

# Pacific Northwest Climate and Drought Update

John Abatzoglou

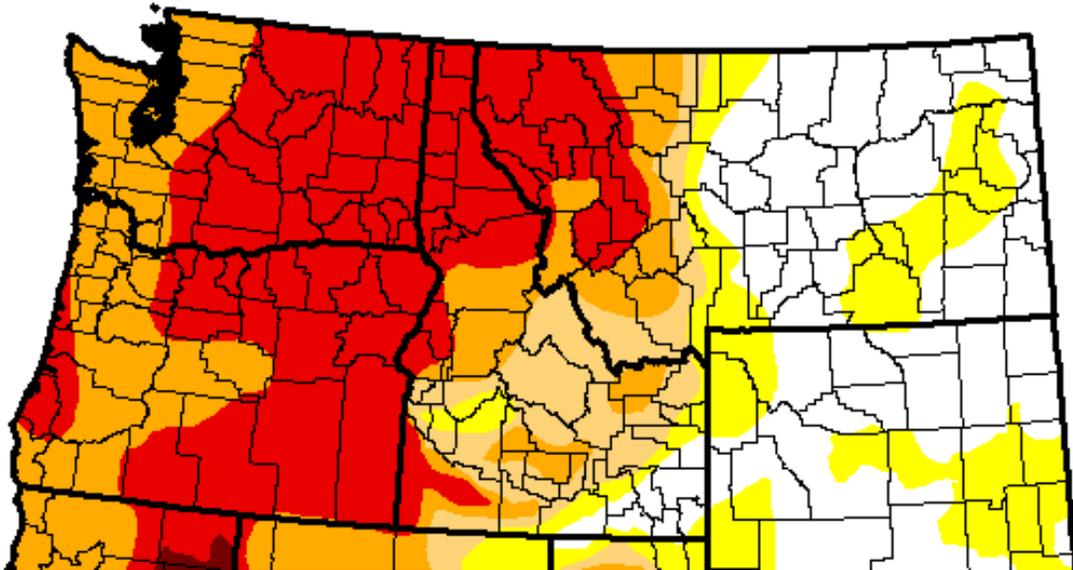
University of Idaho

Climate Impacts Research Consortium

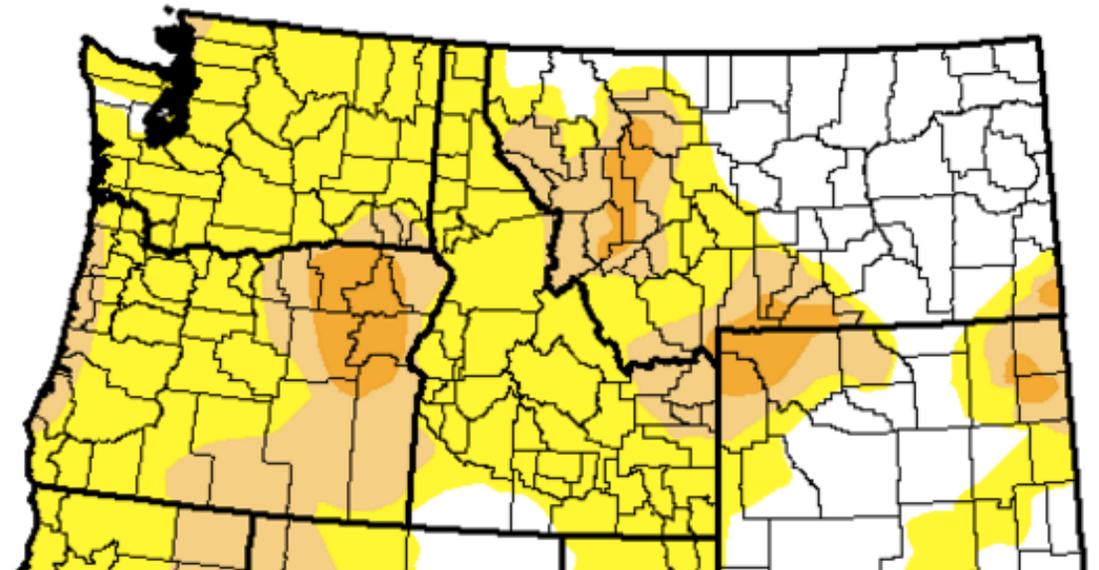
University  
of Idaho



Oct 6, 2015



Oct 4, 2016



*Intensity:*

 D0 Abnormally Dry

 D1 Moderate Drought

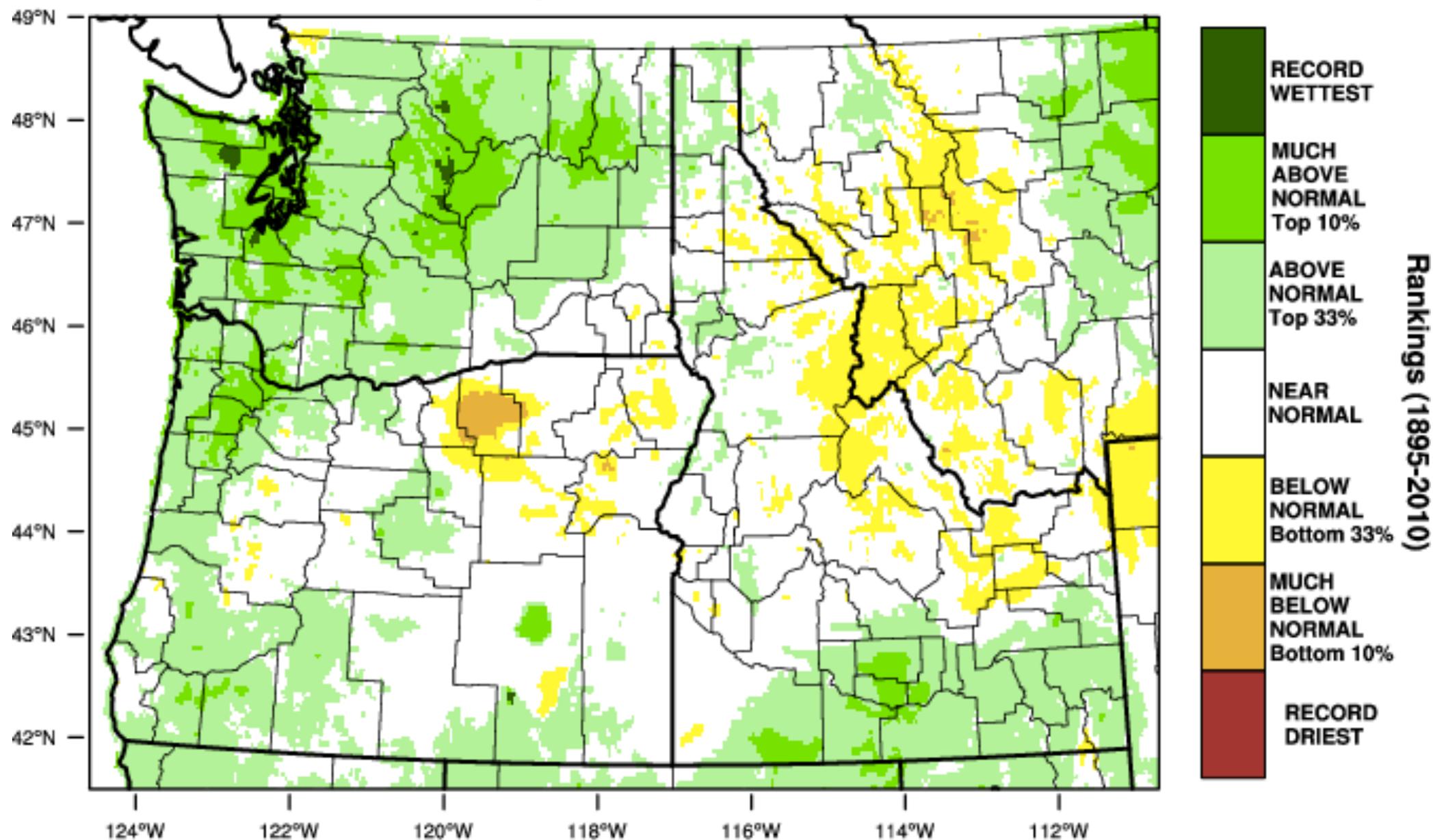
 D2 Severe Drought

 D3 Extreme Drought

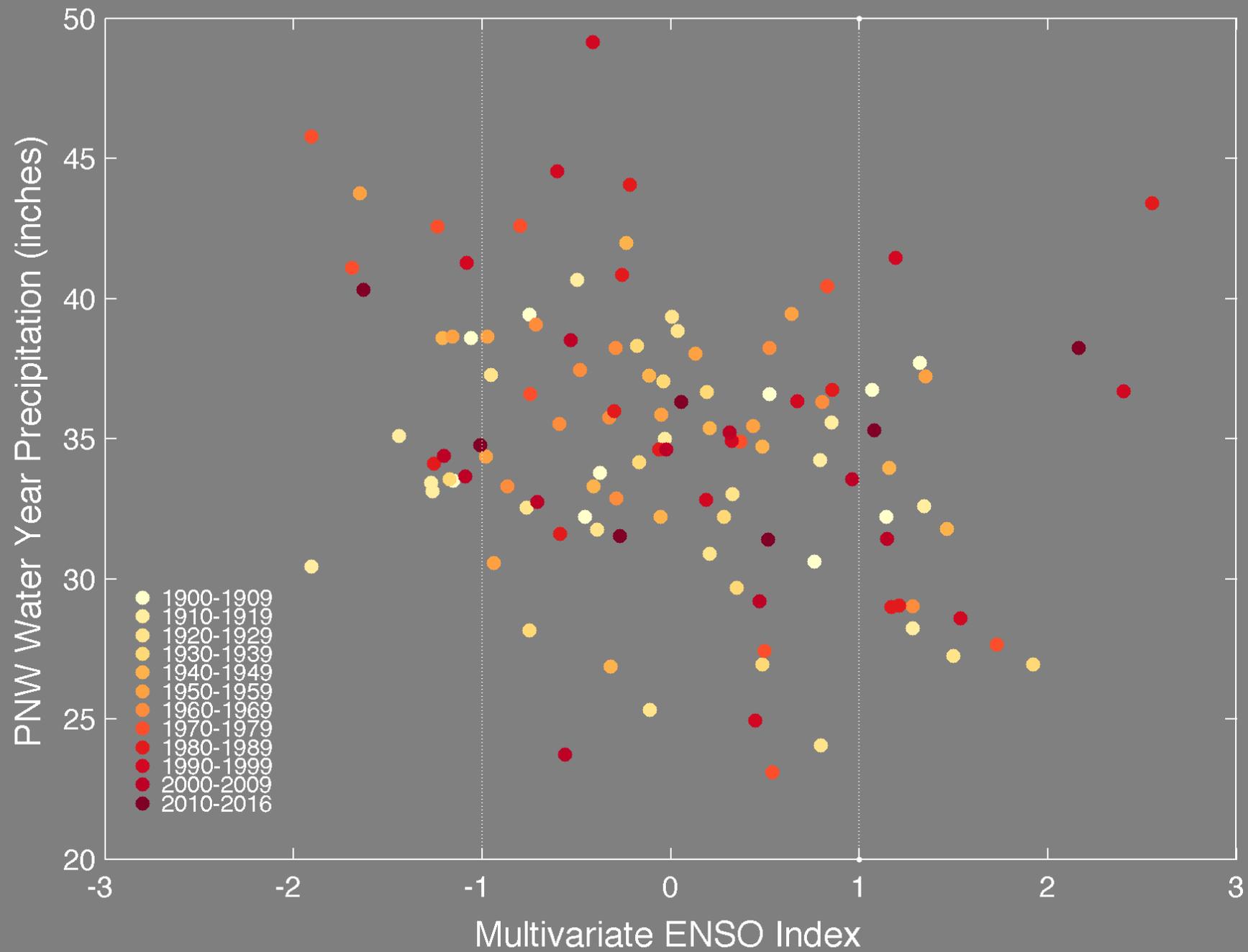
 D4 Exceptional Drought

# Pacific Northwest - Precipitation

## October-September 2016 Percentile



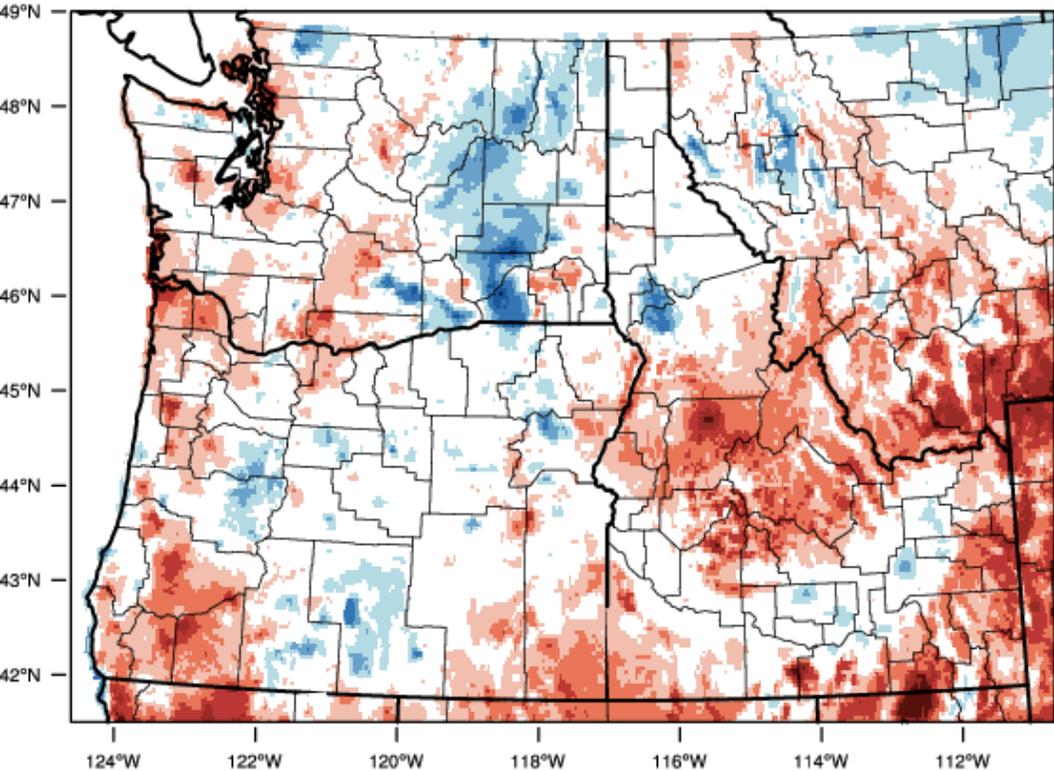
WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016



# Northwestern US Summer (June-Sep) 2016

### Pacific Northwest - Mean Temperature

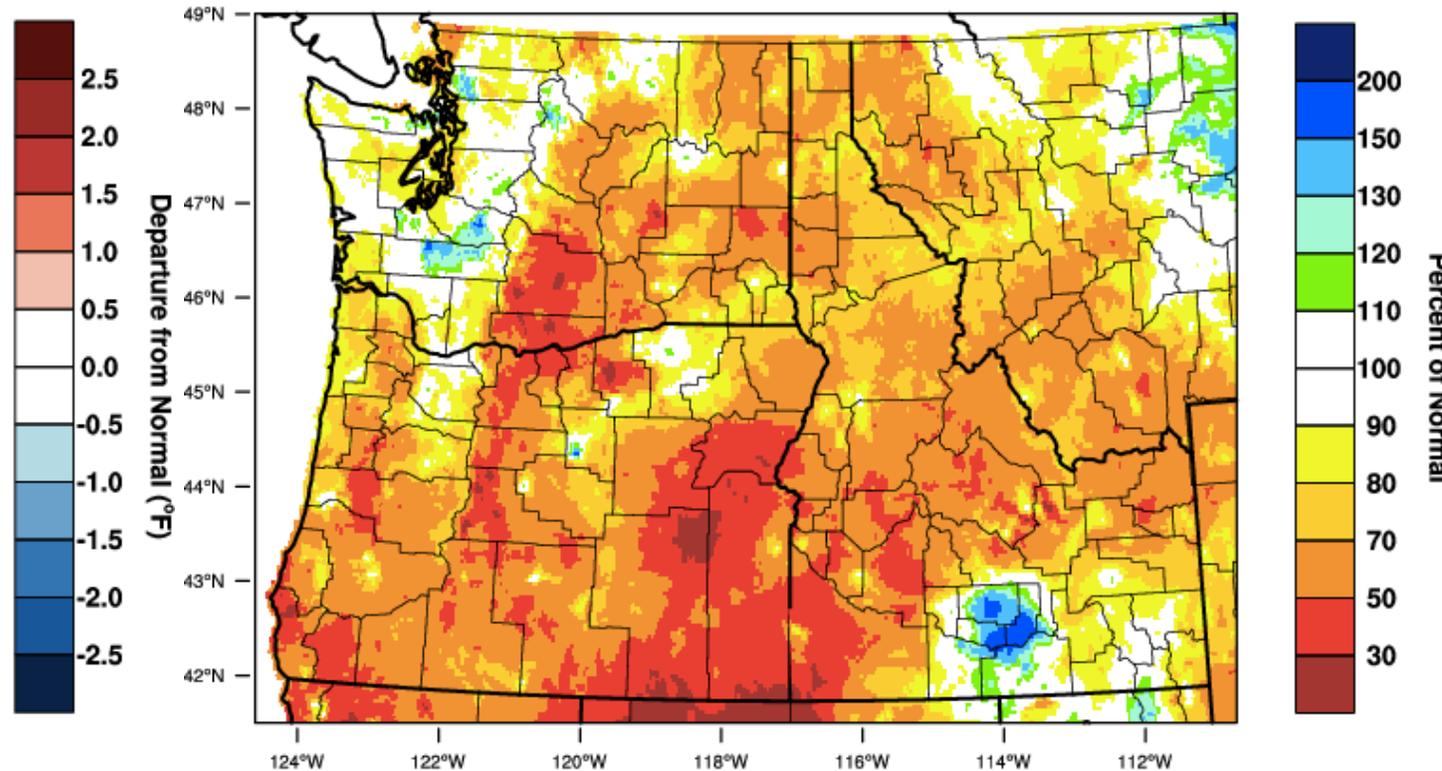
June-September 2016 Departure from 1981-2010 Normal



WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016

### Pacific Northwest - Precipitation

June-September 2016 Percent of 1981-2010 Normal

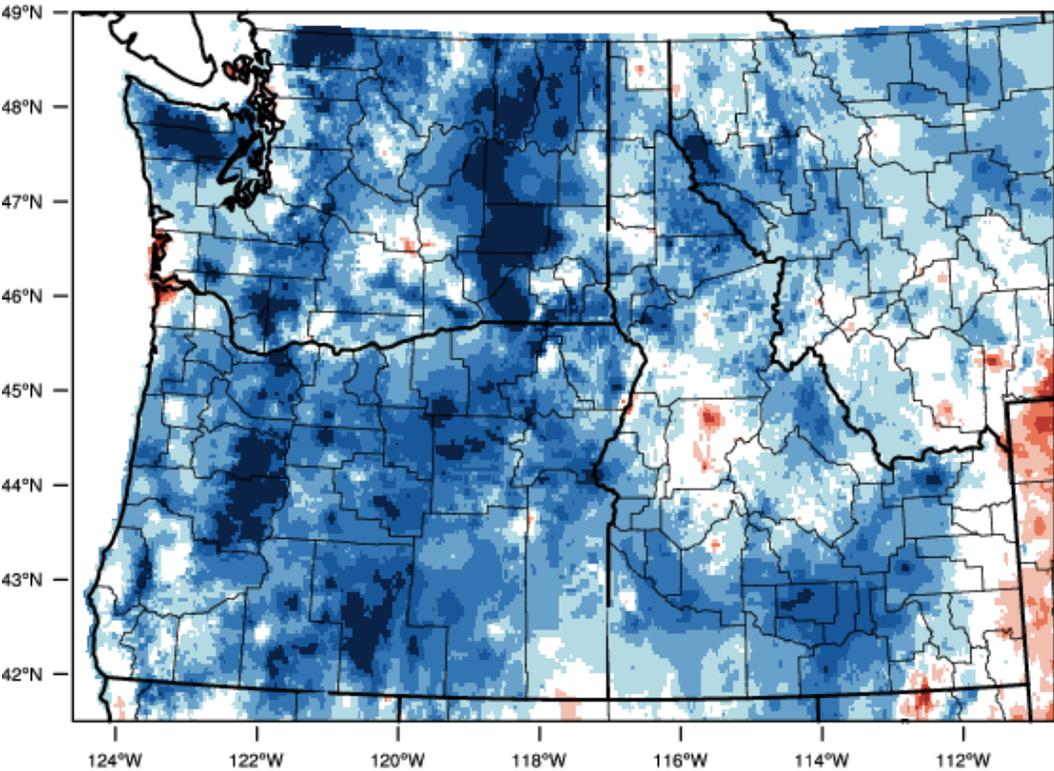


WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016

# September 2016

## Pacific Northwest - Mean Temperature

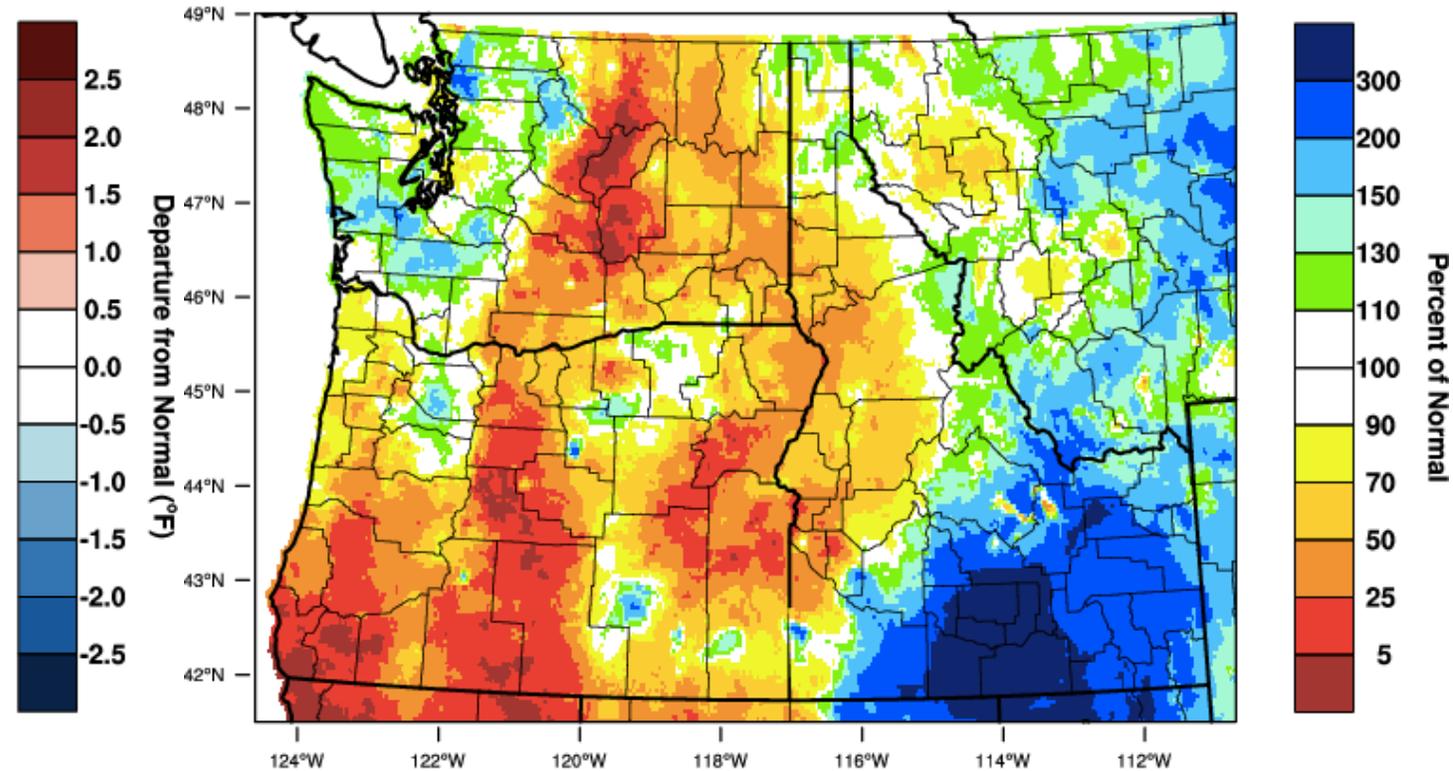
September 2016 Departure from 1981-2010 Normal



WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016

## Pacific Northwest - Precipitation

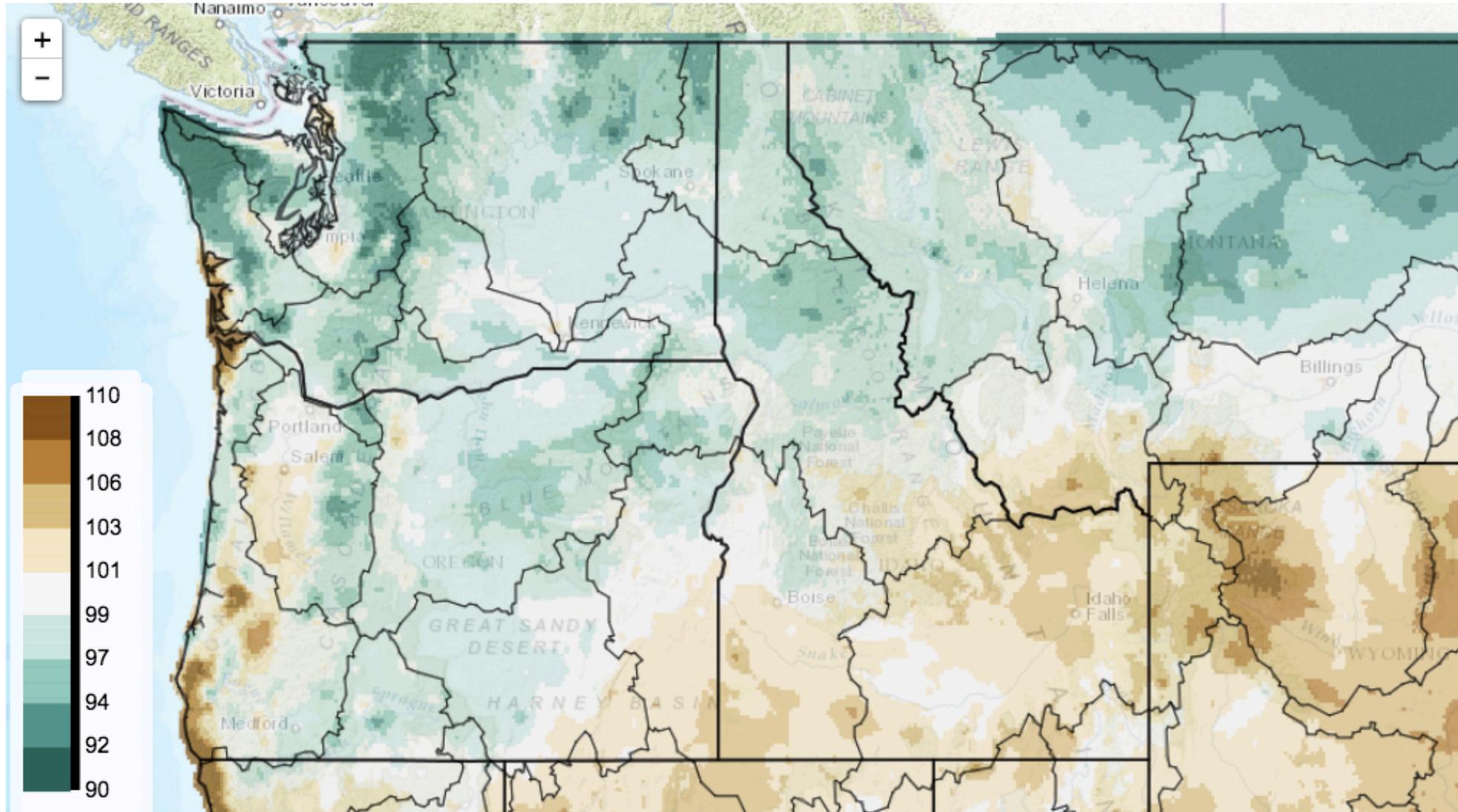
September 2016 Percent of 1981-2010 Normal



WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016

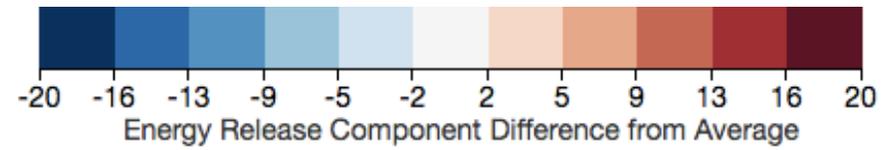
# Last 90 Days Potential Evapotranspiration (% of Normal)

Data Source: METDATA/gridMET 4-km dataset (Univ. Idaho), 2016/07/04 - 2016/10/01



<http://nwclimatetoolbox.weebly.com>

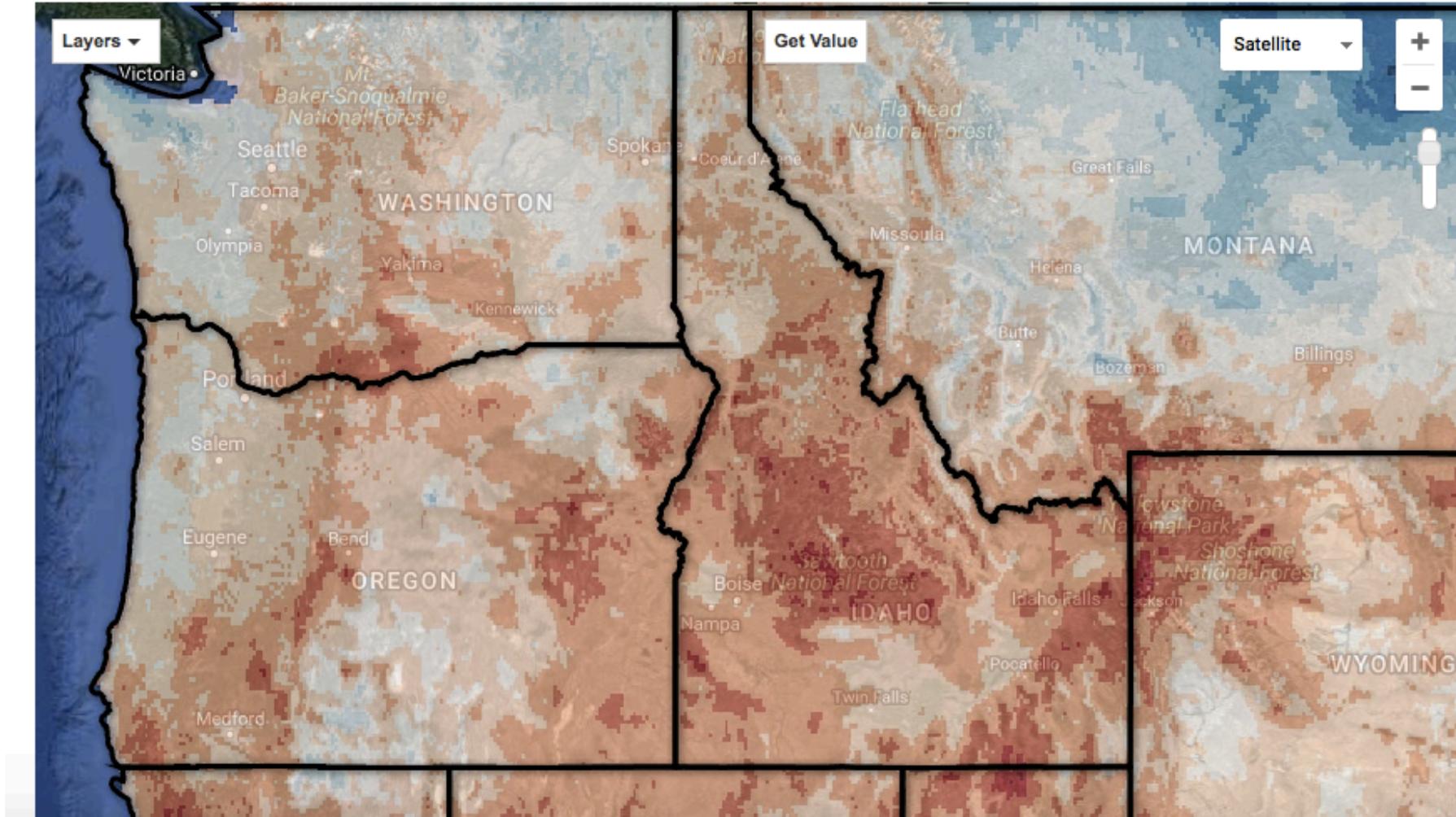
# Mean Energy Release Component Difference from Average



Data Source: METDATA/gridMET 4-km dataset (University of Idaho)

Target Period: 2016-06-01 to 2016-09-28

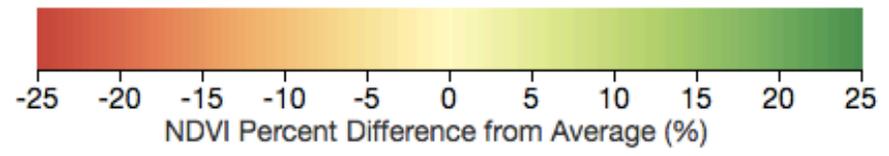
Historical Period: 1981 - 2010



CLIMATE ENGINE

<http://climateengine.org>

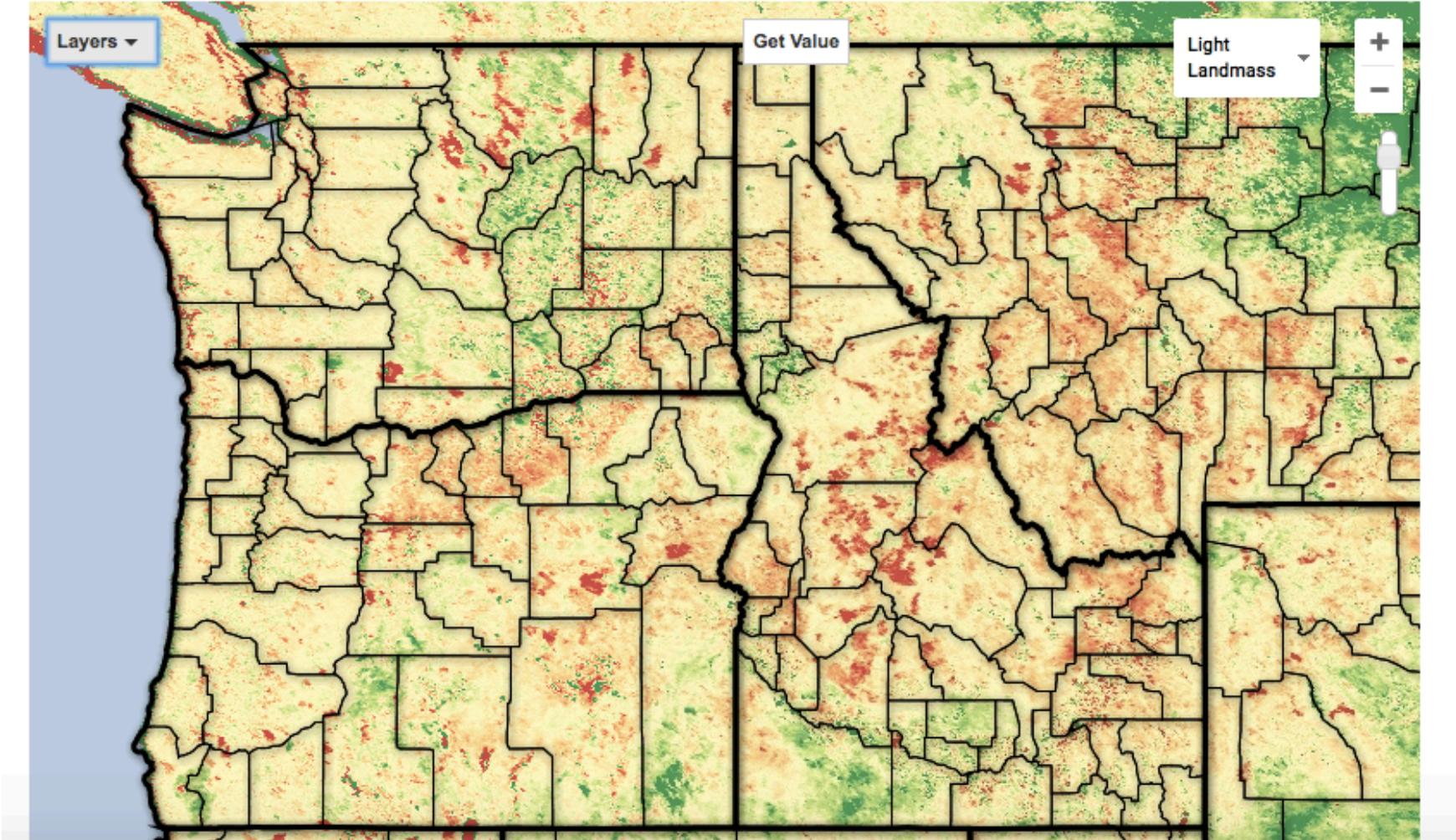
# Median NDVI Percent Difference from Average



Data Source: MODIS

Target Period: 2016-06-01 to 2016-09-13

Historical Period: 2000 - 2010

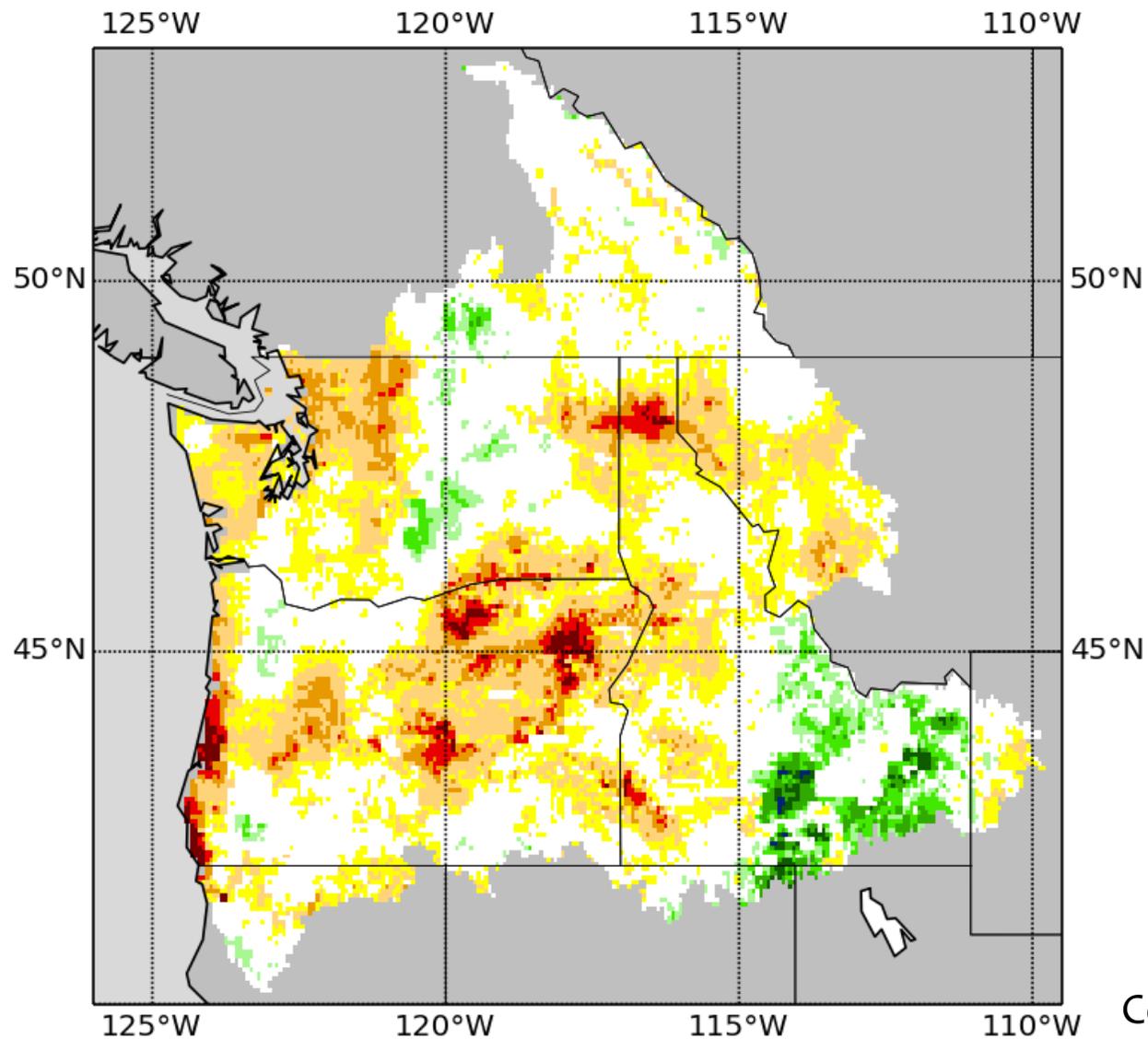


CLIMATE ENGINE

<http://climateengine.org>

# Total Moisture Percentile

2016--10--03



0 2 5 10 20 30 70 80 90 95 98 100

percentile

Computational Hydrology Group



UNIVERSITY of WASHINGTON

Silver Mountain Resort  
Kellogg, Idaho  
October 5, 2016



# Summary

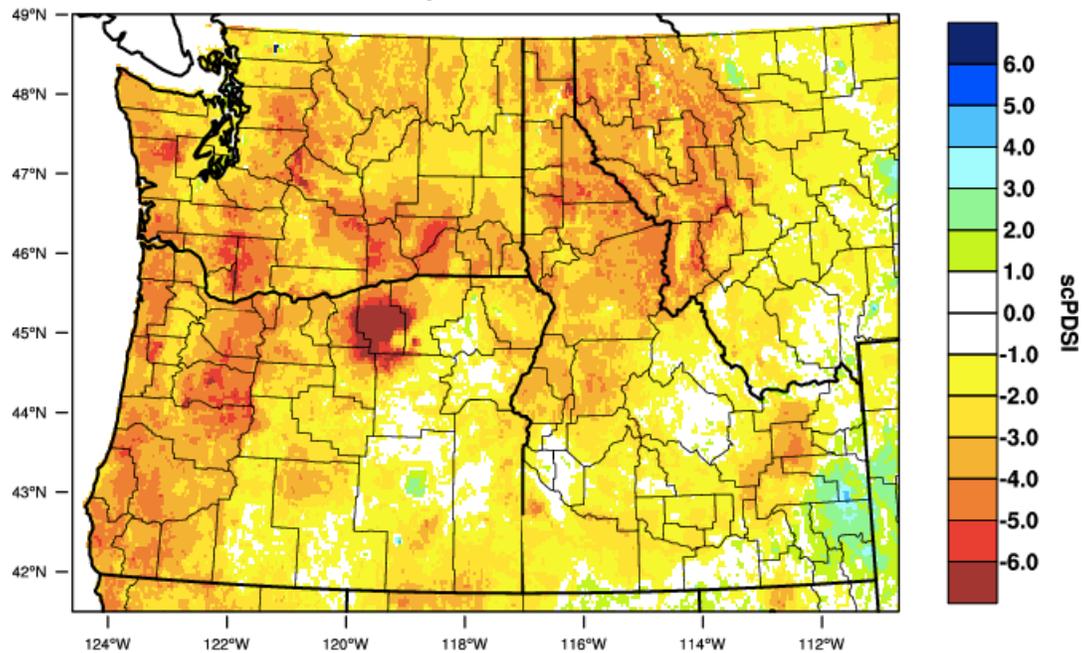
- Some drought recovery in NW after WY 2014-15
- Coolest summer since 2011 led to sub-par forest fire season
- Cool and somewhat drier than normal September
- Commence water year 2016-17 with smaller deficit

<http://nwclimatetoolbox.weebly.com>

University  
of Idaho

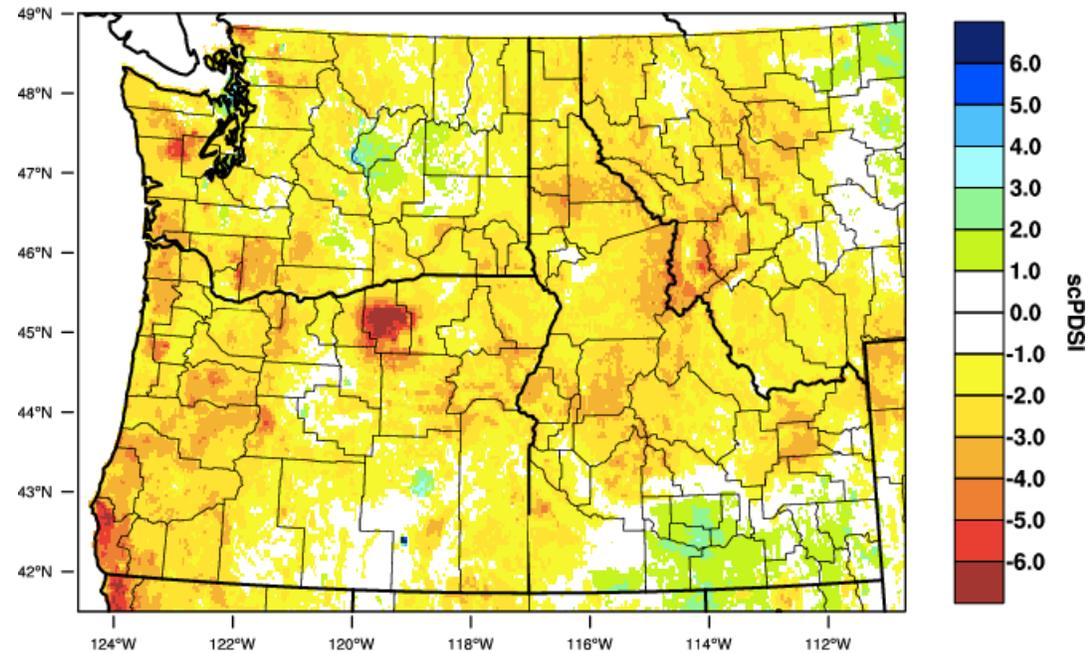


**Pacific Northwest - Self Calibrated PDSI**  
September 2015

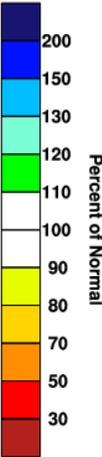
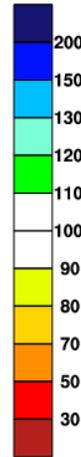
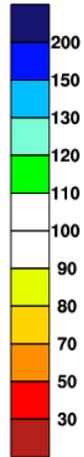
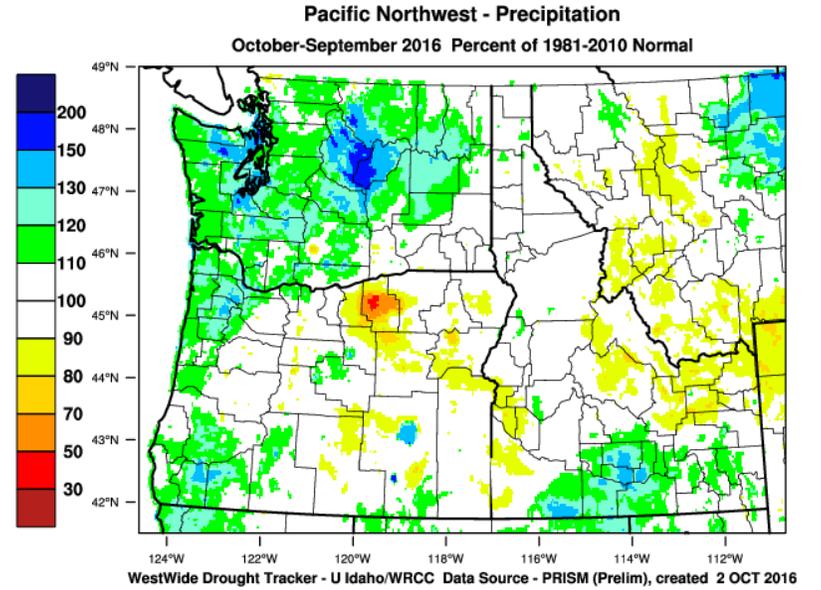
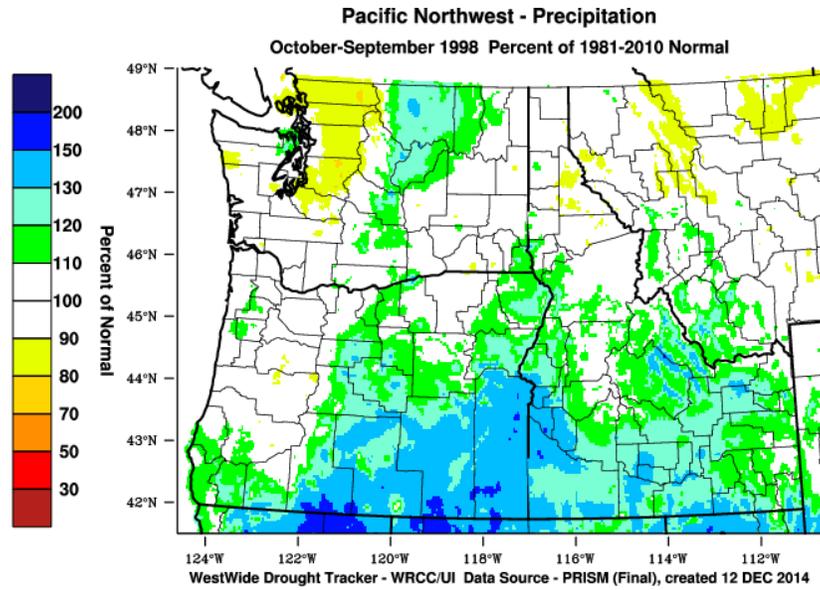
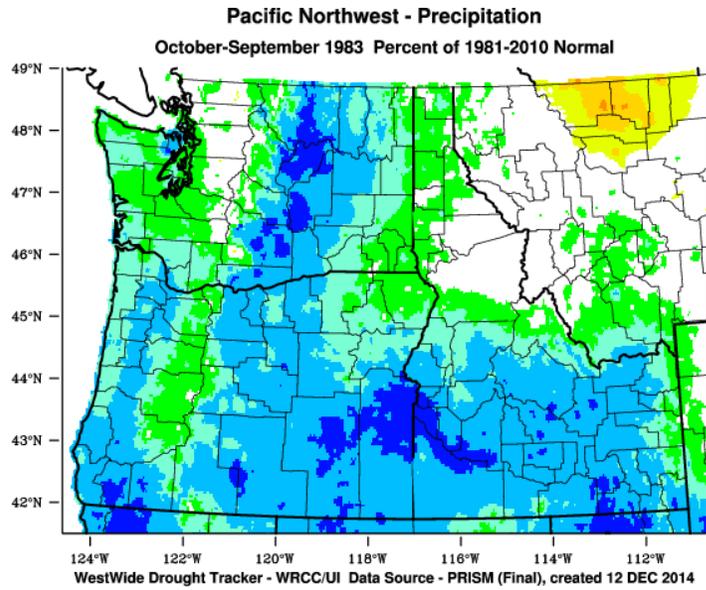


WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 16 APR 2016

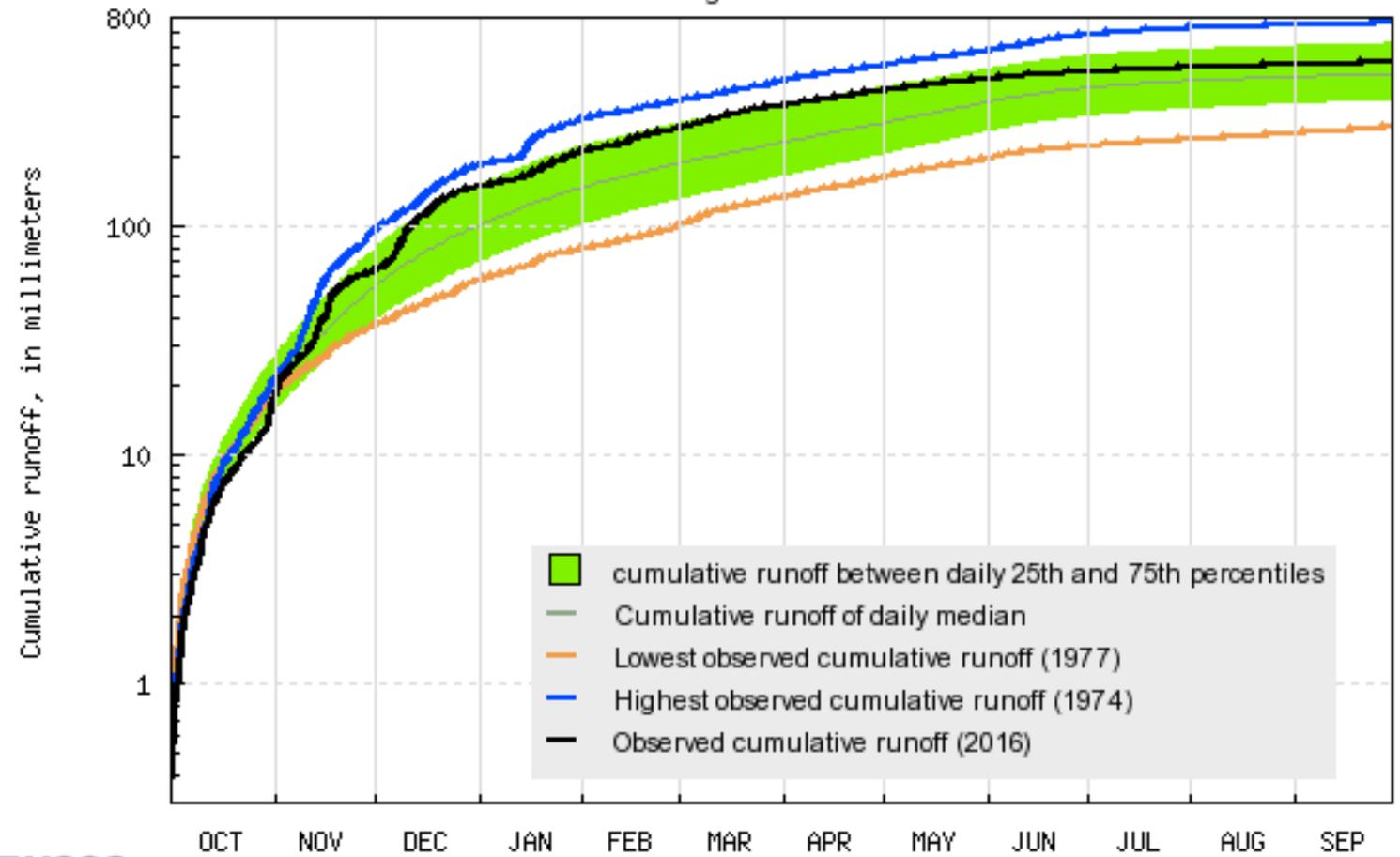
**Pacific Northwest - Self Calibrated PDSI**  
September 2016



WestWide Drought Tracker - U Idaho/WRCC Data Source - PRISM (Prelim), created 2 OCT 2016

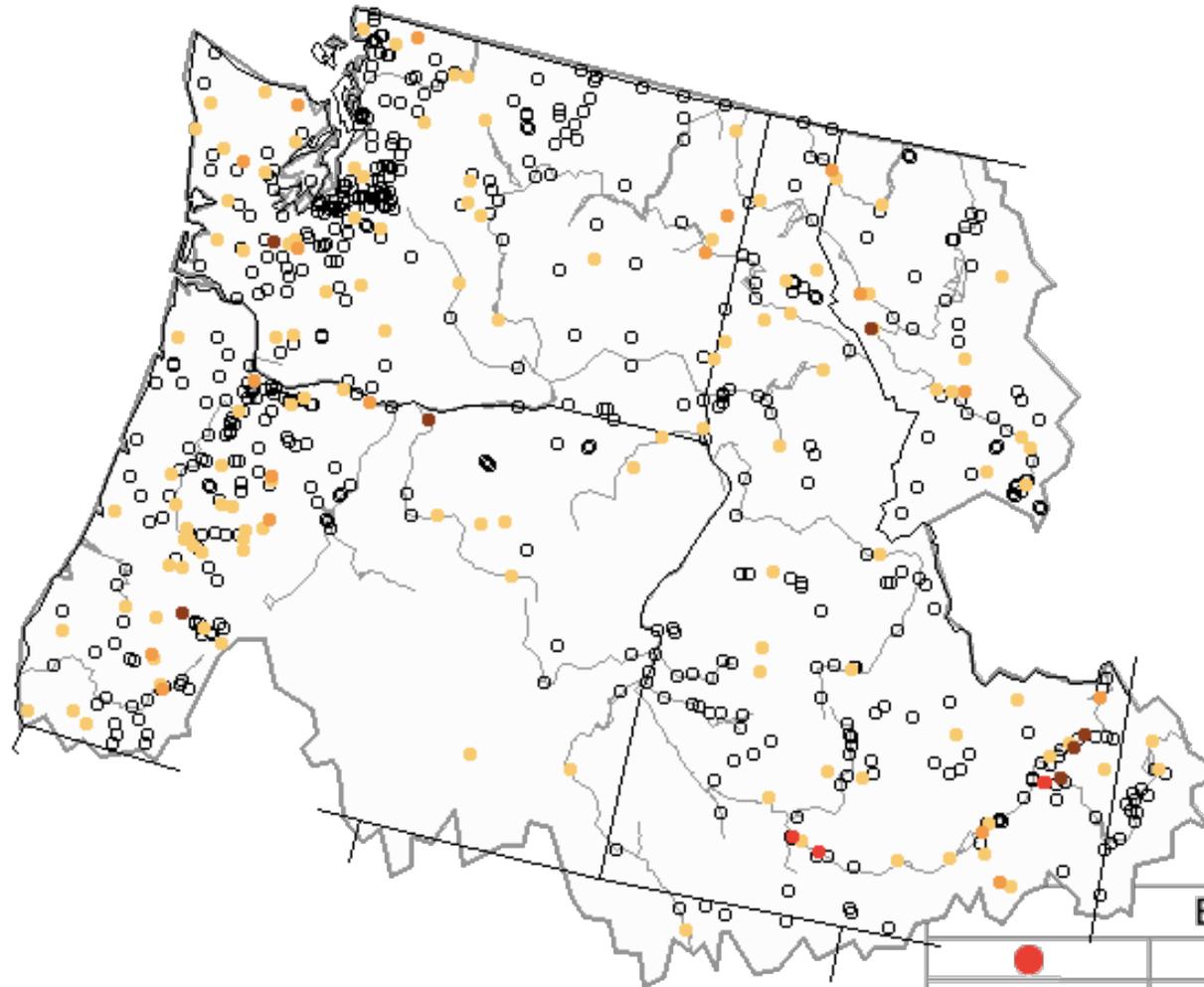


Hydrograph of cumulative daily runoff for  
Water Resource Region Pacific Northwest



# September 2016 Streamflow Percentiles

Tuesday, October 04, 2016



Explanation - Percentile classes

				
<b>New low</b>	<b>&lt;=5</b>	<b>6-9</b>	<b>10-24</b>	<b>Not ranked</b>
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	