

Surface Water Conditions Report

Drought Readiness Council



Ken Stahr
Oregon Water Resources
Department
October 12, 2017

WATER YEAR 2017 SUMMARY

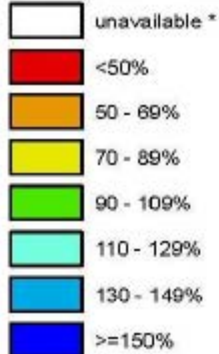
- 1. Record setting October precipitation set the tone for wet weather that continued through early June**
- 2. Snowy & cold December - January brought unusual low elevation snow and above normal snow amounts to the mountains**
- 3. Mid-winter (Feb and March) heavy rain events brought rounds of flooding throughout the state and significant snowmelt. Due to the snowpack surplus, the snowpack was sustained at normal levels even after these losses**
- 4. December through April brought 5 consecutive months of above average precipitation**
- 5. Normal to above normal snowpack was maintained through the peak of the season (mid March to early April)**
- 6. Most major irrigation reservoirs began the water supply season with average and above amounts of water**
- 7. As forecast, most rivers experienced above average streamflow volumes from April – July (largely due to the above normal streamflow contribution during April and May)**
- 8. July and August were hot and dry, placing high demands for water usage with decreased streamflows statewide**

WY2017 Statewide SNOTEL Precipitation - 124% of normal

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

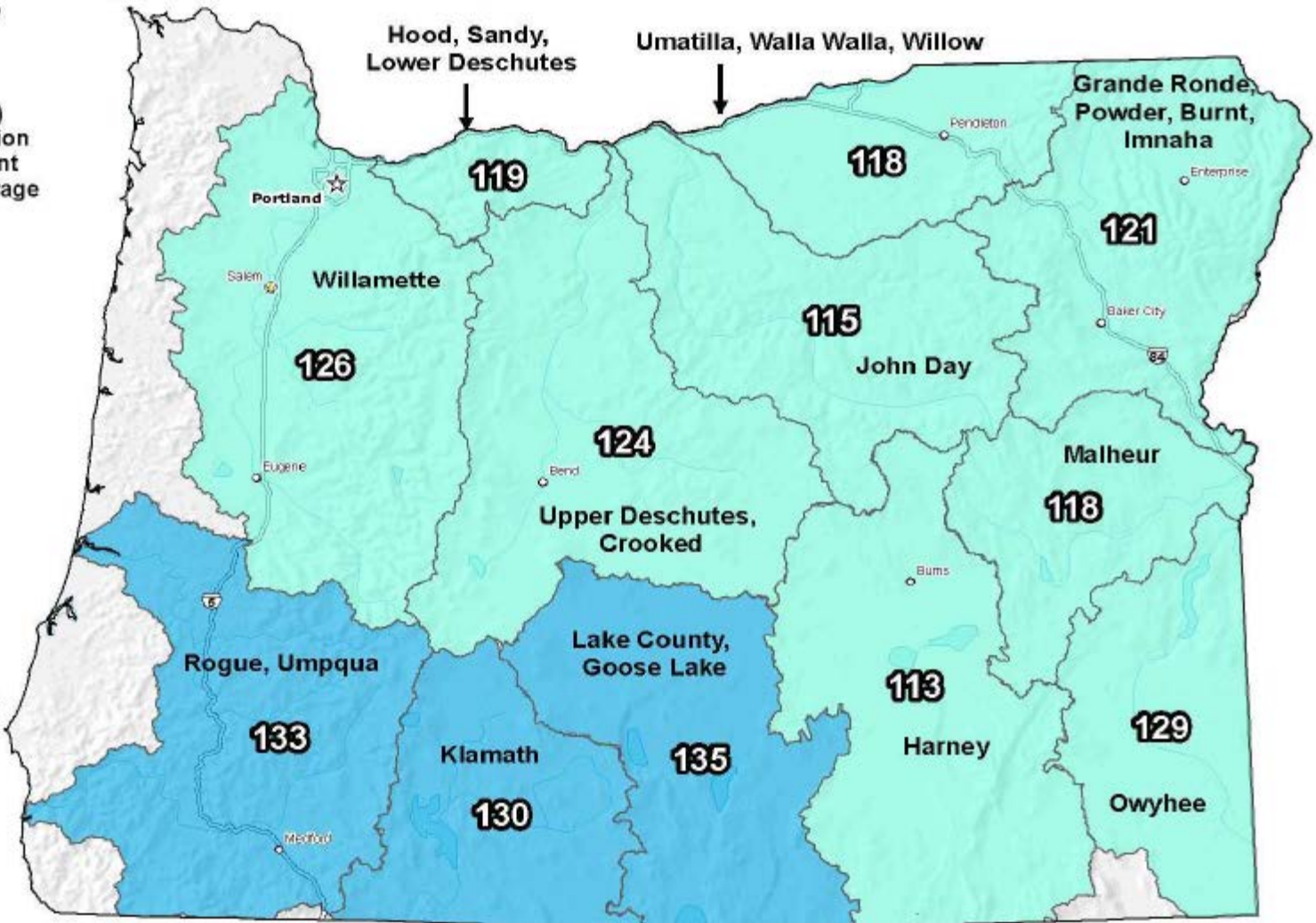
Oct 01, 2017

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).



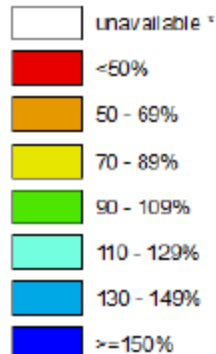
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
<http://www.wcc.nrcs.usda.gov>

Statewide SNOTEL Precipitation is 92% of normal

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

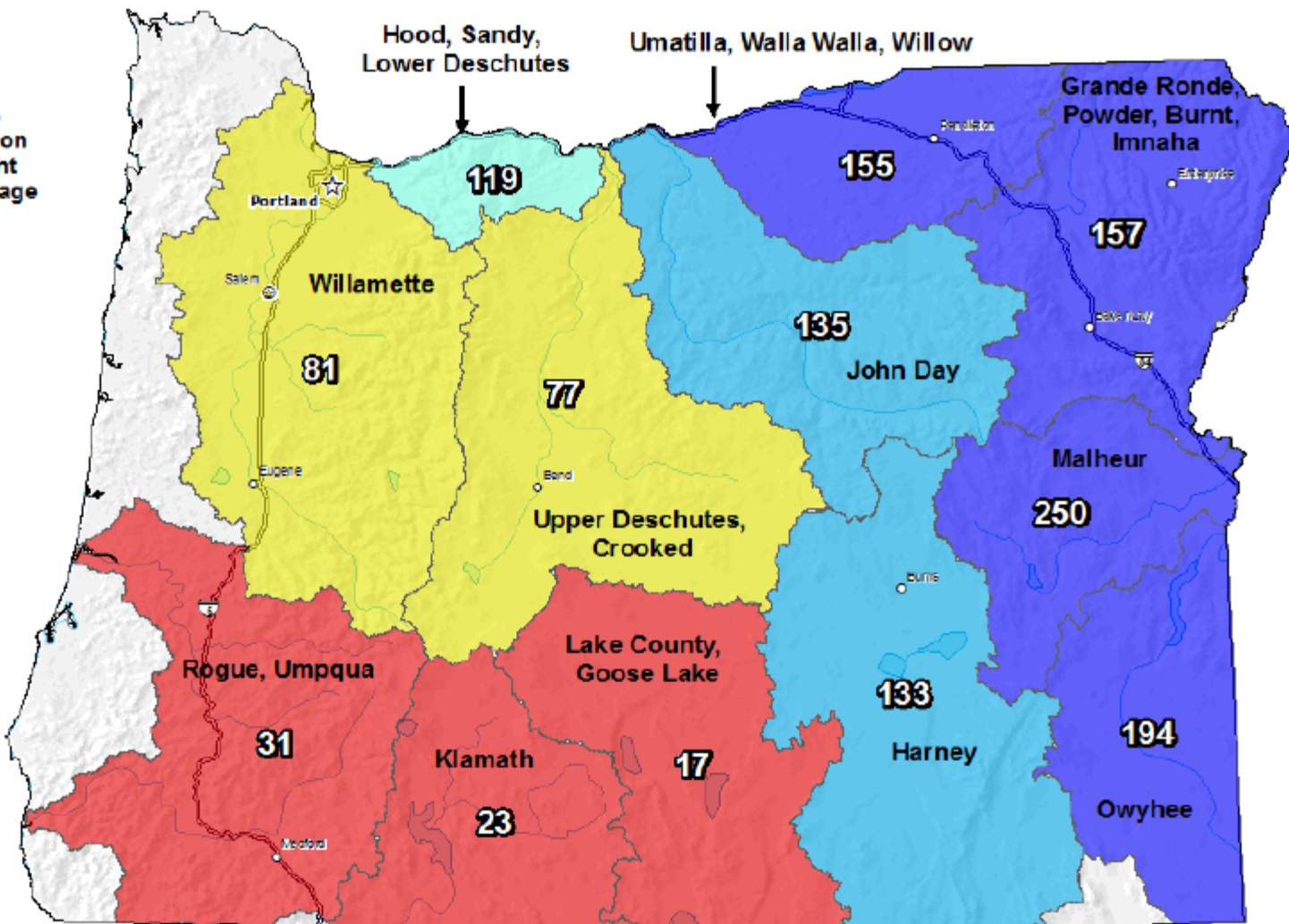
Oct 09, 2017

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>

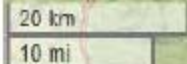
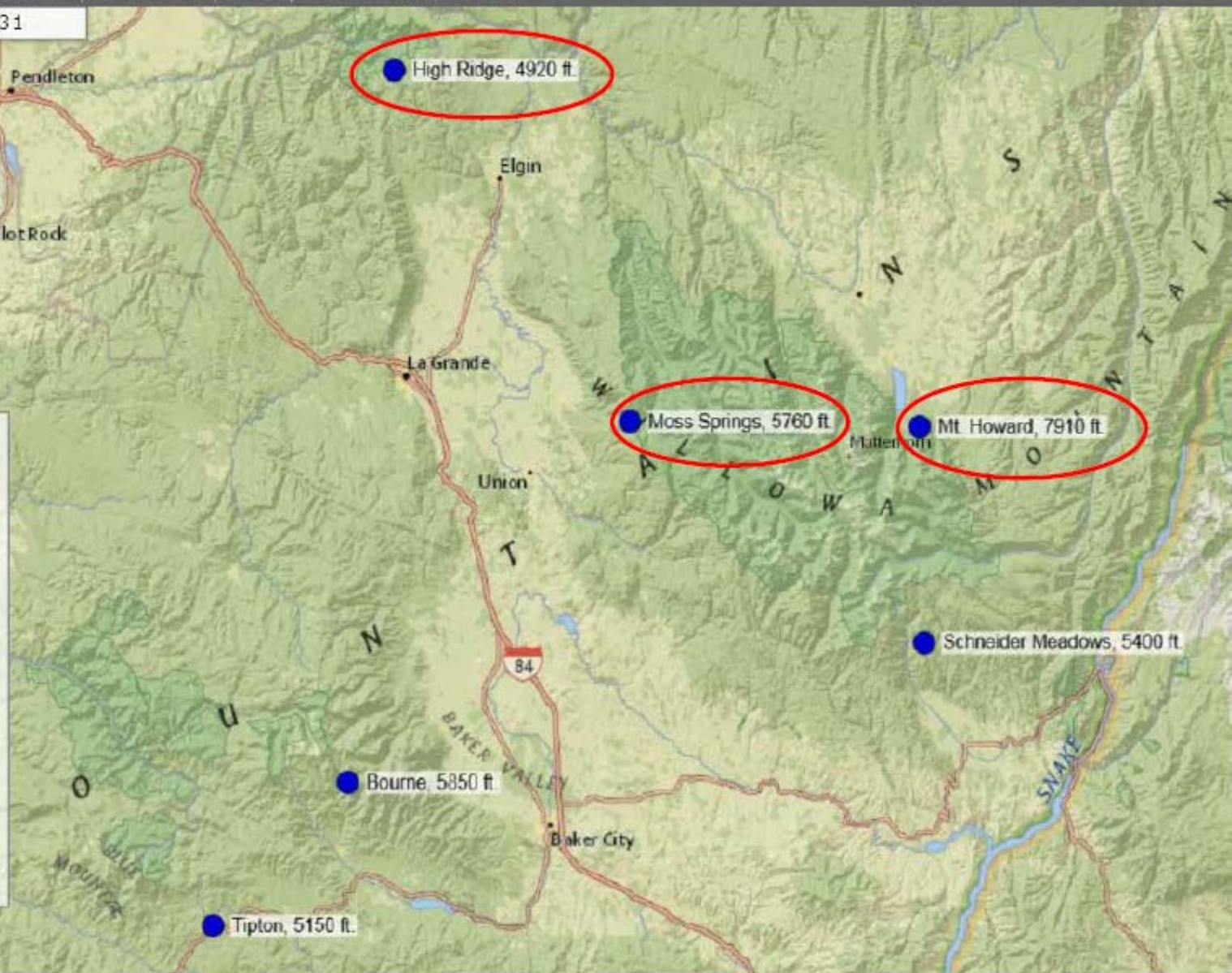
Selected Stations: 431



Stations by Network

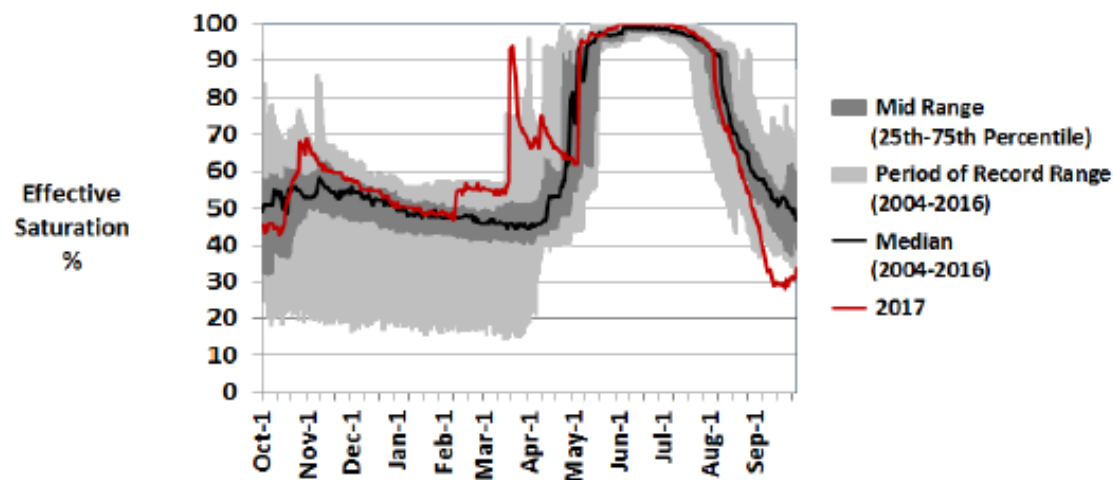
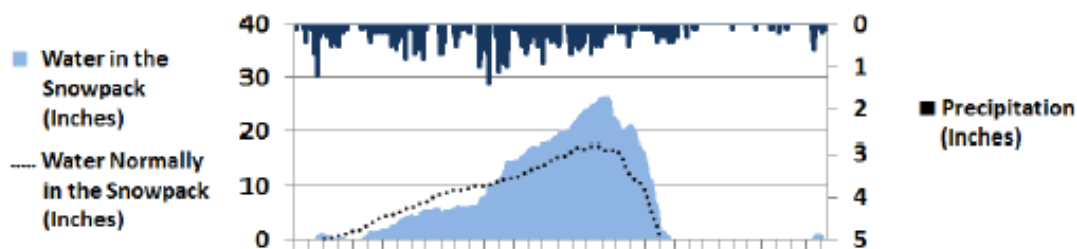
- SNOTEL
- SCAN
- SNOLITE
- Other NRCS Hydromet
- Snow Course/Aerial Marker
- Manual Precipitation
- Reservoir
- Streamflow
- ACIS
- Cooperator Snow Sensors

Natural Resources Conservation Service
Created 8-02-2016, 12:33 PM PDT



Mt Howard, 7910' elevation

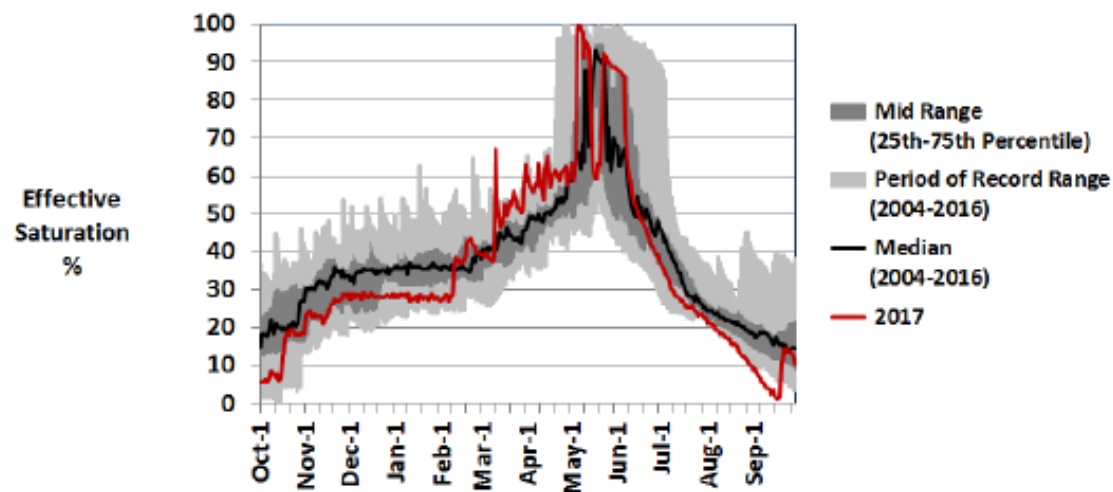
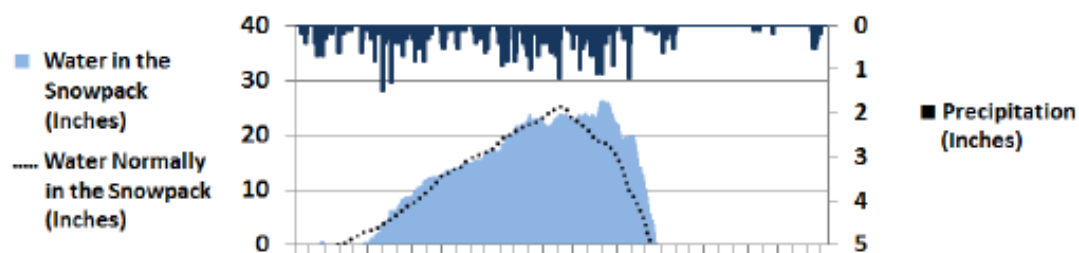
- As of Oct 1st, the soil moisture is 34% effectively saturated, when normally it is 47%.



Site Characteristics: Mt. Howard SNOTEL site sits on soils formed in volcanic ash over colluvium from argillite. The soil series is Angelpack which consists of deep and very deep, well drained soils on mountains. The site has a slope of 10 percent. Mean annual precipitation is approximately 44 inches, with roughly 45% falling as snow. Vegetation is subalpine fir, lodgepole pine and western larch with an understory of elk sedge and grouse blueberry. Soil moisture probes have been installed here since 2004, at depths of 2, 4, 8 and 40 inches. The silt equation is currently being applied to all probes.

Moss Springs, 5760' elevation

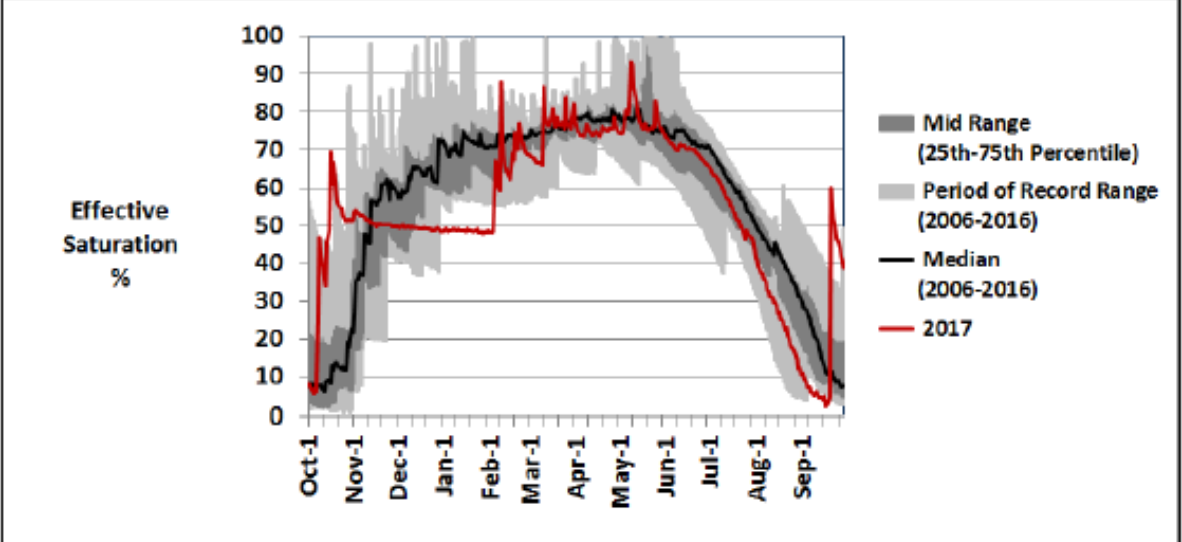
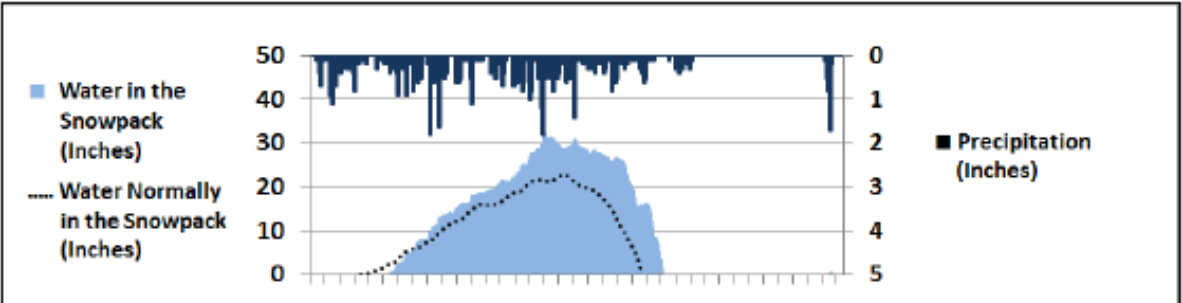
- As of Oct 1st, the soil moisture is 10% effectively saturated, when normally it is 14%.



Site Characteristics: Moss Springs SNOTEL site sits on volcanic soils formed from ash over igneous-basalt. The soil series is Mountemily, which consists of very deep, well drained soils on ridgetops, side slopes and shoulders of mountains. The site has a slope of 10 percent. Mean annual precipitation is approximately 51 inches, with roughly 50% falling as snow. Vegetation is lodgepole pine, subalpine fir, western larch, Engleman spruce, huckleberry, twinflower, Oregon boxwood, prince's pine, sidebells pyrola, herbaceous plants, grasses and sedges. Soil moisture probes have been installed here since 2004, at depths of 2, 4, 20 and 40 inches. The silt equation is currently being applied to all probes.

High Ridge, 4920' elevation

- As of Oct 1st, the soil moisture is 39% effectively saturated when normally it is 7.6%.



Site Characteristics: High Ridge SNOTEL site sits on volcanic soils formed from colluvium derived from ash over colluvium derived from rock. The soil series is Tamara, consisting of very deep, well drained soils formed in a mantle of ash overlying material derived from a mixture of loess and colluvium and residuum from basalt. The site has a slope of 10 percent. Mean annual precipitation is approximately 50 inches, with roughly 47% falling as snow. Vegetation is grand fir, spruce, Douglas fir, western larch, ponderosa pine, lodgepole pine, twinflower, big huckleberry, herbaceous plants, grasses and sedges. Soil moisture probes have been installed here since 2006, at depths of 4, 8 and 20 inches. The silt equation is currently being applied to all probes.



Water Year 2017 Precipitation

Observed amounts (inches)

% of Average

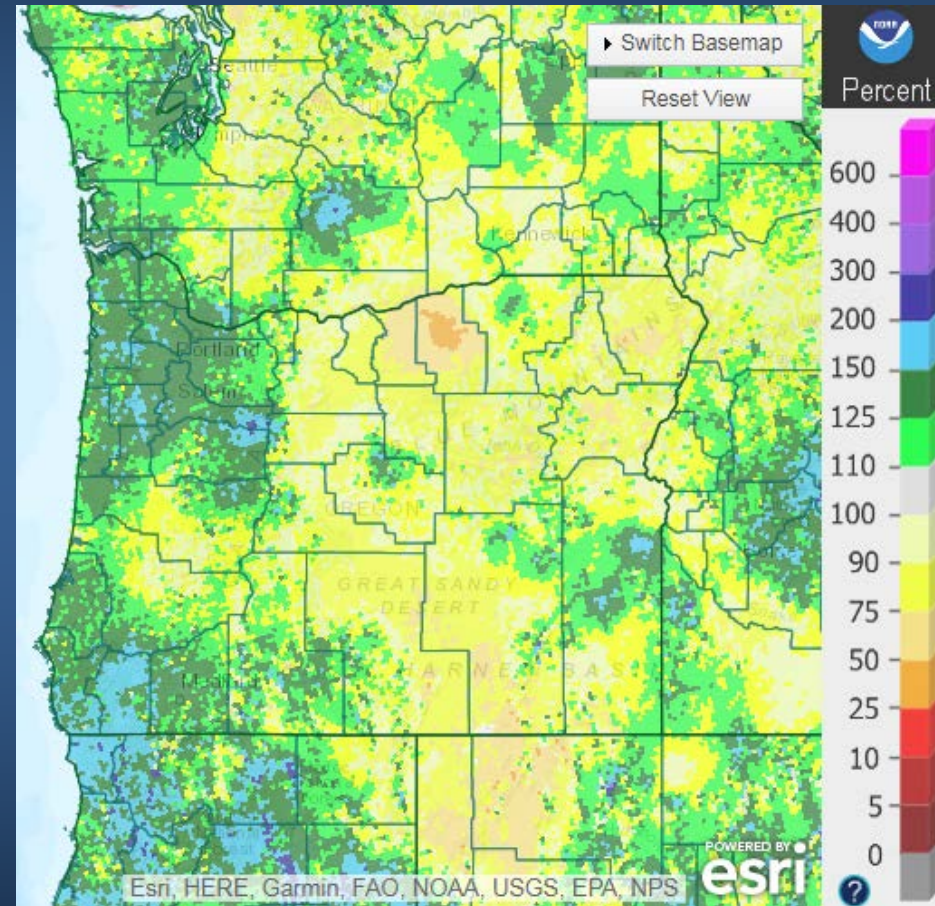
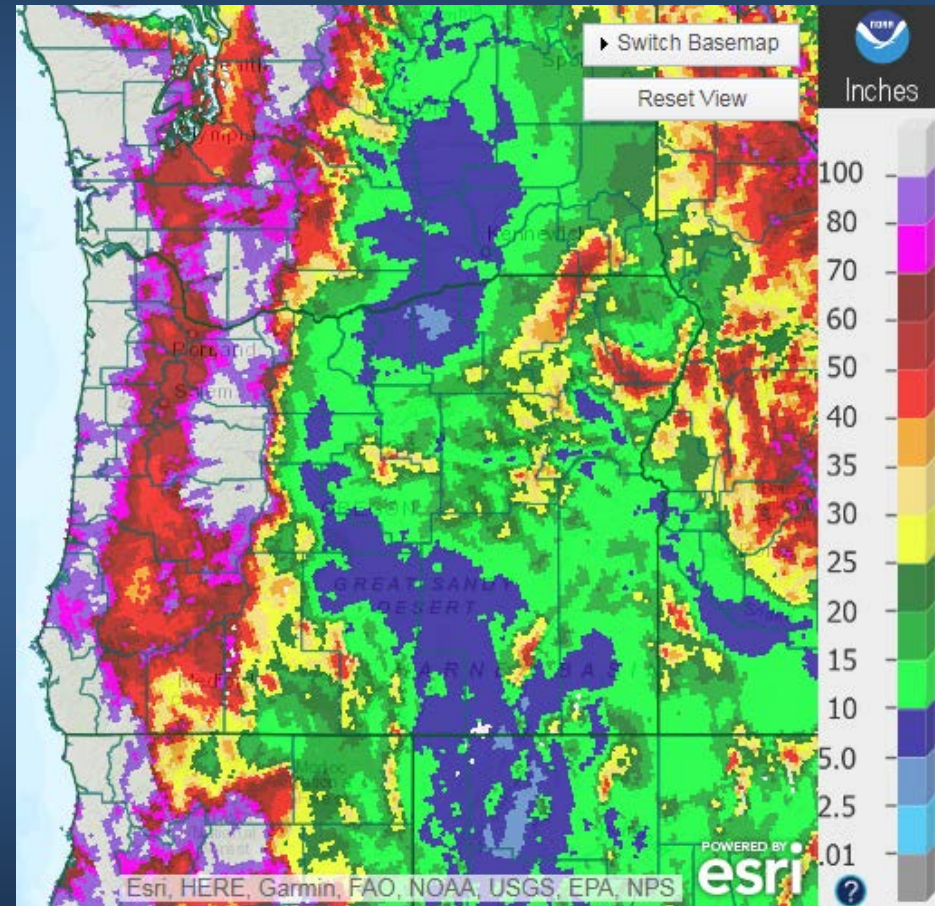


Image sources: water.weather.gov/precip/index.php



September Precipitation

Observed Amounts (inches)

% of Average

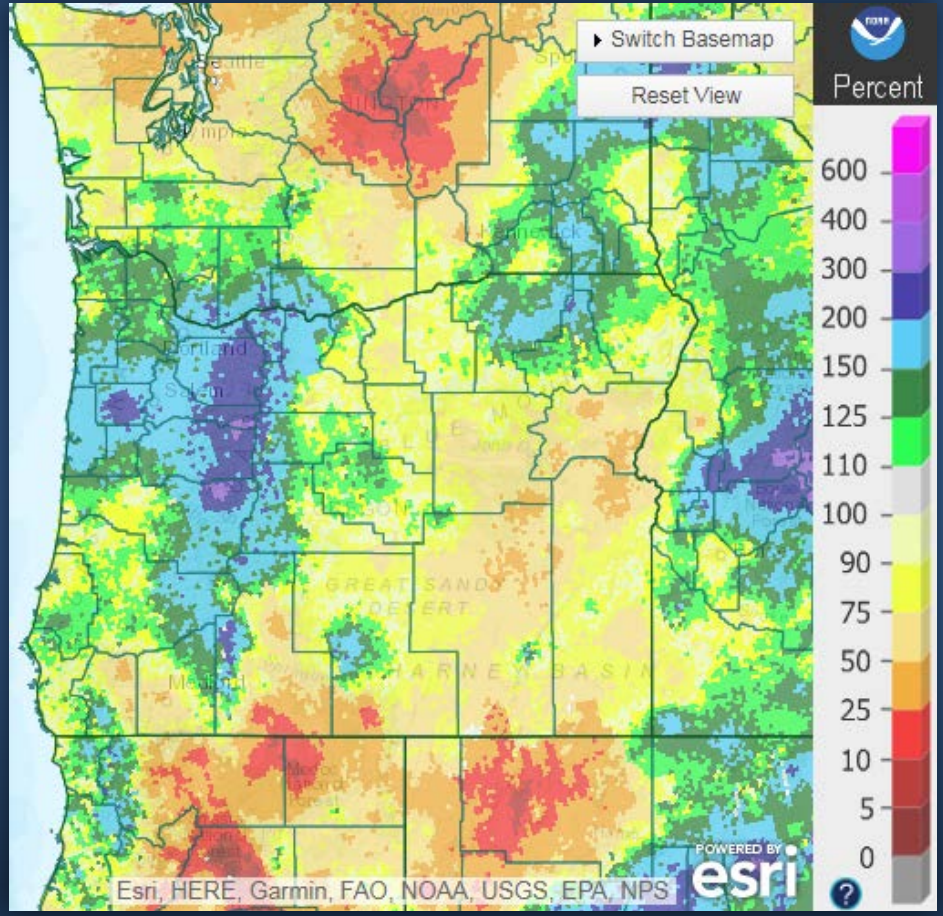
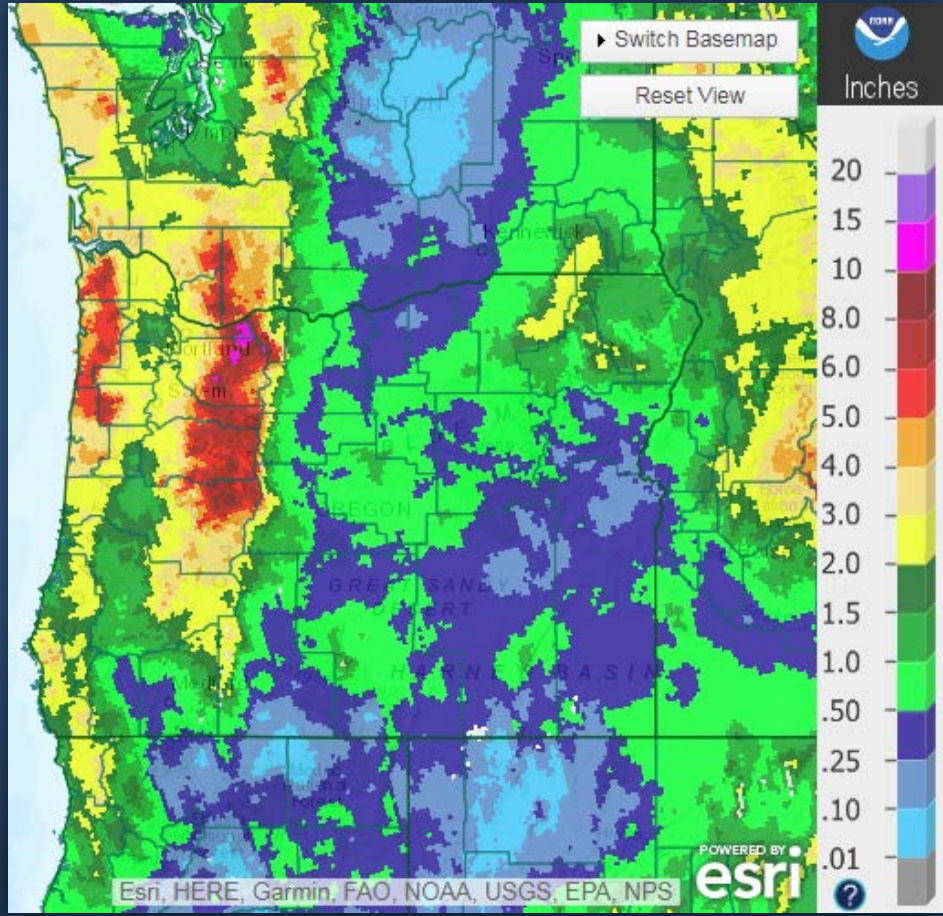
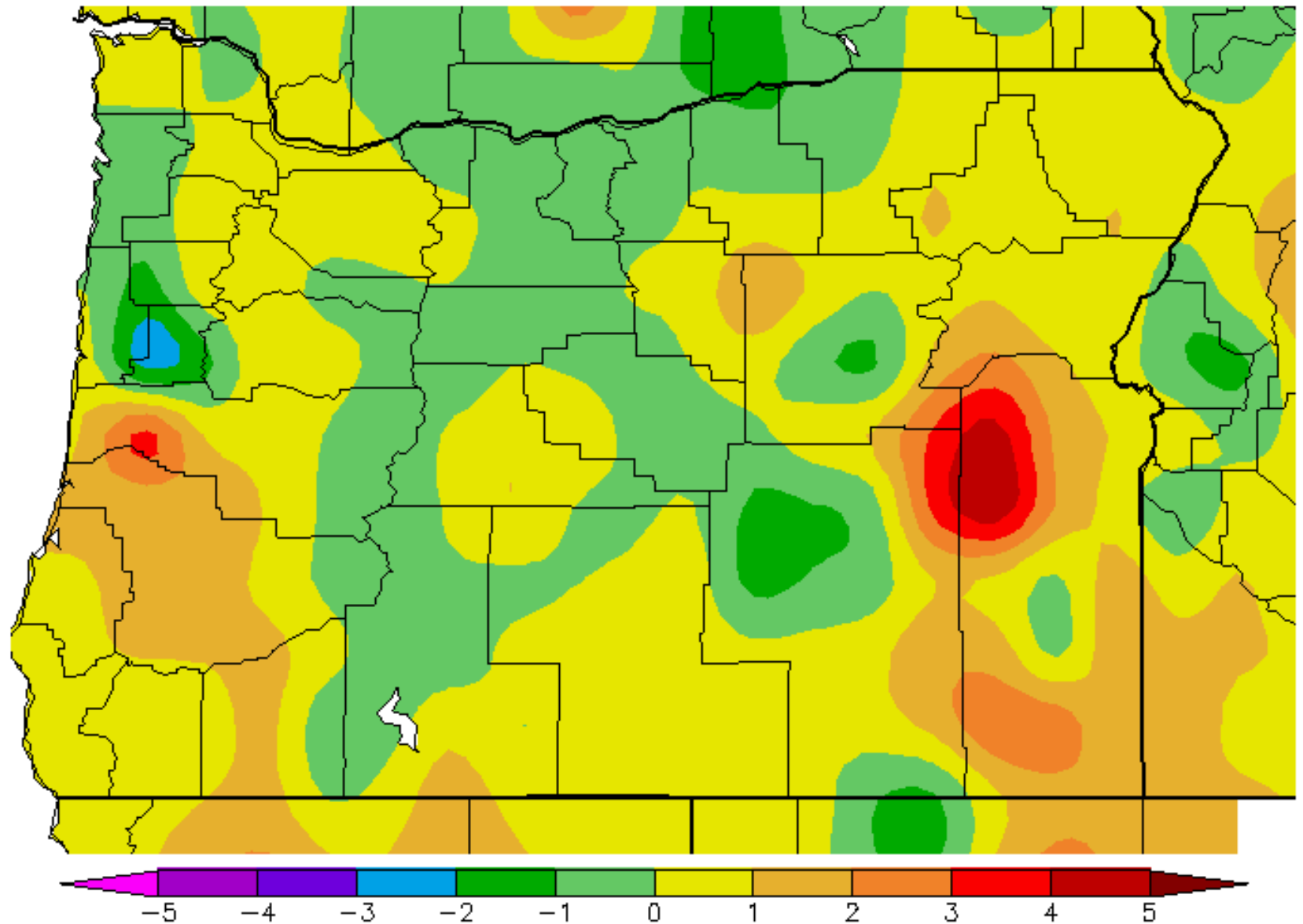


Image sources: water.weather.gov/precip/index.php

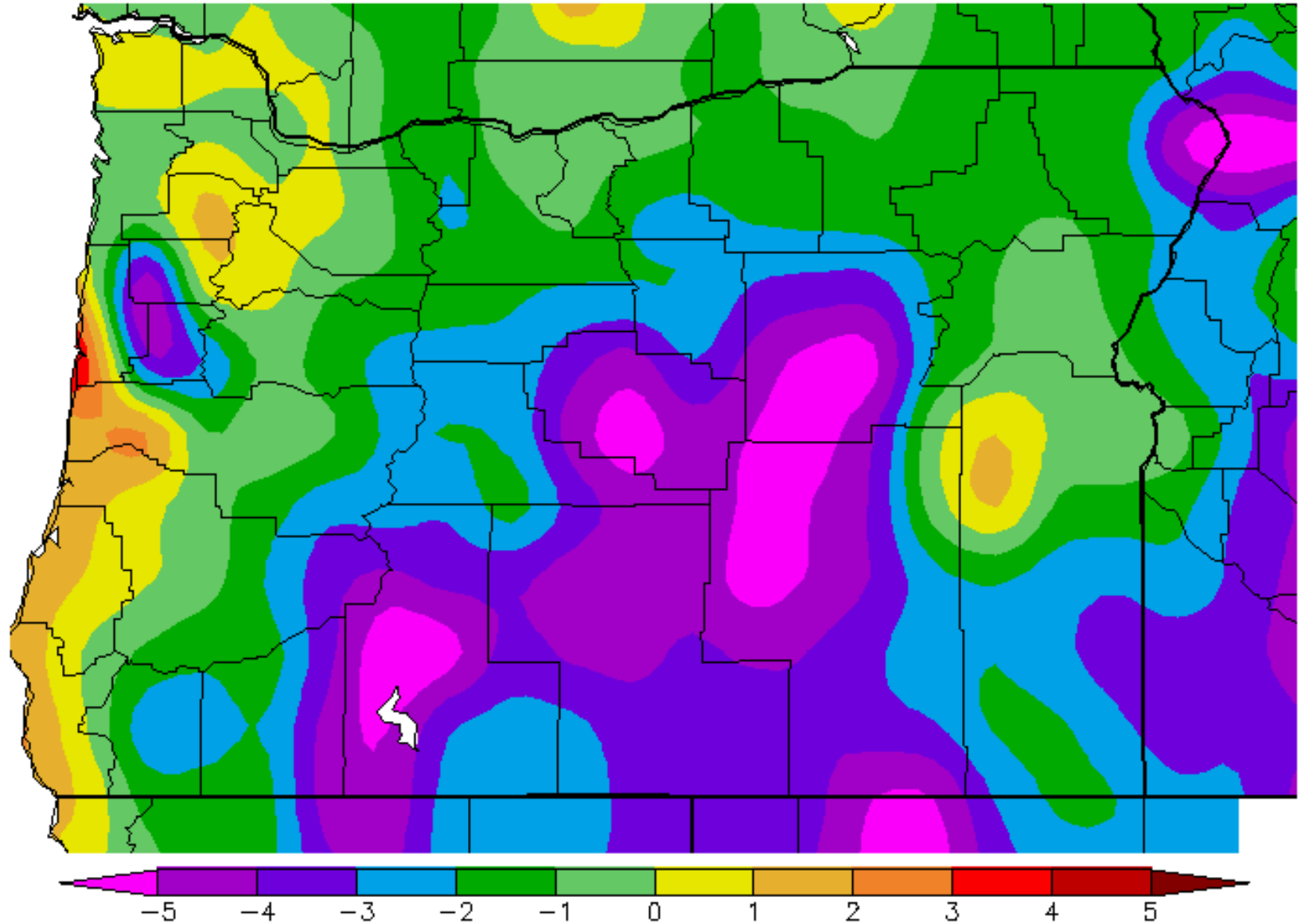
Ave. Temperature dep from Ave (deg F)
10/9/2016 - 10/8/2017



Generated 10/09/2017 at WRCC using provisional data.

NOAA Regional Climate Centers

Ave. Temperature dep from Ave (deg F)
9/9/2017 - 10/8/2017

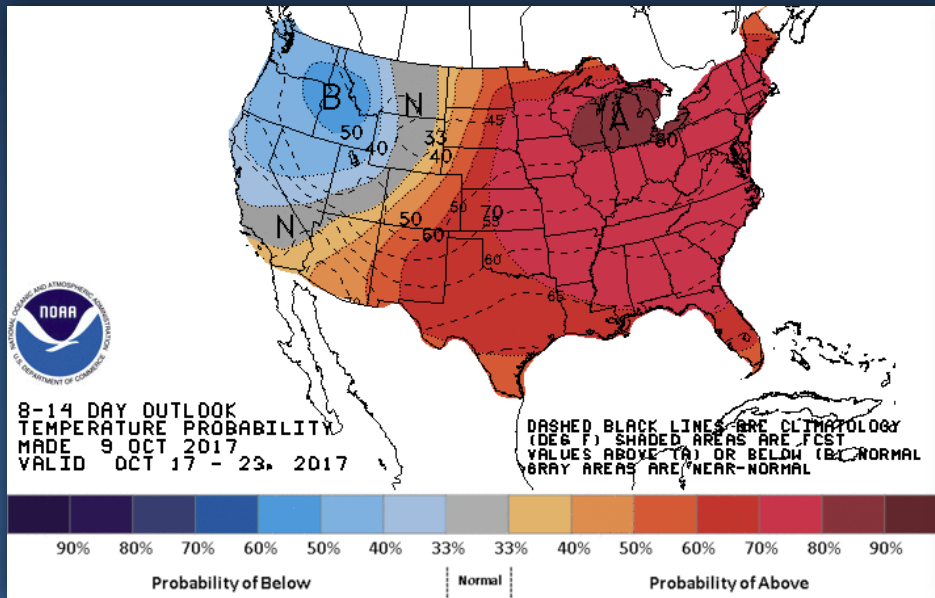


Generated 10/09/2017 at WRCC using provisional data.
NOAA Regional Climate Centers

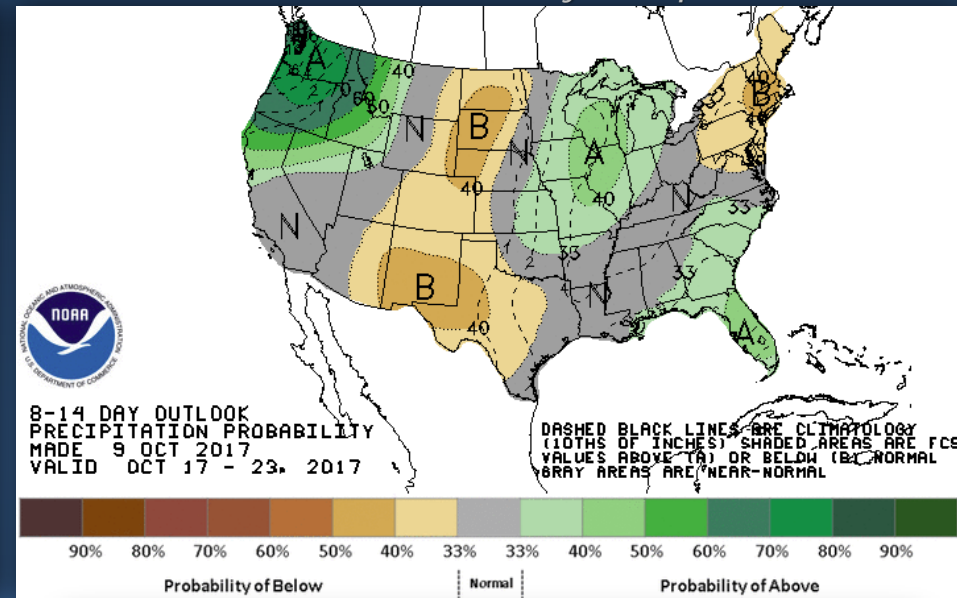


October Outlook

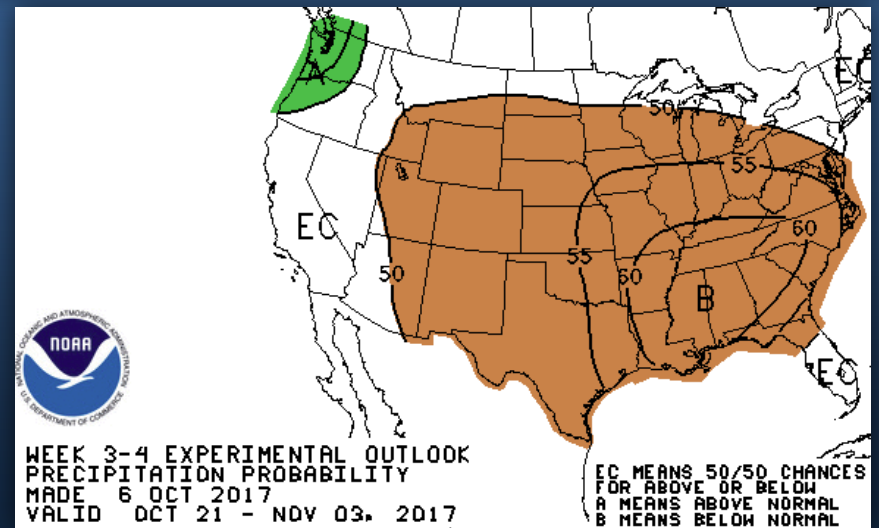
8 - 14 Day Temperature Outlook



8 - 14 Day Precipitation Outlook



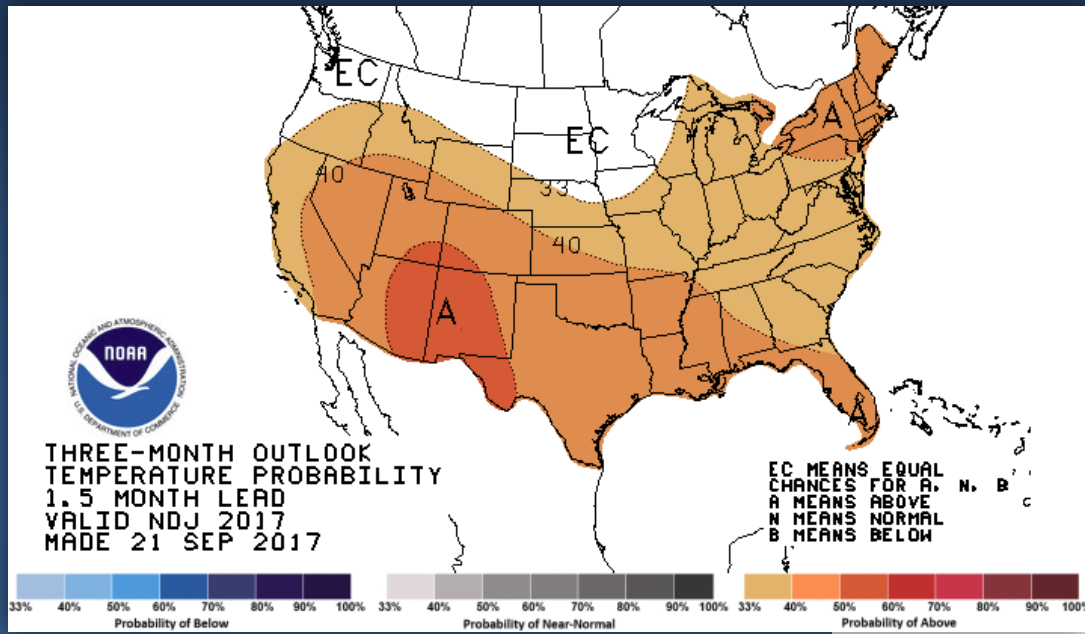
Potential for above-average precipitation mid and late October, with indication of atmospheric river event; details tbd



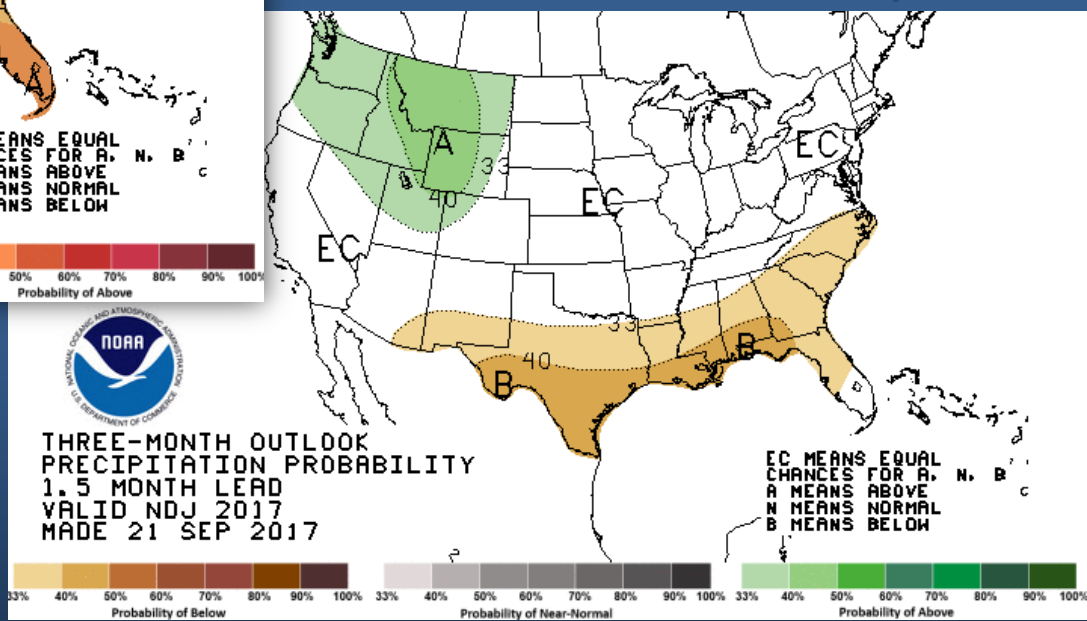


Outlook for November-December-January

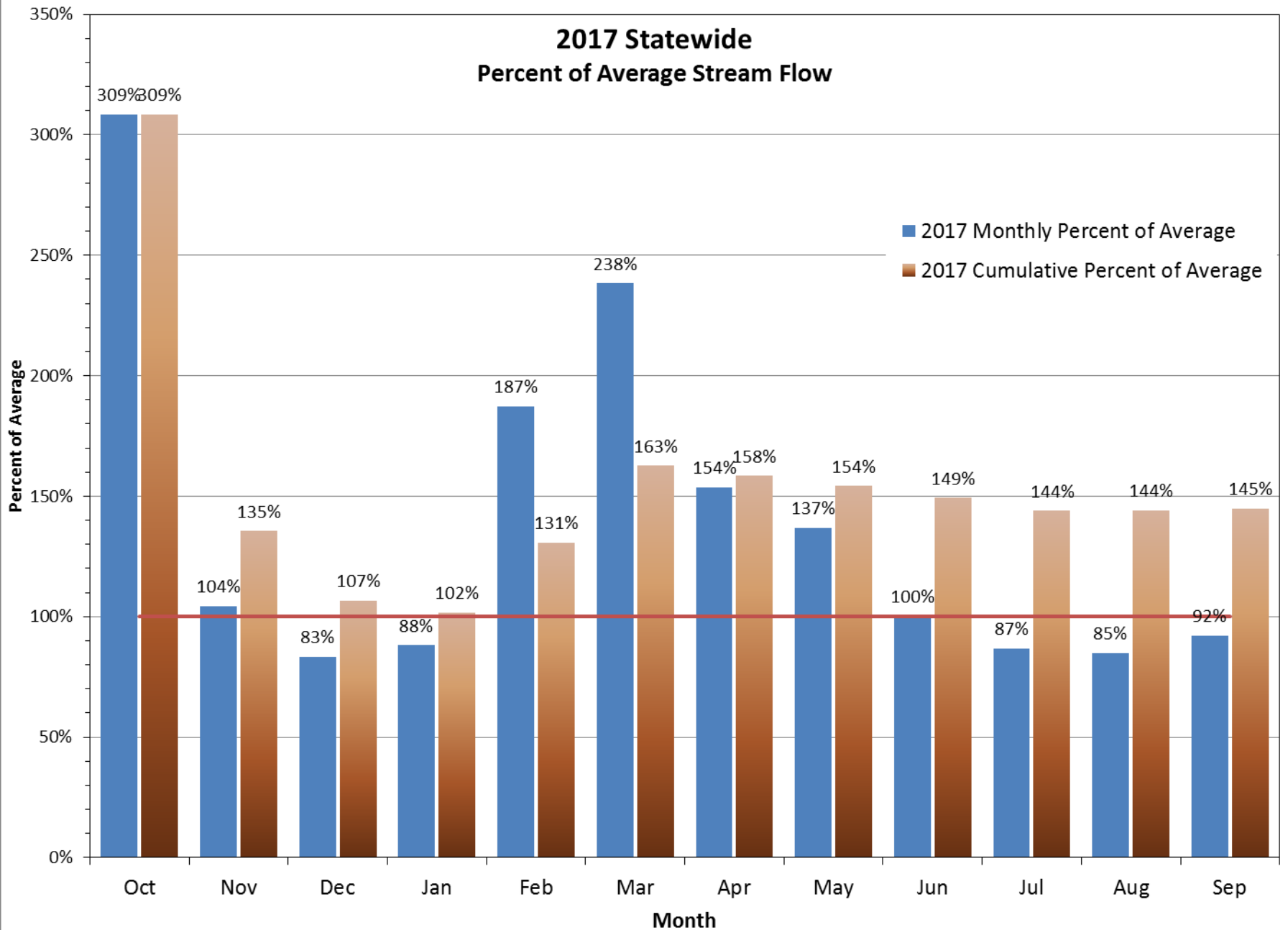
Temperatures



Precipitation



2017 Statewide Percent of Average Stream Flow



Percent of Average Streamflow Month of September, 2017

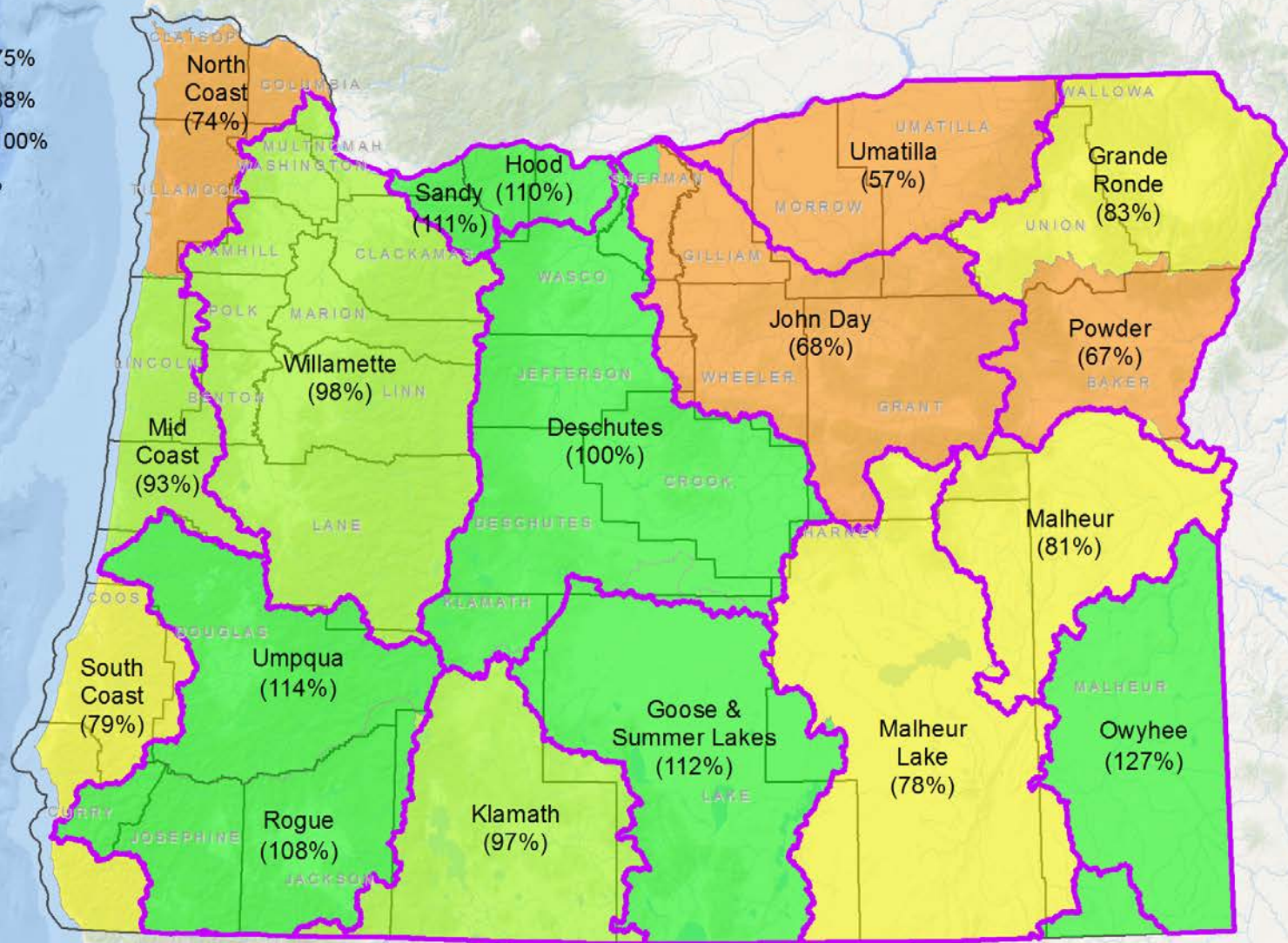
Percent of Average Streamflow

WRD basin

- < 50%
- 50% - 75%
- 76% - 88%
- 89% - 100%
- > 100%

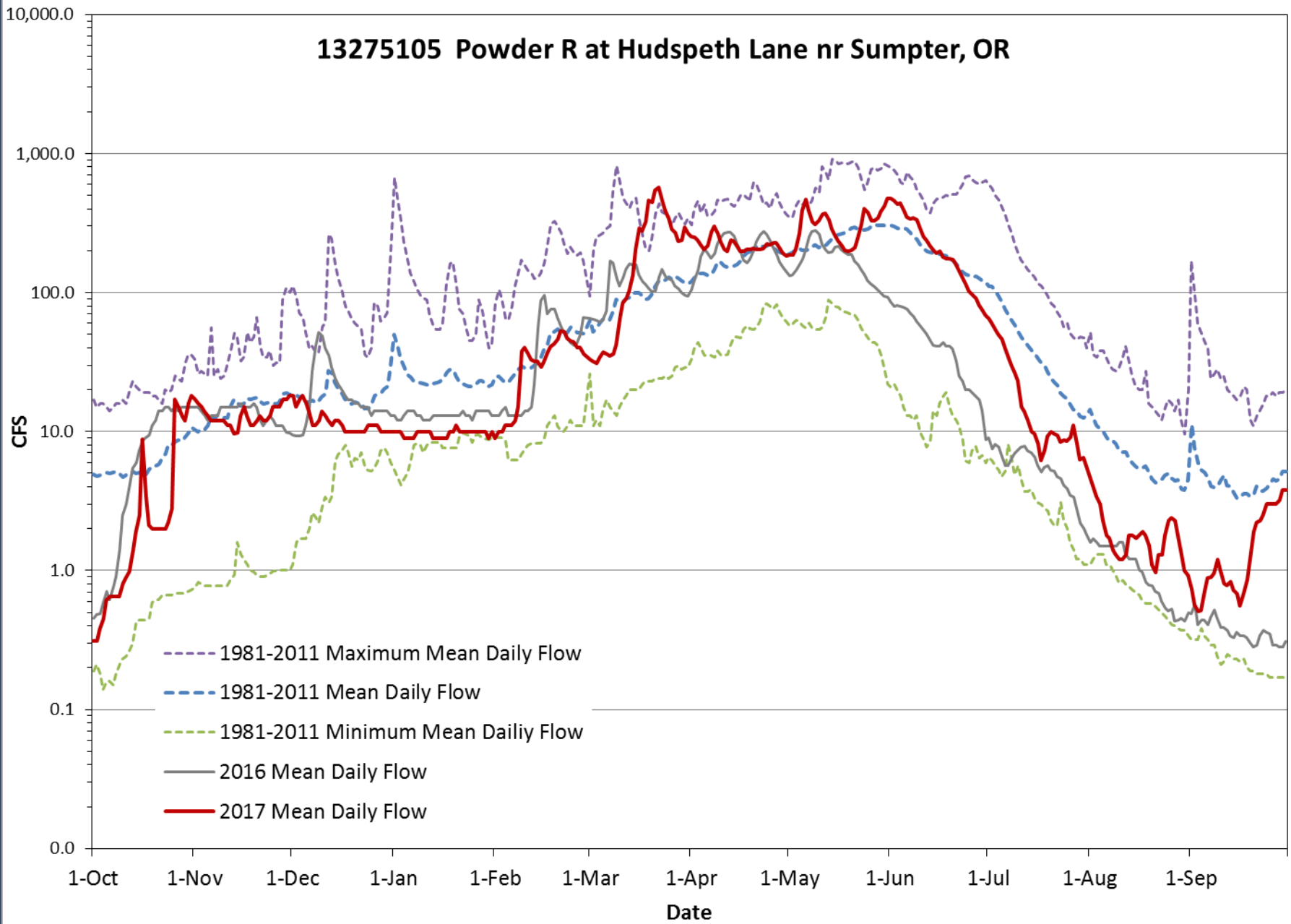
NRCS Basin

-
- County

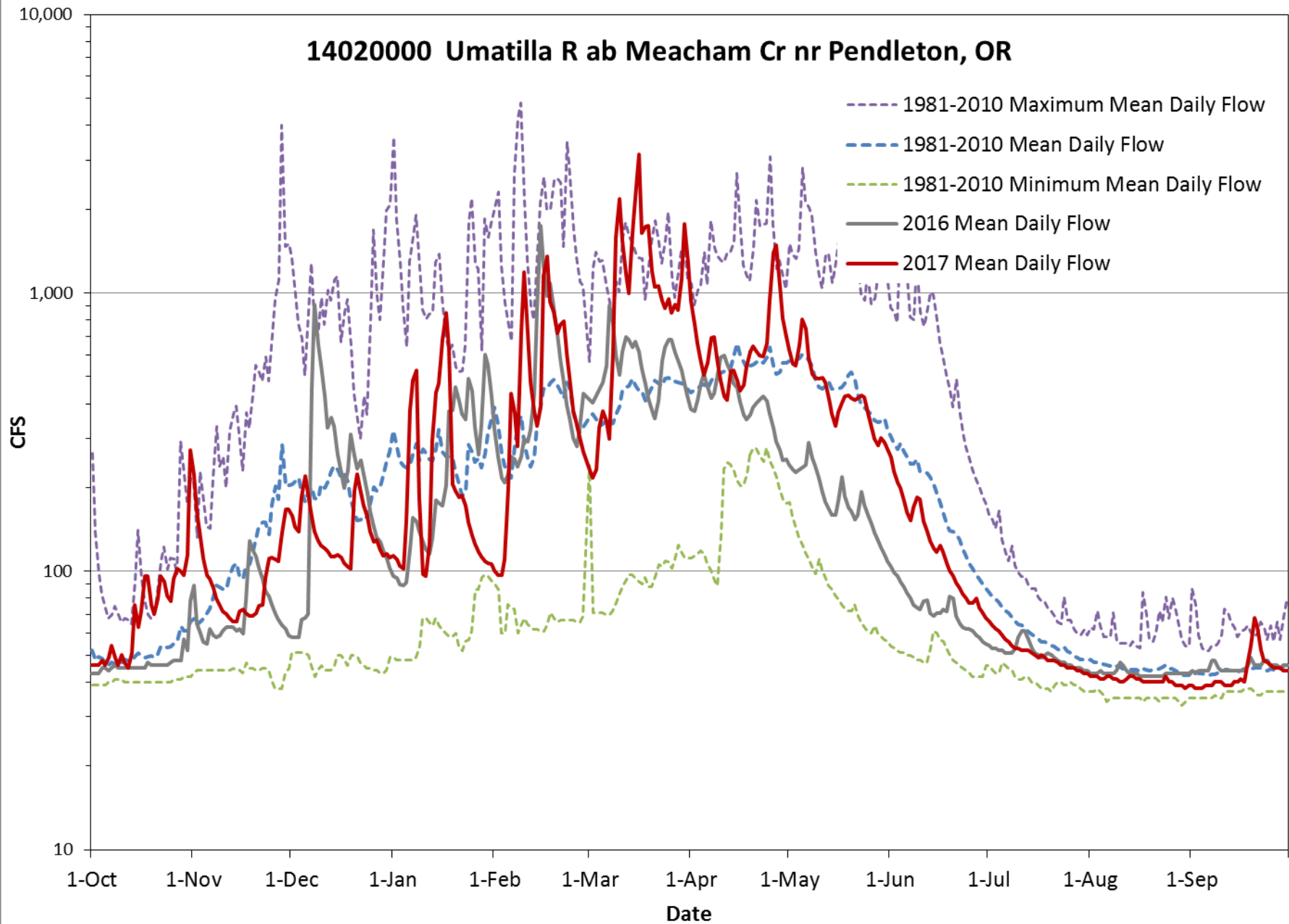


Average streamflow data are based on 30 years of record (1981-2010). All data represent free-flowing streams unaffected by significant man-made control structures such as dams or diversion works.

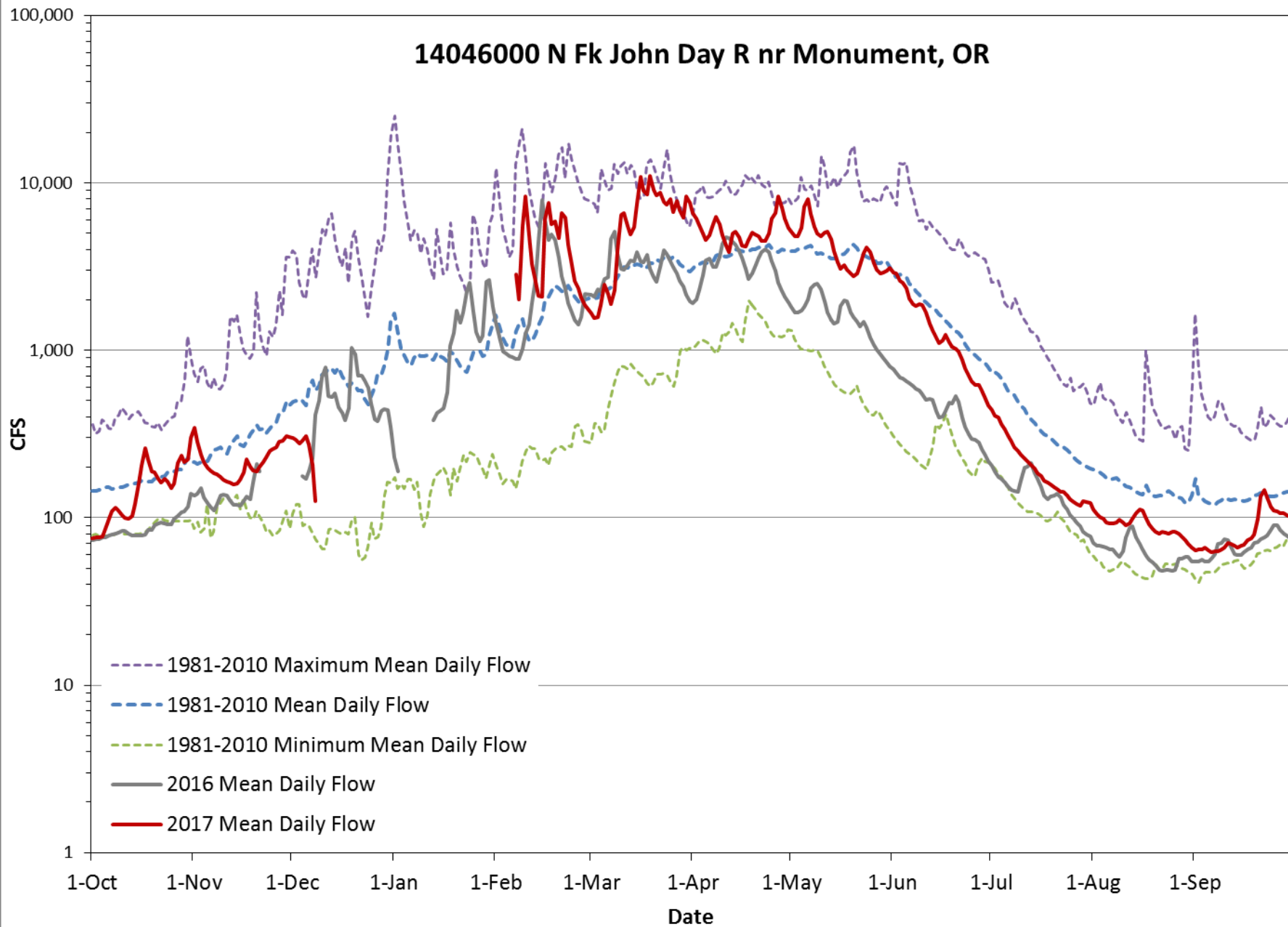
13275105 Powder R at Hudspeth Lane nr Sumpter, OR



14020000 Umatilla R ab Meacham Cr nr Pendleton, OR



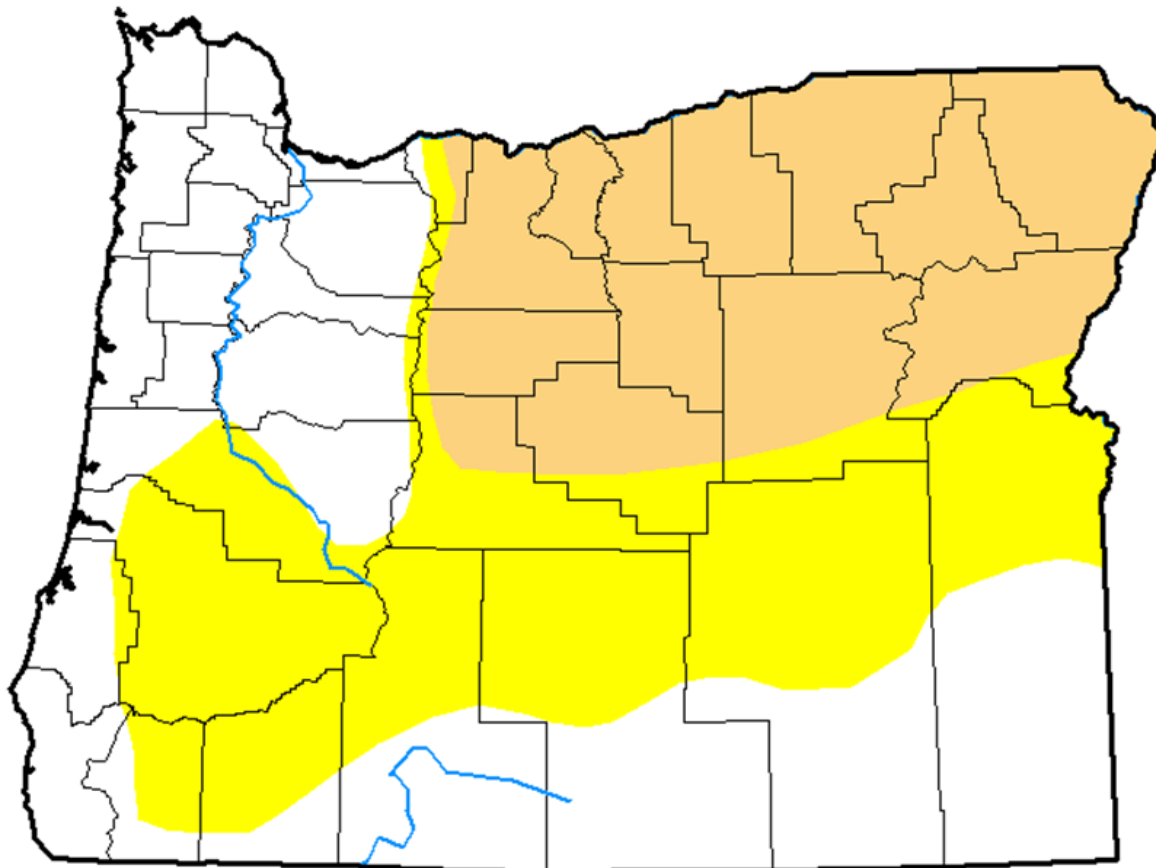
14046000 N Fk John Day R nr Monument, OR



U.S. Drought Monitor

Oregon

October 3, 2017
(Released Thursday, Oct. 5, 2017)
Valid 8 a.m. EDT



Intensity:

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

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

Author:

Anthony Artusa
NOAA/NWS/NCEP/CPC

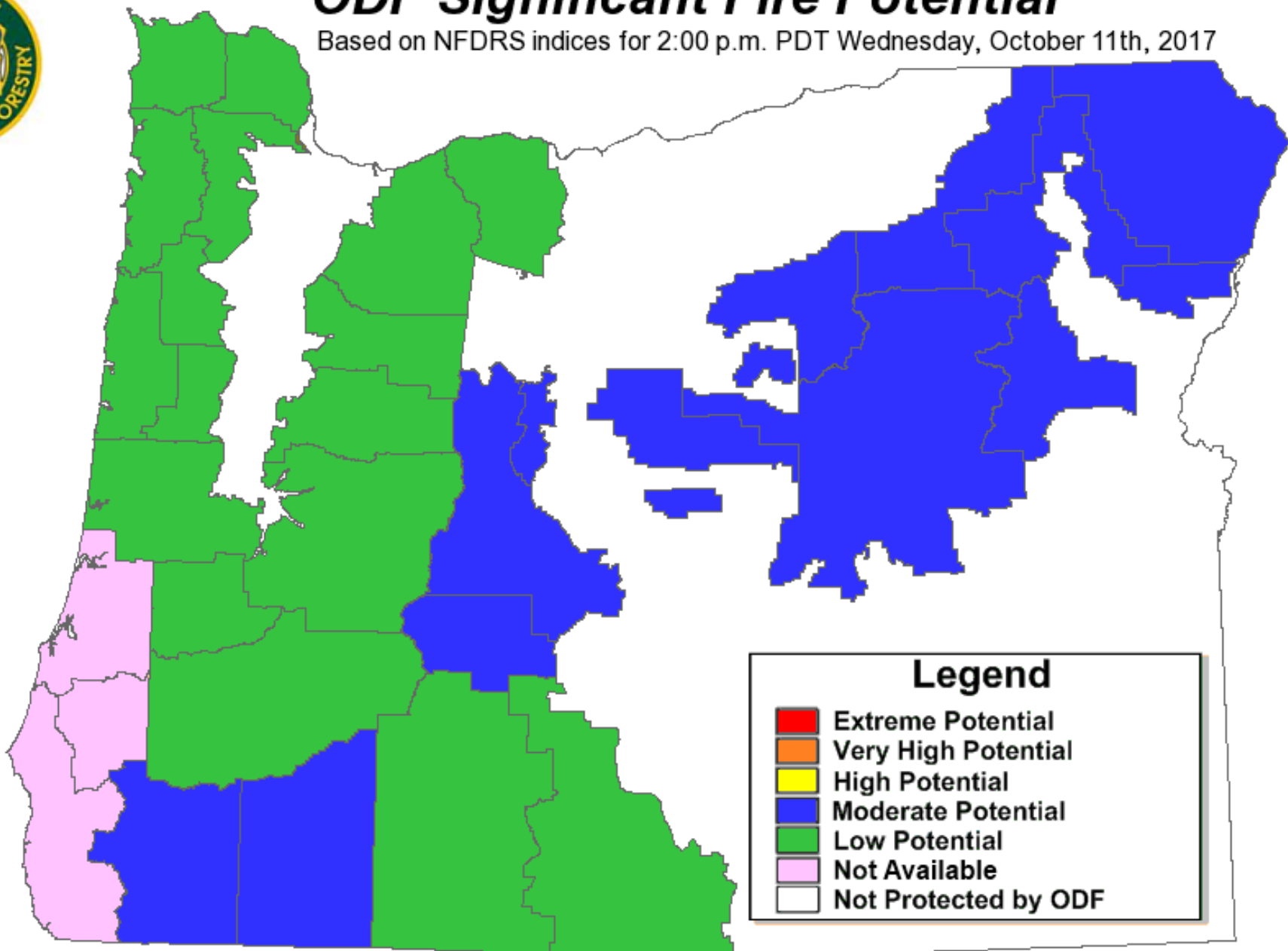


<http://droughtmonitor.unl.edu/>



ODF Significant Fire Potential

Based on NFDRS indices for 2:00 p.m. PDT Wednesday, October 11th, 2017



Legend

- Extreme Potential
- Very High Potential
- High Potential
- Moderate Potential
- Low Potential
- Not Available
- Not Protected by ODF

Updated: 8:33 a.m. PDT Thursday, October 12th, 2017 (map does not display or represent Fire Danger or Regulated Use Restrictions).

Thank You