
 Single station
 Nearest stations

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

WAC June 2017



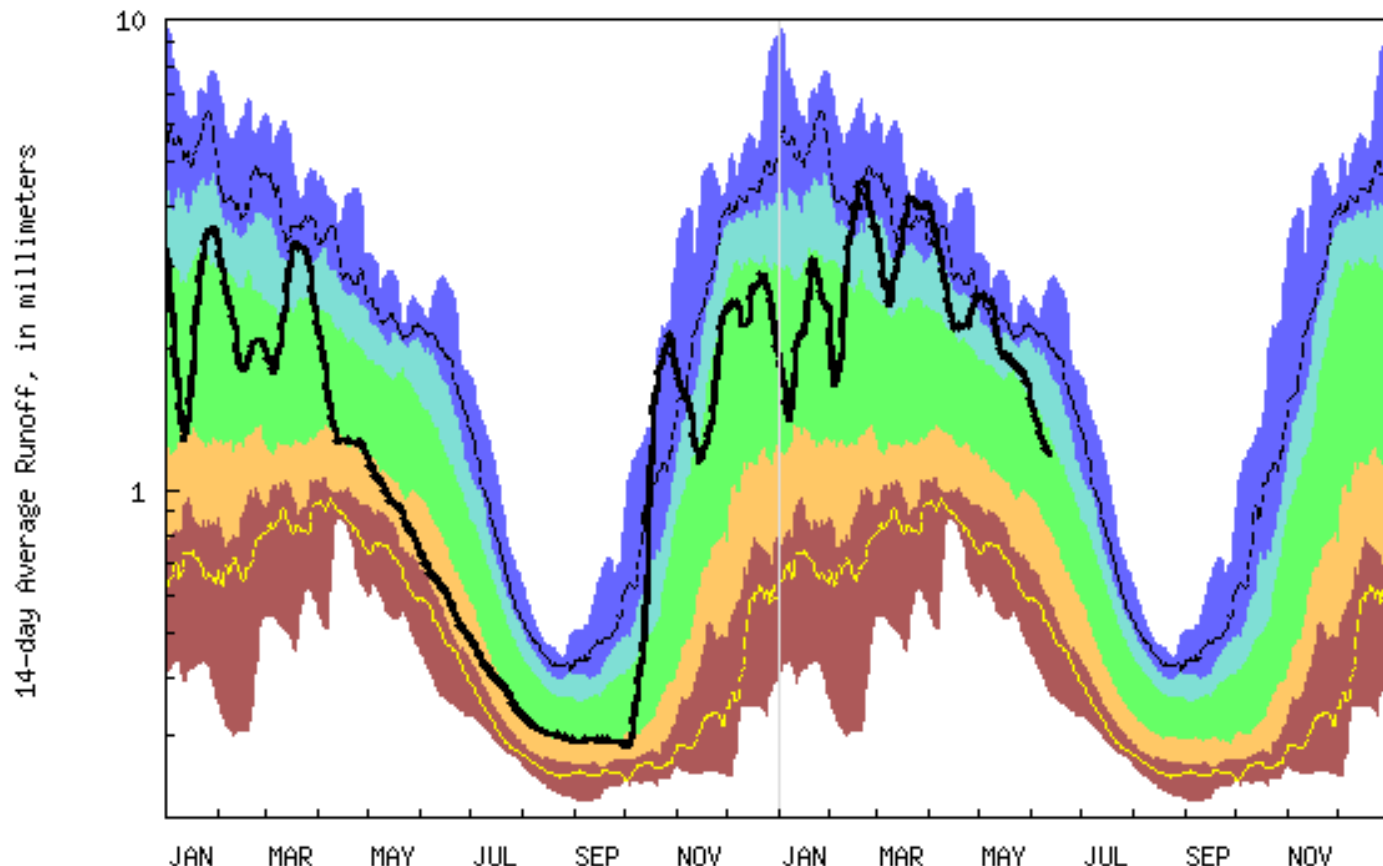
USGS 13215000 MALHEUR RIVER BEL WARMSPRINGS RES NR RIVERSIDE OR



----- Provisional Data Subject to Revision -----

- △ Median daily statistic (99 years)
- * Measured discharge
- Discharge

Duration hydrograph of 14-day average runoff for Oregon



USGS WaterWatch

2016

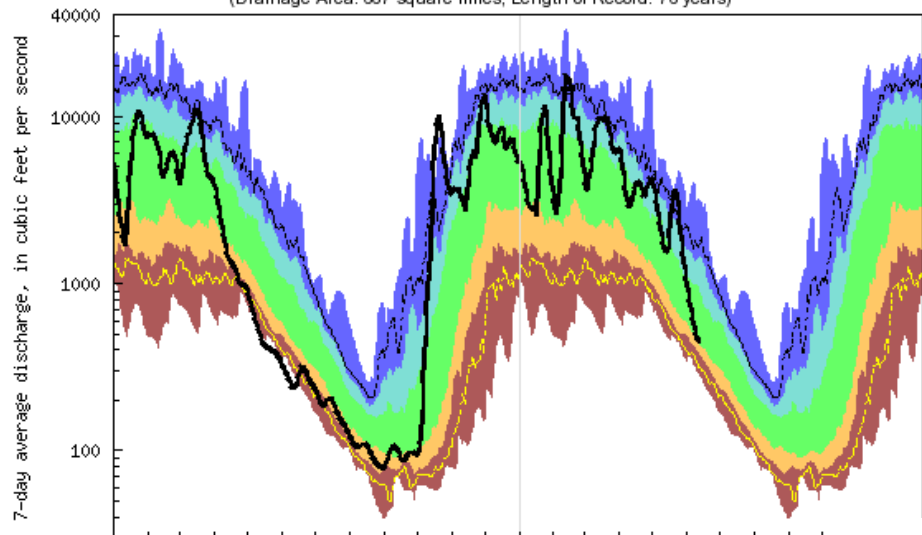
2017

Last updated: 2017-06-13

Explanation - Percentile classes

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

USGS 14301000 NEHALEM RIVER NEAR FOSS, OR
(Drainage Area: 667 square miles, Length of Record: 76 years)



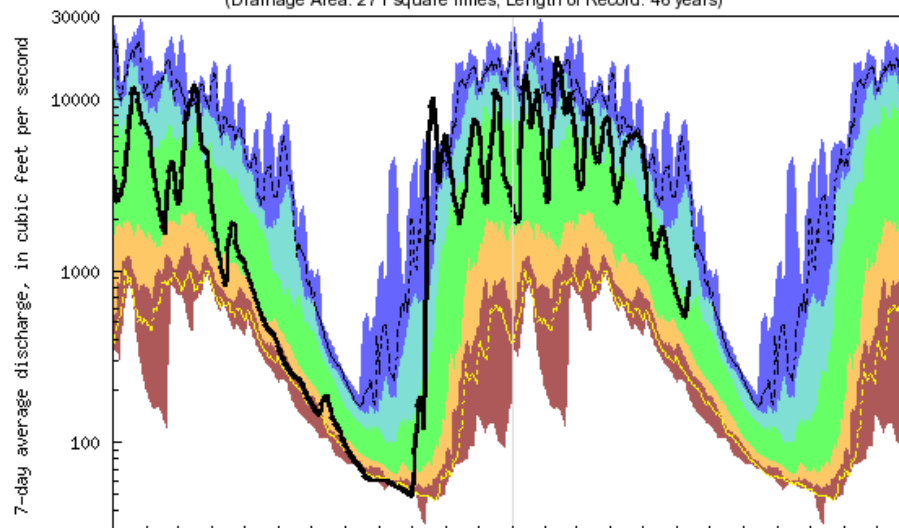
USGS WaterWatch

Last updated:

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

7-day average Discharge, cfs

USGS 14400000 CHETCO RIVER NEAR BROOKINGS, OR
(Drainage Area: 271 square miles, Length of Record: 46 years)

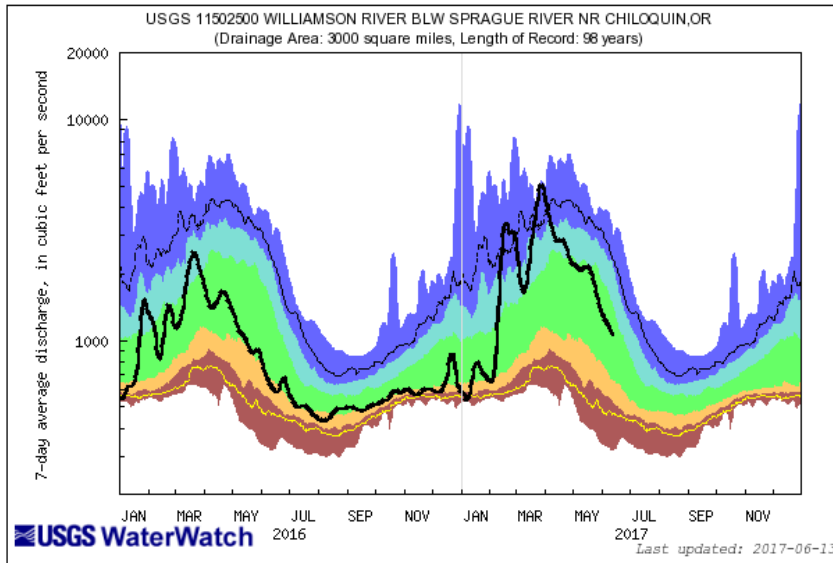


USGS WaterWatch

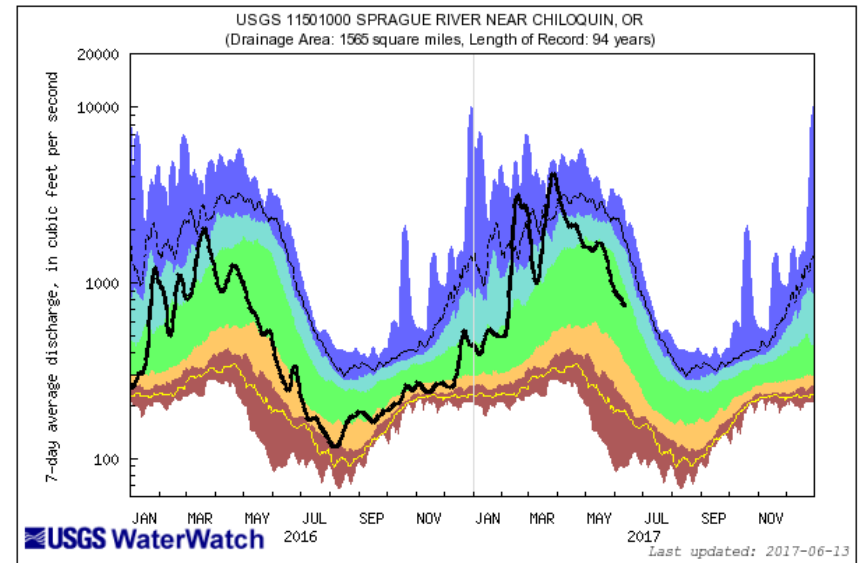
Last updated: 2017-06-13

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

Klamath

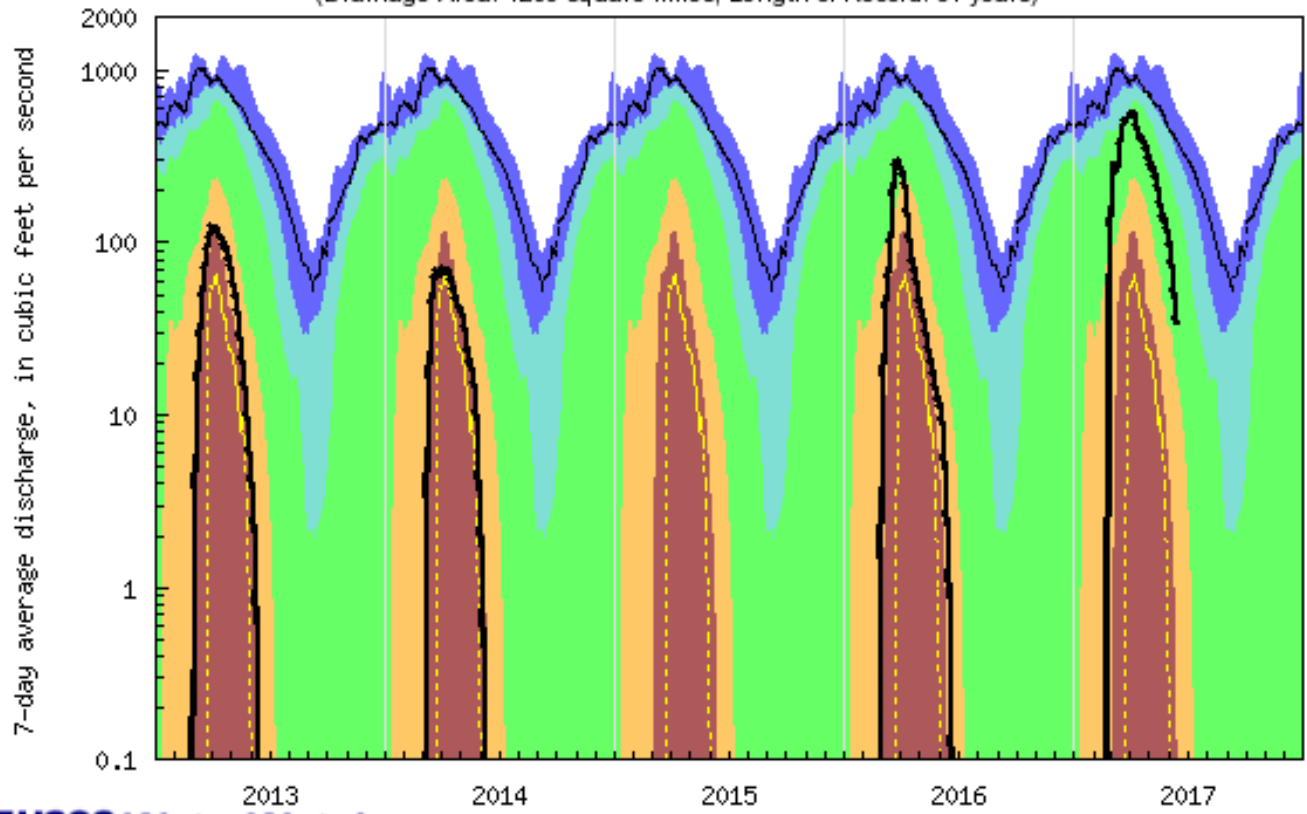


Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95 90th percentile-highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal		



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		

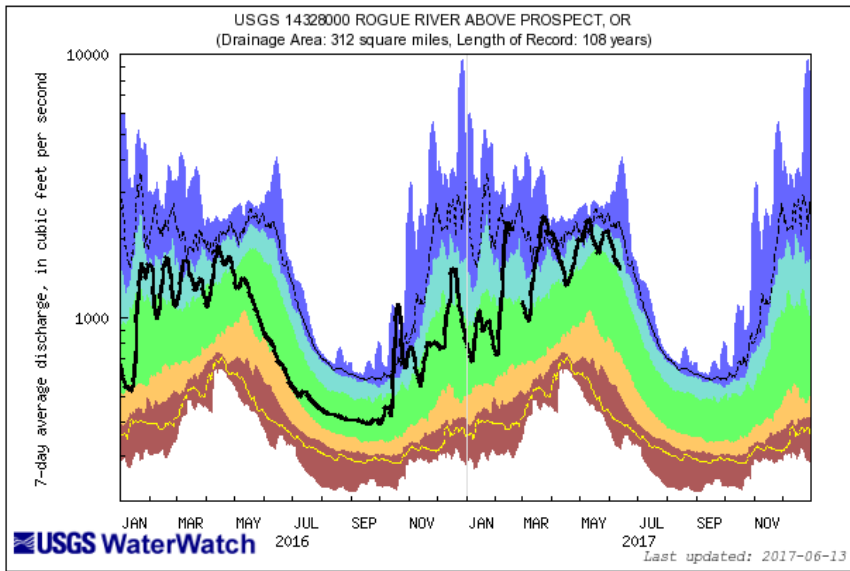
USGS 11493500 WILLIAMSON RIVER NEAR KLAMATH AGENCY, OR
 (Drainage Area: 1290 square miles, Length of Record: 61 years)



USGS WaterWatch

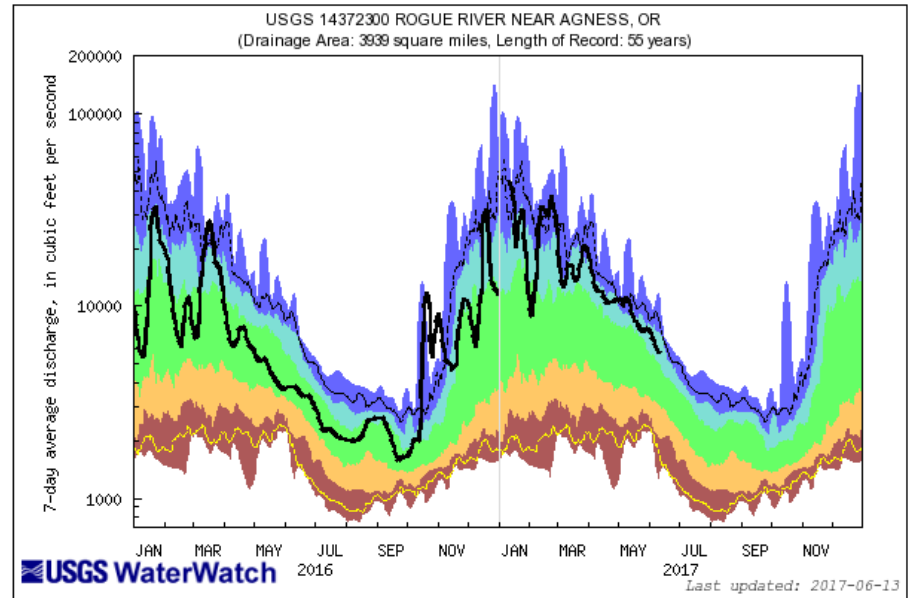
Last updated: 2017-06-13

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



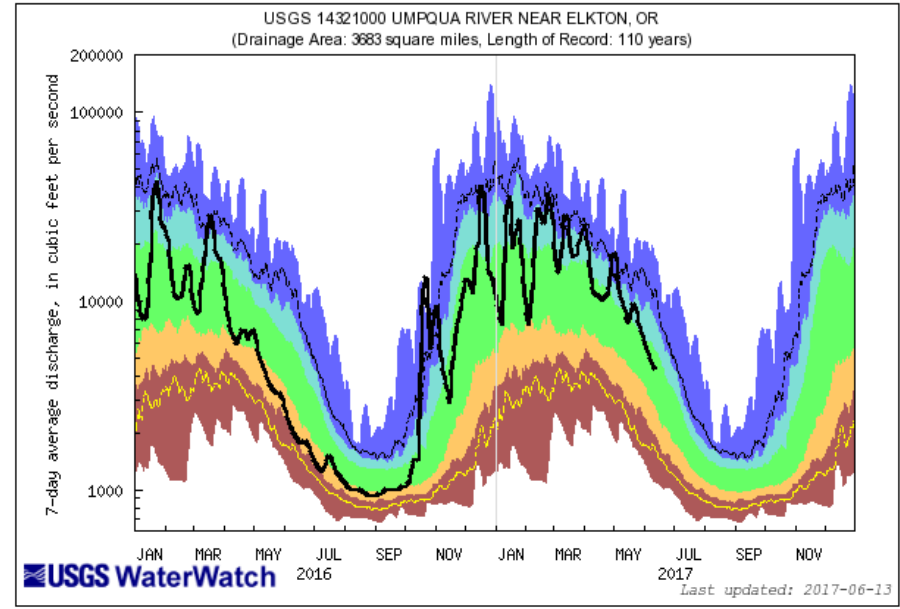
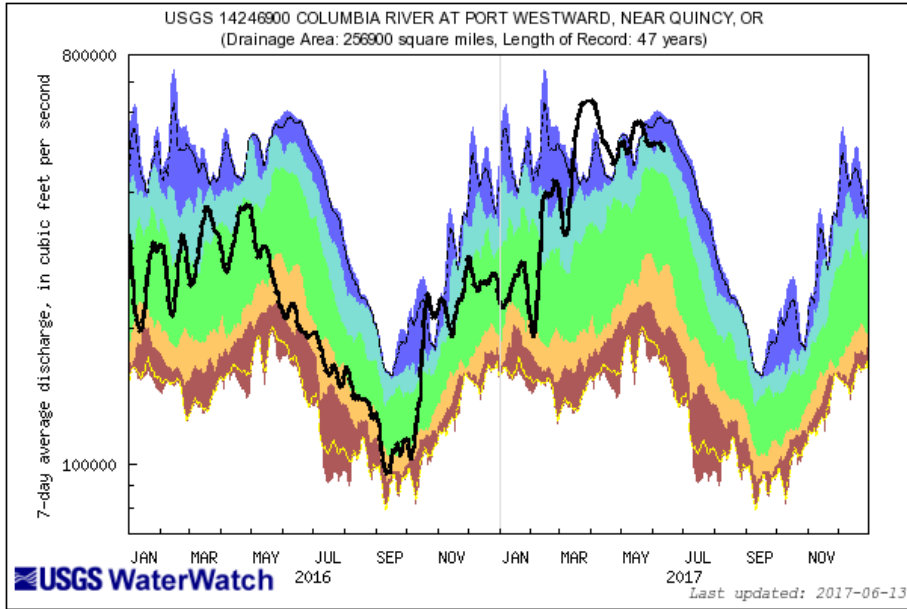
Explanation - Percentile classes						
lowest-10th percentile	5	10-24	25-75	76-90	95 90th percentile-highest	Flow
Much below Normal	Below normal	Normal	Above normal	Much above normal		

Southern Oregon



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		

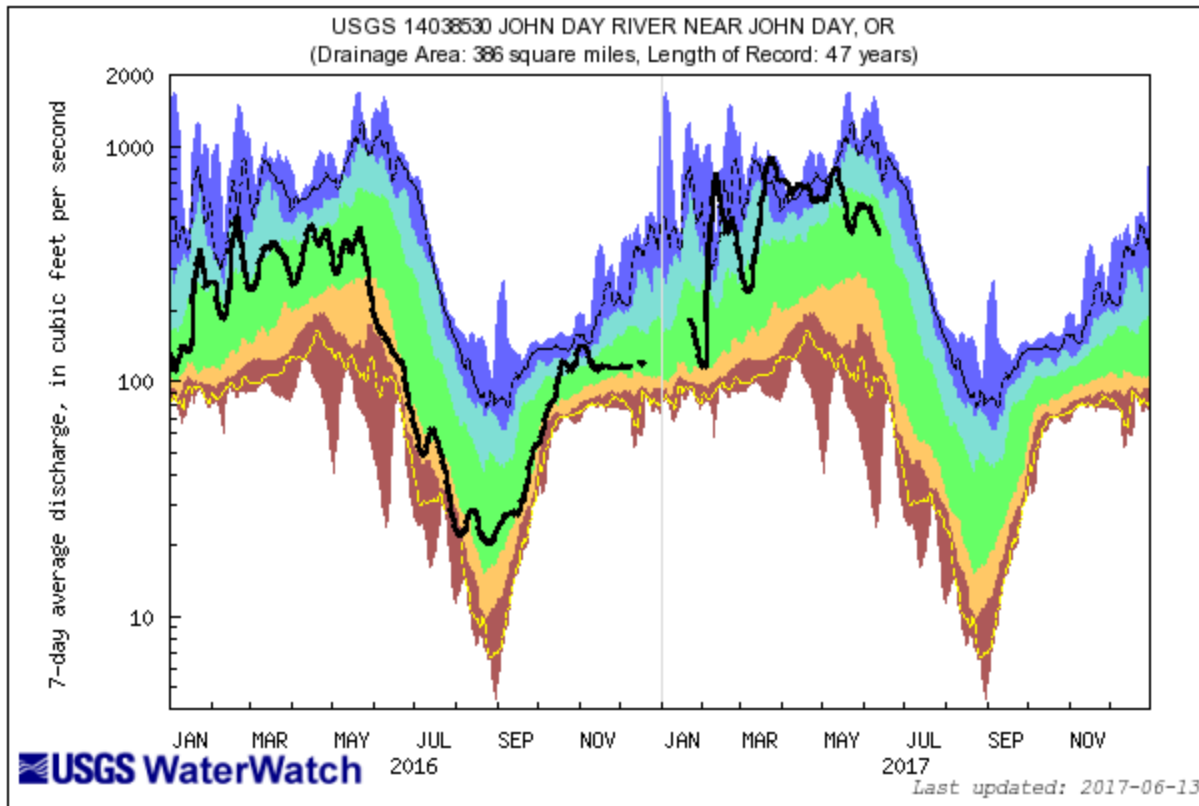
Outflows



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

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

John Day



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

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

Station	NRCS SWSI Basin	Monthly mean discharge		Change in dis- charge from previous month (percent)	Accumulated Runoff For the Period Oct. to Apr. Percent of average
		Cubic feet per second	Percent of average		
Donner Und Blitzen nr Frenchglen	Harney	188	84	44	86
(*)Deep Creek above Adel	Lake County	319	86	6	94
(*)Chewaucan River near Paisley	Lake County	525	147	68	118
Williamson River near Chiloquin	Klamath	1,500	83	-23	89
Owyhee River near Rome	Owyhee	1,372	51	-55	93
(*)NF Malheur River near Beulah	Malheur	374	101	0	107
Grande Ronde R at Troy	Grande Ronde Powder/Burnt	5,931	97	7	103
Umatilla River nr Gibbon	Umatilla Lower John Day	410	76	-30	109
John Day River at Service Crk	Upper John Day	4,812	91	-7	106
(*)Little Deschutes River nr LaPine	Upper Deschutes	359	132	14	110
Hood River nr Hood River	Lower Deschutes Mt.Hood	1,502	121	-22	131
Willamette River at Salem	Willamette	18,640	79	-55	110
Wilson River near Tillamook	North Coast	614	52	-76	145
Umpqua River near Elkton	Rogue/Umpqua	7,088	77	-61	132
Rogue River near Agness	Rogue/Umpqua	6,630	103	-61	136
SF Coquille River at Powers	South Coast	537	58	-75	124
Chetco River near Brookings	South Coast	1,325	53	-81	118

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

5/3/2016

Water
Availability
Report
linked below

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

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