

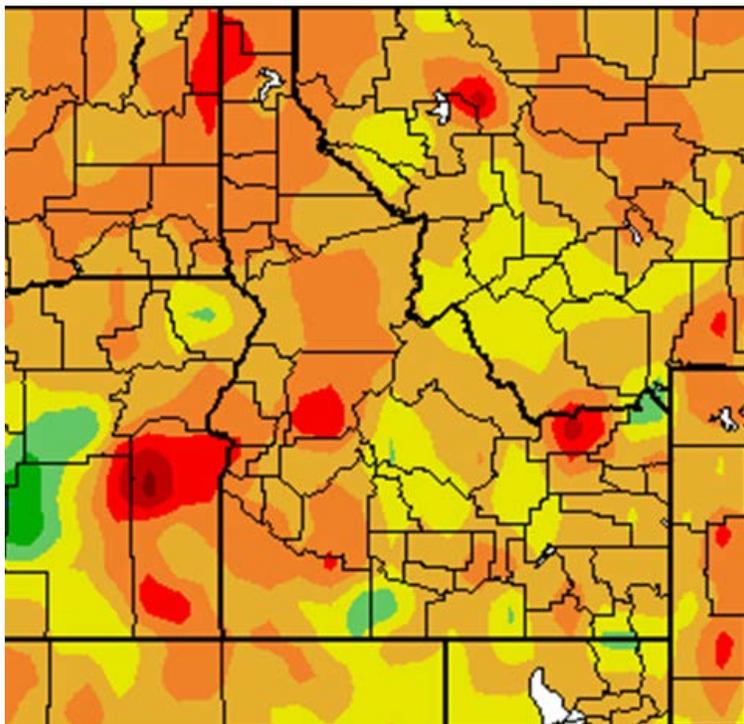
# Idaho 2016 Water Year Summary

## Overview

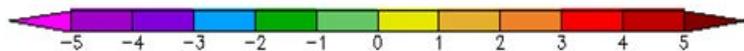
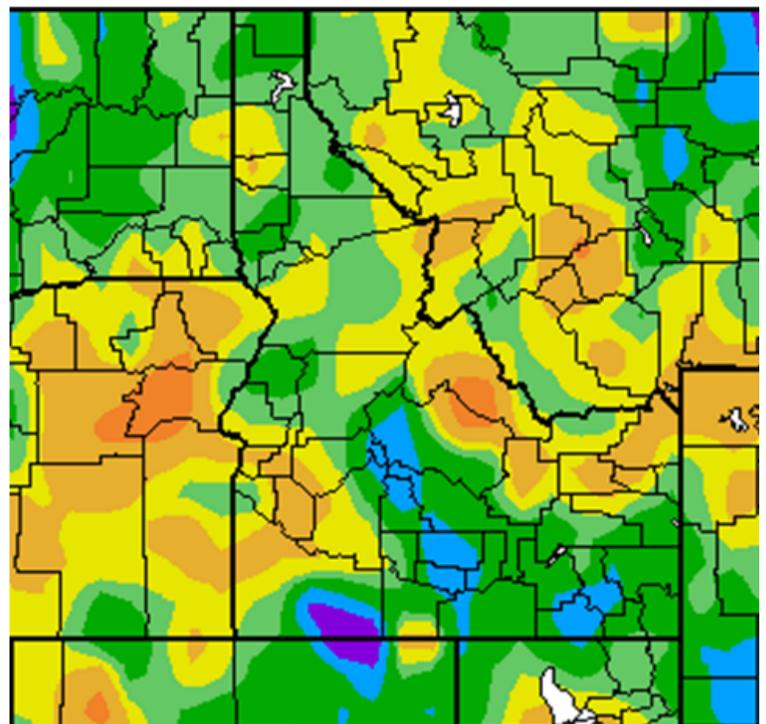
The 2016 Water Year was another year marked by above average temperatures across Idaho, although anomalies were not quite as warm as the previous year. Compared to the 30 year normal, temperatures were several degrees (F) above average for most of Idaho with the greatest anomalies focused across the west half of the state. Normal or above normal precipitation occurred across the majority of the state, with areas of below normal precipitation primarily in northeast and southwest Idaho. April 1 snowpack was generally average to above average. However, warmer than normal temperatures once again brought an early melt of the snowpack. The early snowmelt shifted the runoff timing and brought above average streamflows to many basins during late winter and early spring. As runoff passed through the system early, many basins saw streamflows recede to below normal by late May and June, particularly across northern Idaho. Reservoir storage was in good shape overall to start the growing season, but high irrigation demand left some reservoirs in the Upper Snake region with below average carry-over for next year. Long term drought impacts lingered across the state but eased over the course of the water year.

## 2016 Water Year

**Departure from Normal Temperature (F)**  
Oct. 1, 2015 – Sep. 30, 2016

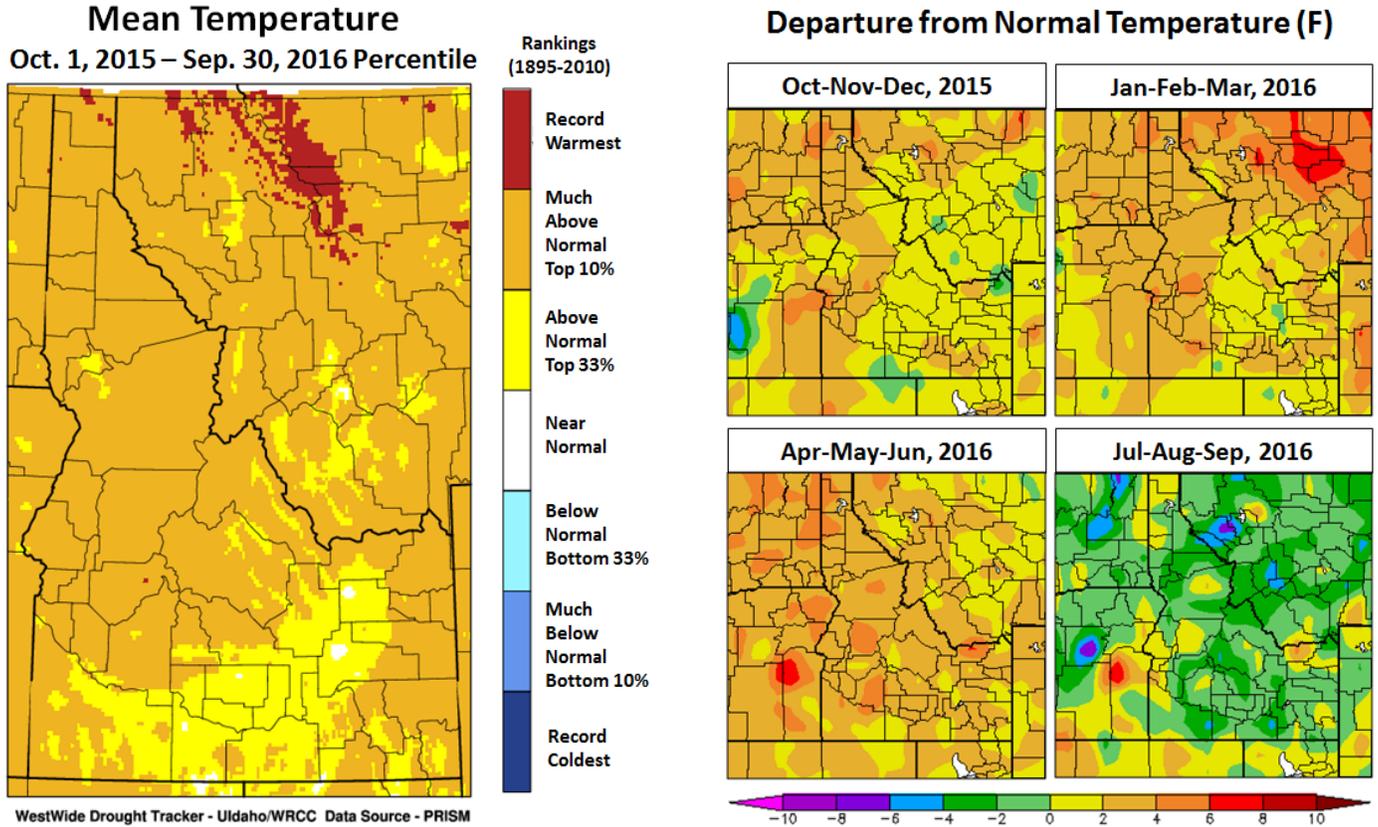


**Percent of Normal Precipitation (%)**  
Oct. 1, 2015 – Sep. 30, 2016



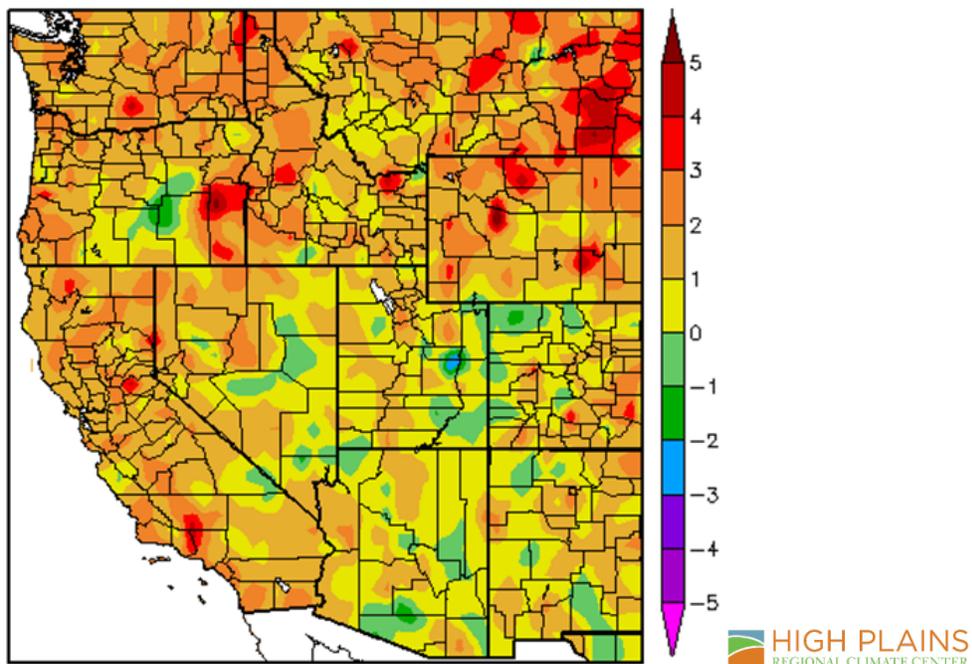
## Temperature

The upward trend in temperatures experienced over the past several years continued during the 2016 Water Year. With the exception of a few pockets in south central and eastern Idaho, the entire state experienced warmer than normal temperatures. Anomalies generally ranged from plus 2 to 4 degrees (F), with northern, west central and southwestern portions of the state experiencing the greatest anomalies. Above normal temperatures were noted at all elevations, having a significant impact on the ripening and early melting of low and mid elevation snowpack. Had it not been for below normal temperatures experienced during a portion of the summer (particularly in July), anomalies for the year as a whole would be greater.



## Departure from Normal Temperature (F)

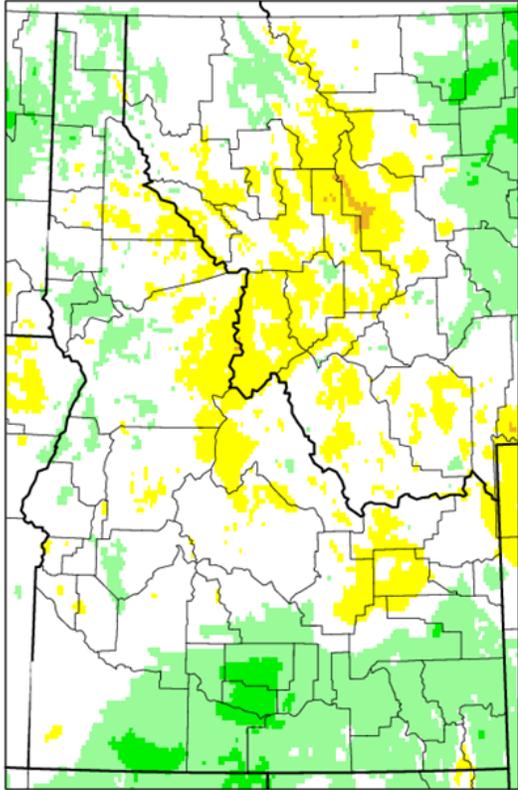
Oct. 1, 2015 – Sep. 30, 2016



# Precipitation

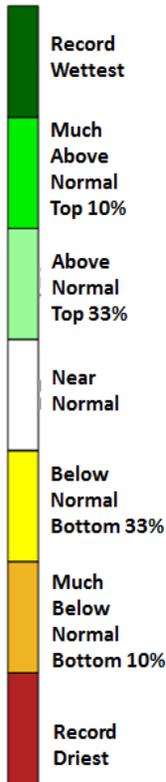
Fall rains varied considerably across Idaho with areas of well below normal to much above normal precipitation early in the water year. A favorable shift in the storm track occurred in December which brought abundant low elevation rain and mountain snow. This ended the first quarter of the 2016 Water Year on a high note, with most of southwest and portions of south central Idaho having received 125 to 200 percent of normal precipitation. January precipitation varied considerably, with some basins receiving well above normal precipitation while others fell well short. Dry conditions plagued much of the state in February, especially across the central and south. However, another favorable shift in the weather pattern brought excellent precipitation to the region in March and the second quarter of the water year ended favorably for the majority of the state. Spring precipitation was disappointing and except for locations near the Utah and Nevada border, most of the state experienced well below normal precipitation. Summertime thunderstorm activity was somewhat limited for most of Idaho. South central and southeast Idaho was the exception, with much of the area receiving normal or above normal precipitation.

**Precipitation**  
Oct. 1, 2015 – Sep. 30, 2016 Percentile

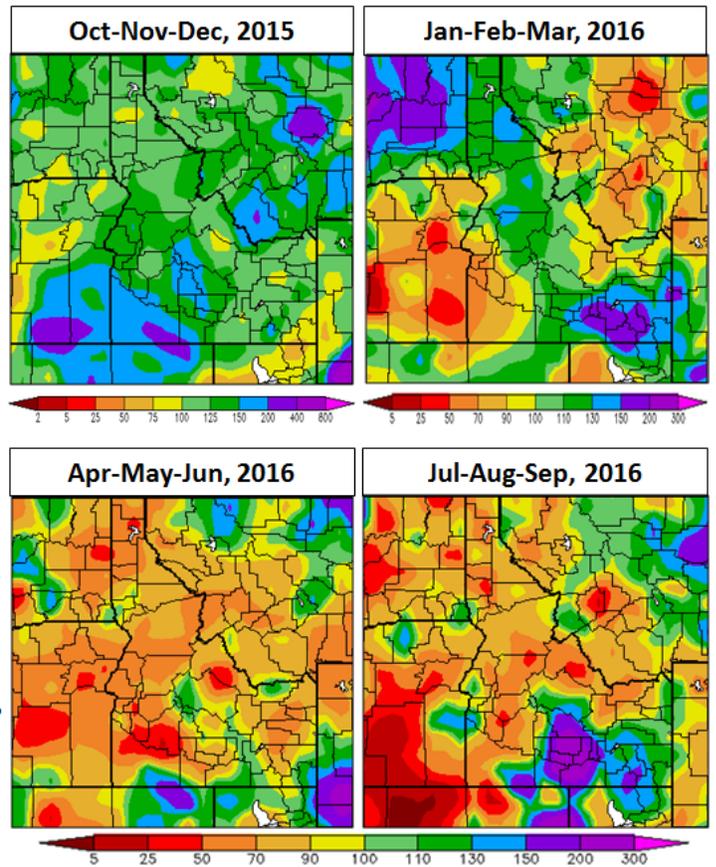


WestWide Drought Tracker - Idaho/WRCC Data Source - PRISM

Rankings  
(1895-2010)

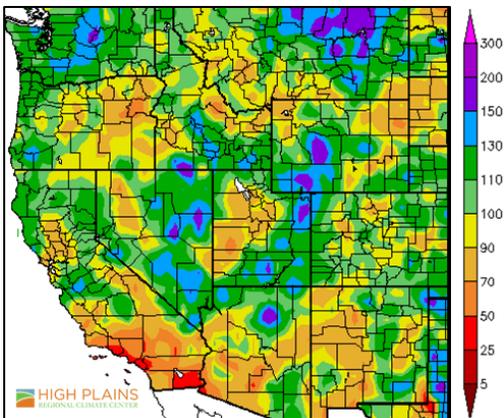


## Percent of Normal Precipitation (%)



## Departure from Normal Precipitation (in)

Oct. 1, 2015 – Sep. 30, 2016

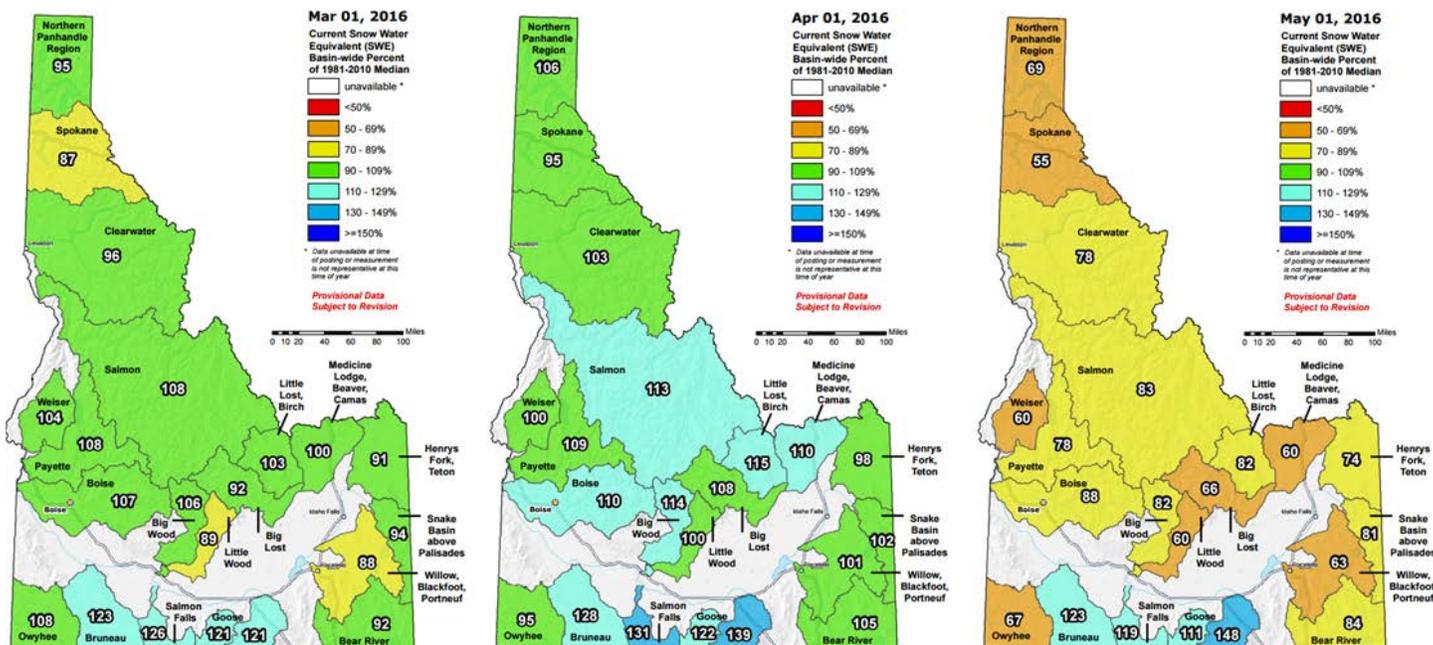


HIGH PLAINS REGIONAL CLIMATE CENTER

2016 Water Year (Oct. 1, 2015 through Sep. 30, 2016)				
Location	Observed Precipitation (inches)	Normal Precipitation (inches)	Departure from Normal (inches)	Percent of Normal Precipitation
Boise	9.52	11.73	-2.21	81
McCall	26.28	20.10	6.18	131
Twin Falls	13.29	10.70	2.59	124
Pocatello	13.25	12.13	1.12	109
Idaho Falls	9.54	10.39	-0.85	92
Stanley	18.56	17.06	1.50	109
Challis	6.32	10.06	-3.74	63
Lewiston	13.64	12.31	1.33	111

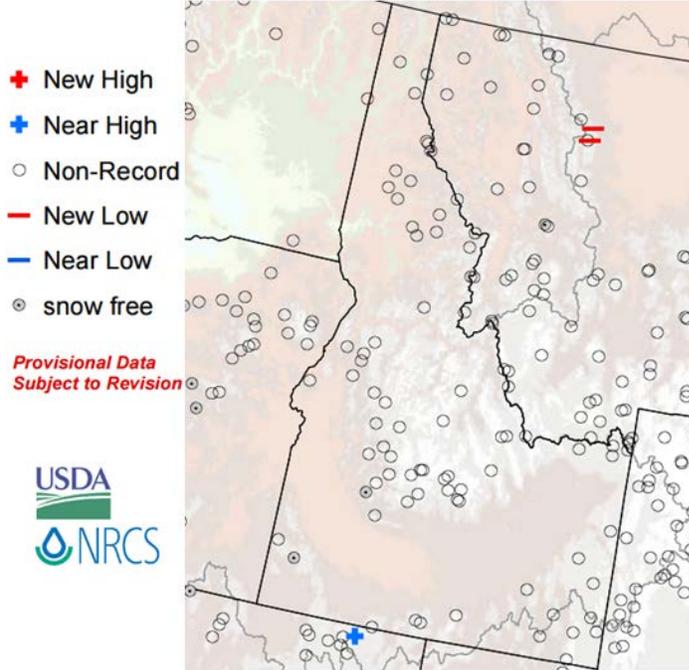
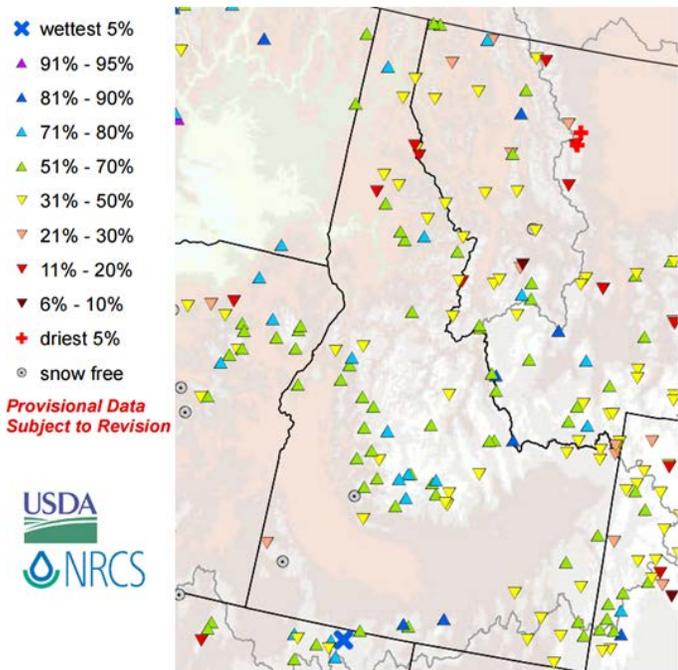
# Snowpack

Snowpack during the 2016 Water Year was much improved compared to the previous year. Around April 1 (when Idaho's overall snowpack typically peaks), basin snowpack generally ranged from 95 to 130 percent of median, with the highest percentages across south side Snake River basins. However, warm and dry conditions through the month of April were not kind to the snowpack. Snow melted at a record high rate in April and by the end of the month basin percentages had fallen below or well below normal, with the exception of some south side Snake River basins. Snowpack melted out 2 to 4 weeks ahead of normal at most SNOTEL locations.



**April 1, 2016 Snow Water Equivalent (SWE) Ranking Percentile**

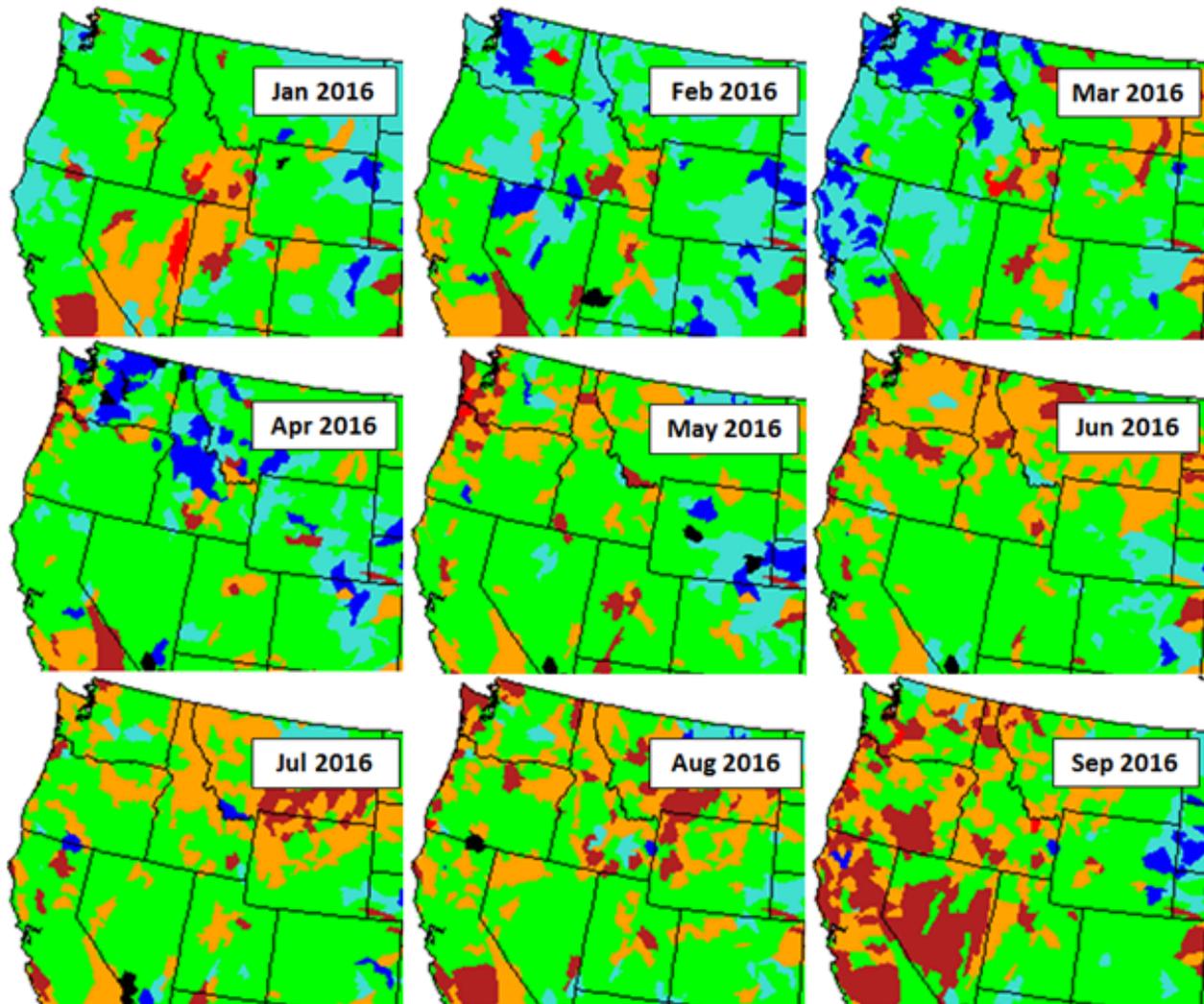
**April 1, 2016 Snow Water Equivalent (SWE) Records**



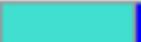
## Streamflow

Above normal temperatures led to early runoff of Idaho's snowpack. This produced above normal streamflows for much of the state during late winter and early spring. Streamflow averages in mid to late spring receded below normal in a number of basins, especially across northern Idaho. Meanwhile, highly regulated river systems across southern Idaho saw mostly average streamflows in mid to late spring. The warm and dry months of summer left many basins with below normal streamflows by year's end. A few locations in southern Idaho hit record low 7-day average streamflows in late June and early July.

## Monthly Average Streamflow



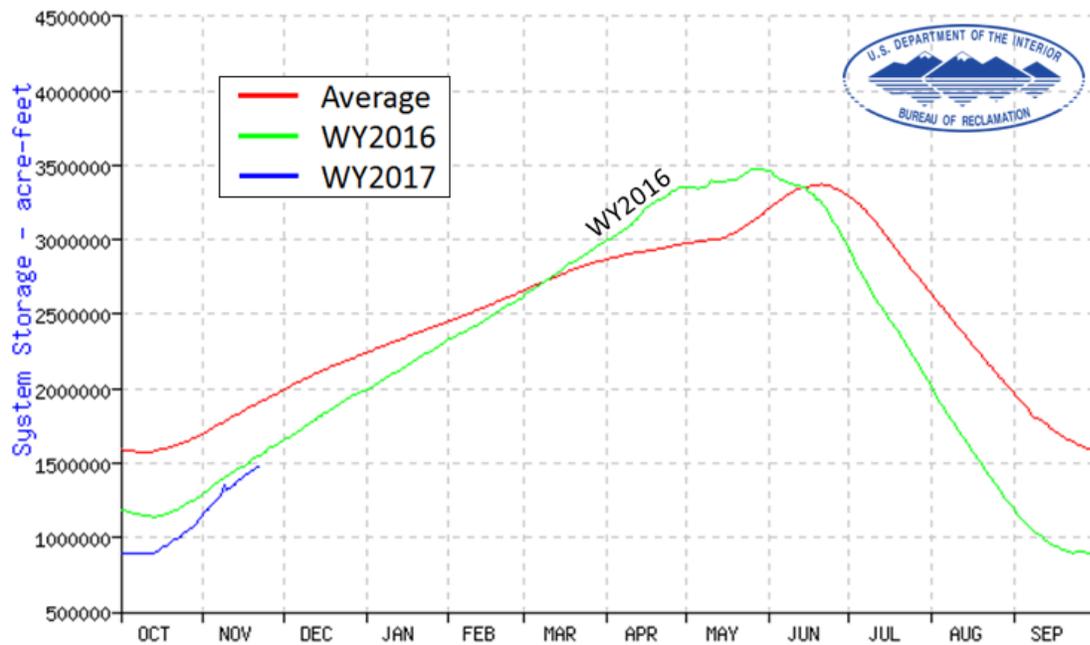
Explanation - Percentile classes 

								
Low	<10	10-24	25-75	76-90	>90	High	No Data	
	Much below normal	Below normal	Normal	Above normal	Much above normal			

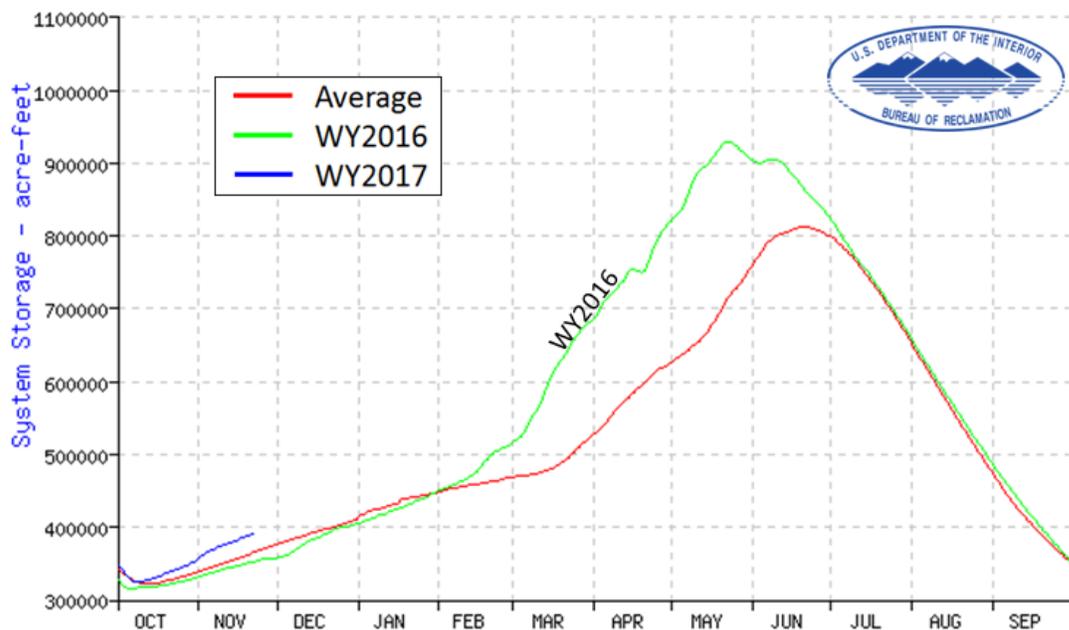
## Reservoirs

Early snowmelt and shifted runoff timing led to higher fill rates early in the season. Most large federal reservoirs along with most smaller non-federal reservoirs either filled or came close to filling and storage was generally in good shape to start the growing season. However, warm and dry spring and summer weather led to declining reservoir inflows and high demand for irrigation water which left large federal reservoirs on the Upper Snake River System with below average carry-over storage at the end of the water year.

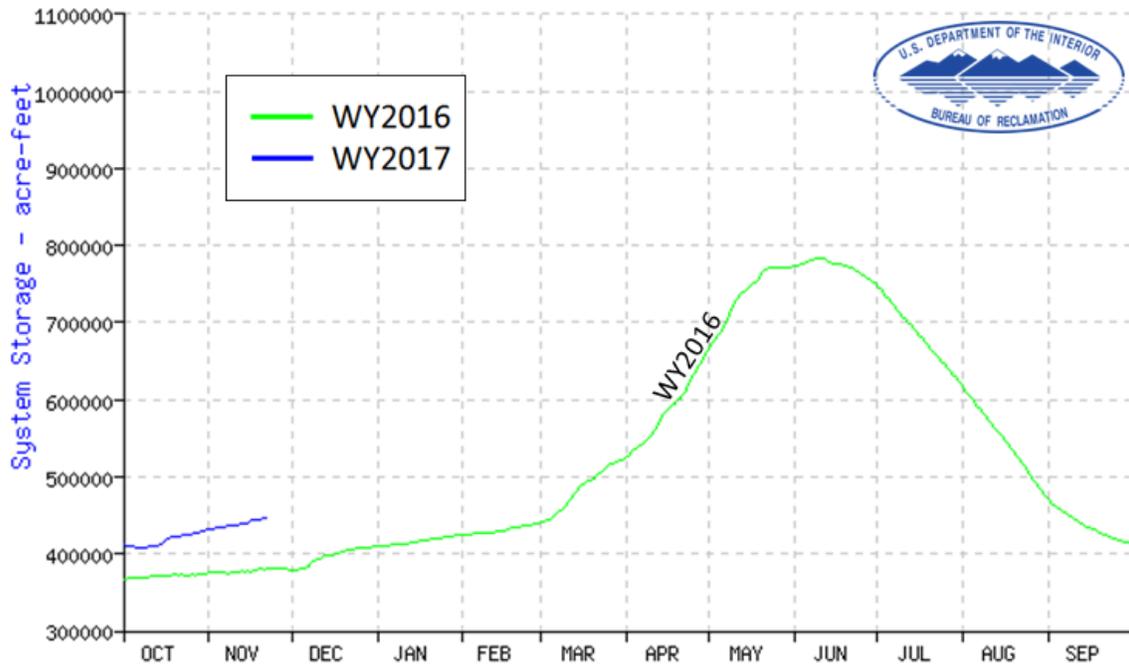
### Upper Snake River Reservoir Storage



### Boise River Reservoir Storage



# Payette River Reservoir Storage



## Drought

Long-term drought continued to impact Idaho for much of the year. Drought impacts were eased thanks to near normal snowpack and adequate water supply across most of the state.

## Drought Monitor

