

<b>NWS Form E-5</b> U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE  <b>MONTHLY REPORT OF HYDROLOGIC CONDITIONS</b>	<b>HYDROLOGIC SERVICE AREA:</b> Pocatello, Idaho
	<b>REPORT FOR:</b>  <b>MONTH:</b> October <b>YEAR:</b> 2015
<b>TO:</b> Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	<b>SIGNATURE</b>  Corey Loveland Service Hydrologist
<b>DATE:</b> November 9, 2015	
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	



An X in this box indicates that no flooding has occurred for the month within this hydrologic service area.

### Overview:

Overall, October seemed very pleasant with nice warm sunny days prevailing with above normal temperatures. Above normal precipitation primarily fell across the Caribou Highlands with below normal precipitation across the remainder of our Hydrologic Service Area (HSA). Overall, mostly one half to three inches of precipitation fell across the HSA during the past month with most of the precipitation falling in Madison, Jefferson, Bonneville, Bingham, Caribou, and Bannock counties. Temperature departures from normal for October show that across the HSA, we ranged about three to above six degrees F above normal with warmer temperatures dominating in the Henrys Fork basin and upper Snake River plain. Mean average temperatures ranged from 43 to 58 degrees F across the area. The Minidoka Dam station had 2 days of average temperatures over 70 degrees F during October.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast is for a 33 to 40 percent chance of below normal temperatures across Idaho. Eastern Idaho continues with the wetter than normal pattern with a normal to 33 percent chance of above normal precipitation. The one-month forecast graphics are found below. For the three-month outlook, the temperatures are forecast to be warmer in eastern Idaho; mostly ranging from normal to a 50 percent chance of above normal temperatures within the HSA. As for precipitation, the outlook is for mostly below normal (normal to 40 percent) chance of having drier conditions with near normal conditions forecast for the extreme corner of southeast Idaho; the Bear River basin.

Of the data available for the month, the stations within the HSA reaching the highest 24-hour temperature was the Massacre Rocks State Park COOP station reaching 90°F on the 1<sup>st</sup>. The station (non-SNOTEL) with the lowest recorded temperature was the Shoshone 1 WNW COOP station at 10°F on October 23<sup>rd</sup>. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Sugar COOP station where 1.18 inches fell on the 2<sup>nd</sup>. The highest recorded precipitation total (non-SNOTEL) occurred also at the St. Anthony COOP where 2.18 total inches was recorded for the month. The Vienna Mine and Wildhorse Divide SNOTELs both recorded 2.9 inches of total precipitation for the month.

Reservoirs last month increased capacity overall by around 5% in the upper Snake River basin system (an increase of about 196 KAF occurred over the month and is currently sitting at 33% of capacity overall). Compared to last year at this time, it was about 50% of capacity. According to Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable decrease in storage capacity was

Island Park Reservoir currently at 40% of capacity, which is 75% of average. The most notable increase in storage capacity is the Milner and Henrys Lake Reservoirs increasing percent capacity by 5 and 4% respectively. American Falls, Mackay and Little Wood Reservoirs all gained a slight increase in storage. Magic Reservoir has the lowest storage; at 35% of average and Jackson Lake is the fullest at 133% of average.

Current streamflow conditions in eastern Idaho are mostly near normal for monthly streamflows for the majority of the unregulated streams except for the Portneuf and upper Henrys Fork Rivers (see graphic below).

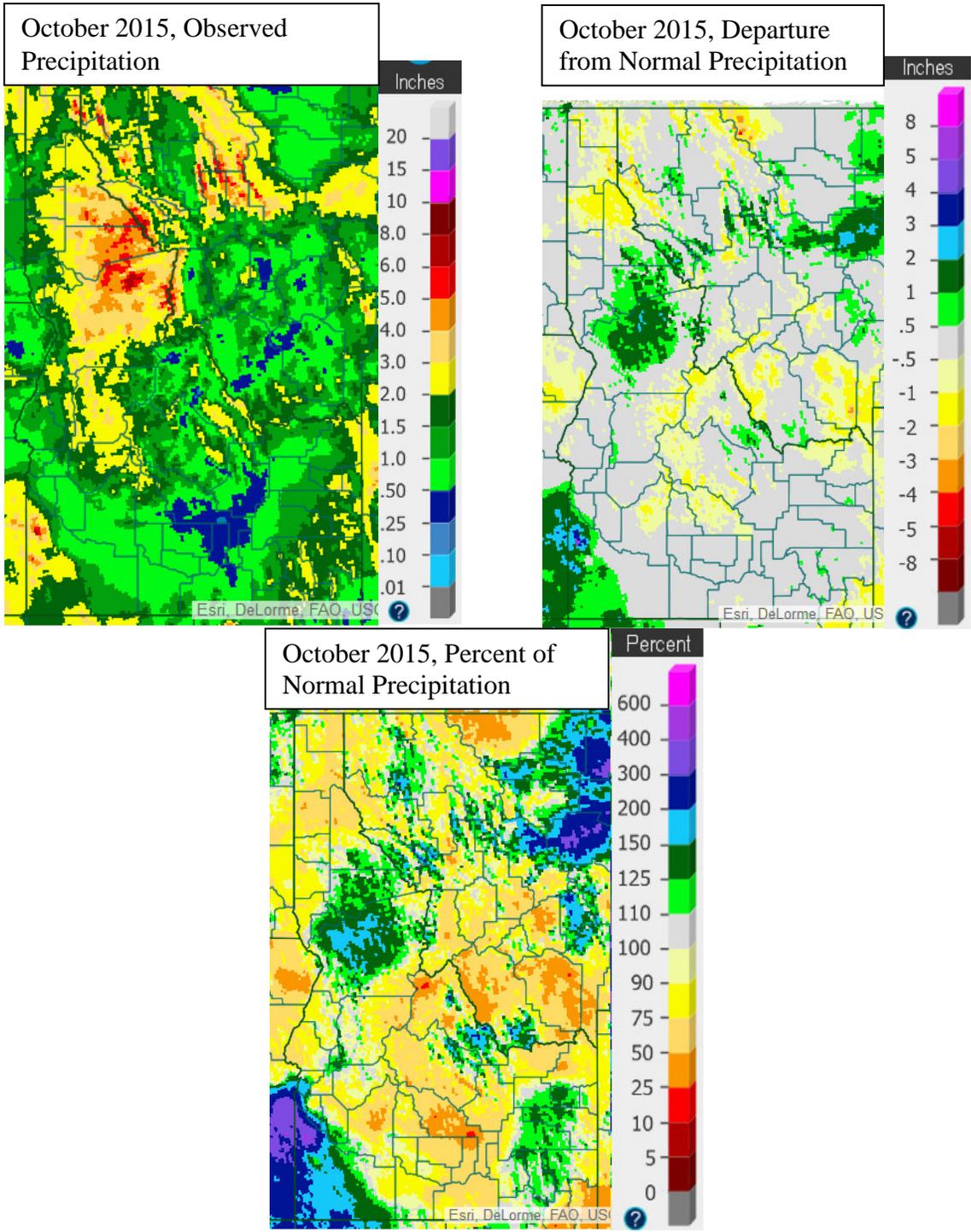
Drought conditions across eastern Idaho have remained the same since last month's assessment. Currently, about 16 percent and 45 percent of the state is in Extreme and Severe drought respectively. The U.S. Seasonal Drought Outlook shows drought to mostly persist/intensify over much of the west (including the majority of ID and then predicts that drought most likely will develop in the extreme southeast portion of the state, but not including the Bear River basin.

The Idaho NRCS Snow Survey November 1<sup>st</sup> Idaho Surface Water Supply Index (SWSI) was not available this month.

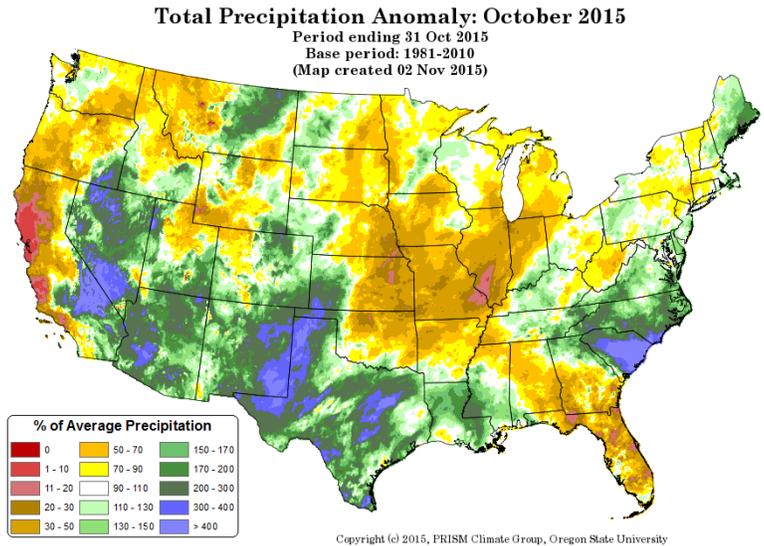
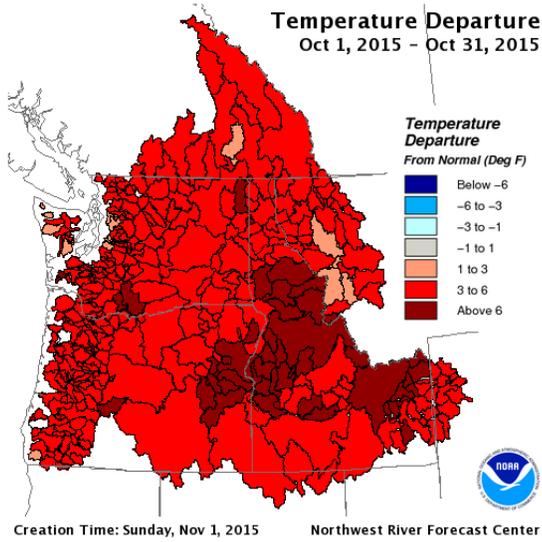
The Idaho Water Year 2015 CoCoRaHS precipitation totals are in. Of the 20 reporting stations in eastern Idaho, the top five that received the most precipitation were:

<b>Station Name</b>	<b>Total Prcp Sum</b>	<b>Days With Prcp</b>	<b>Total Snowfall</b>	<b>Days With Snowfall</b>	<b>Days With Snow On Ground</b>	<b>Elevation</b>
Soda Springs 0.3 W	19.27	114	37.1	26	63	5806
Grace 5.6 SSE	17.93	109	27.5	9	8	5496
Montpelier 0.6 NNE	16.09	58	3.6	3	1	5961
Holbrook 4.0 NNE	15.52	66	19.7	11	24	4897
Preston 0.8 SE	15.48	84	16.3	14	0	4711

**Precipitation:**

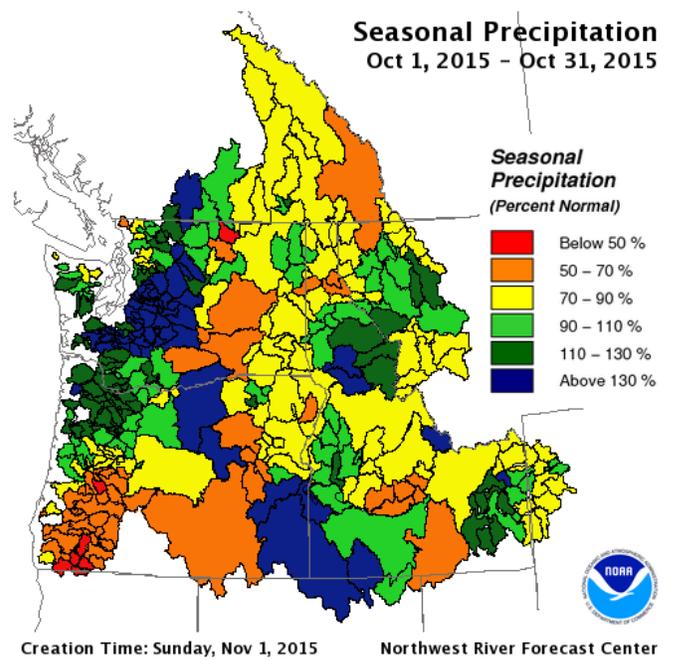
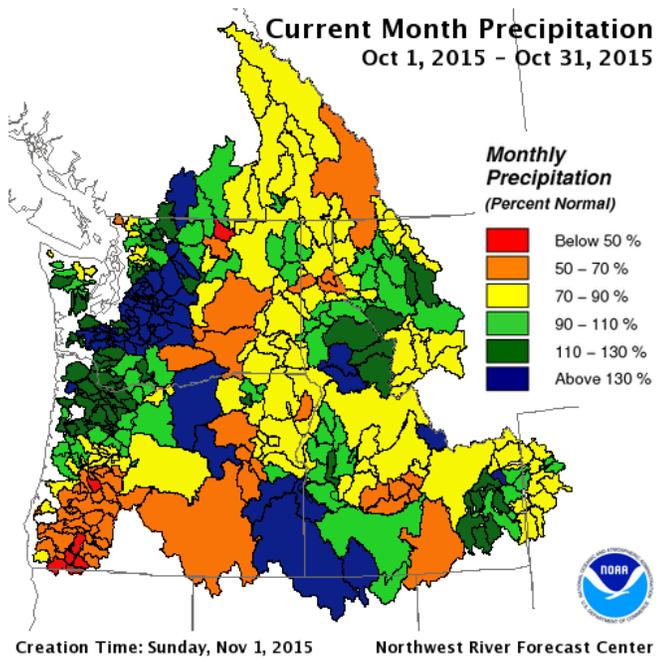


[water.weather.gov/precip/#](http://water.weather.gov/precip/#)



[nwrfc.noaa.gov/WAT\\_RES\\_wy\\_summary/20151101/CurMonMAT\\_2015Oct31\\_2015110116.png](http://nwrfc.noaa.gov/WAT_RES_wy_summary/20151101/CurMonMAT_2015Oct31_2015110116.png)

[prism.oregonstate.edu/](http://prism.oregonstate.edu/)



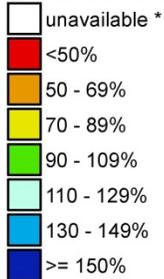
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[nwrfc.noaa.gov/WAT\\_RES\\_wy\\_summary/20151101/SeasonalMAP\\_2015Oct31\\_2015110116.png](http://nwrfc.noaa.gov/WAT_RES_wy_summary/20151101/SeasonalMAP_2015Oct31_2015110116.png)

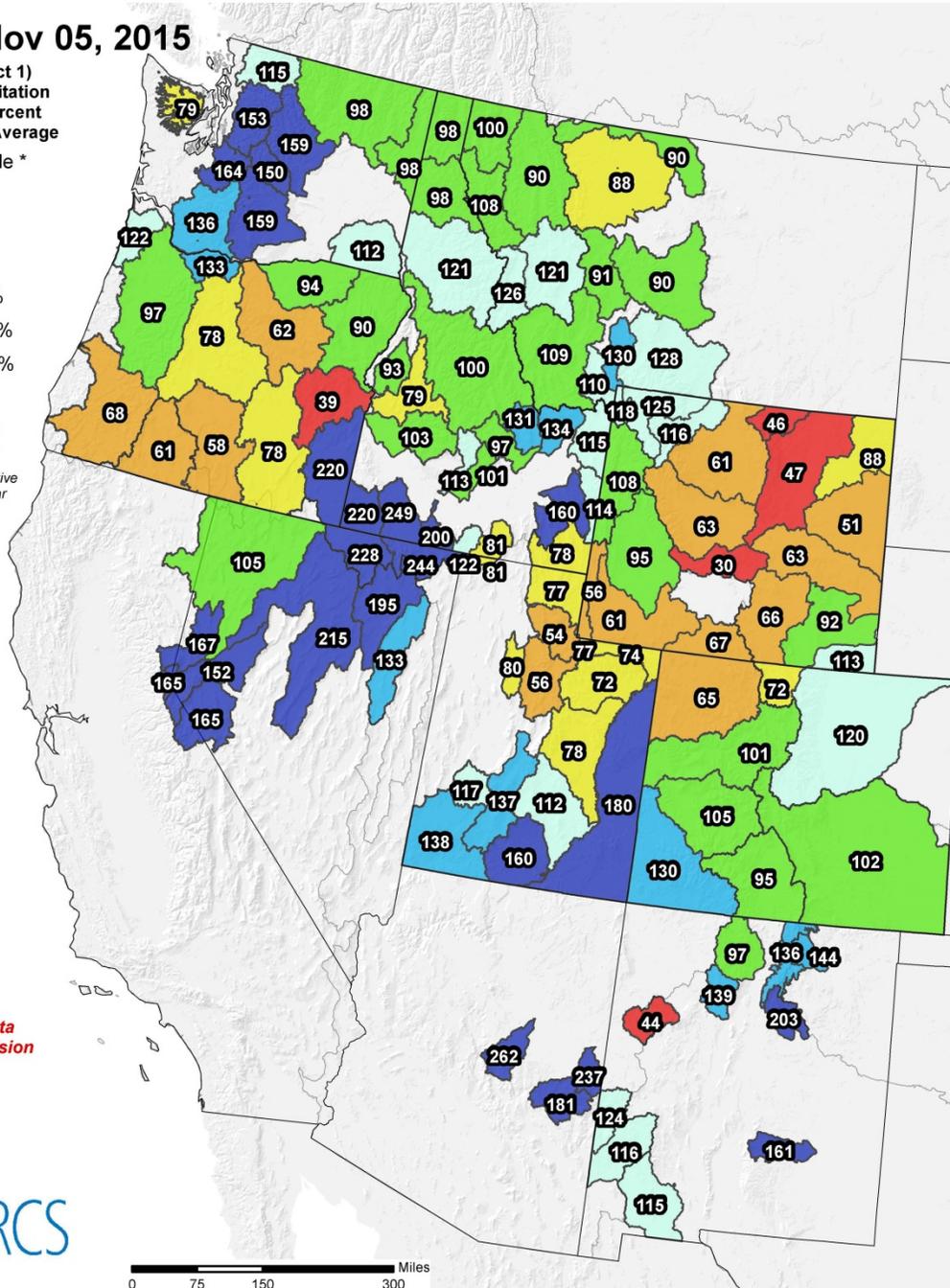
# Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Nov 05, 2015

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



0 75 150 300 Miles

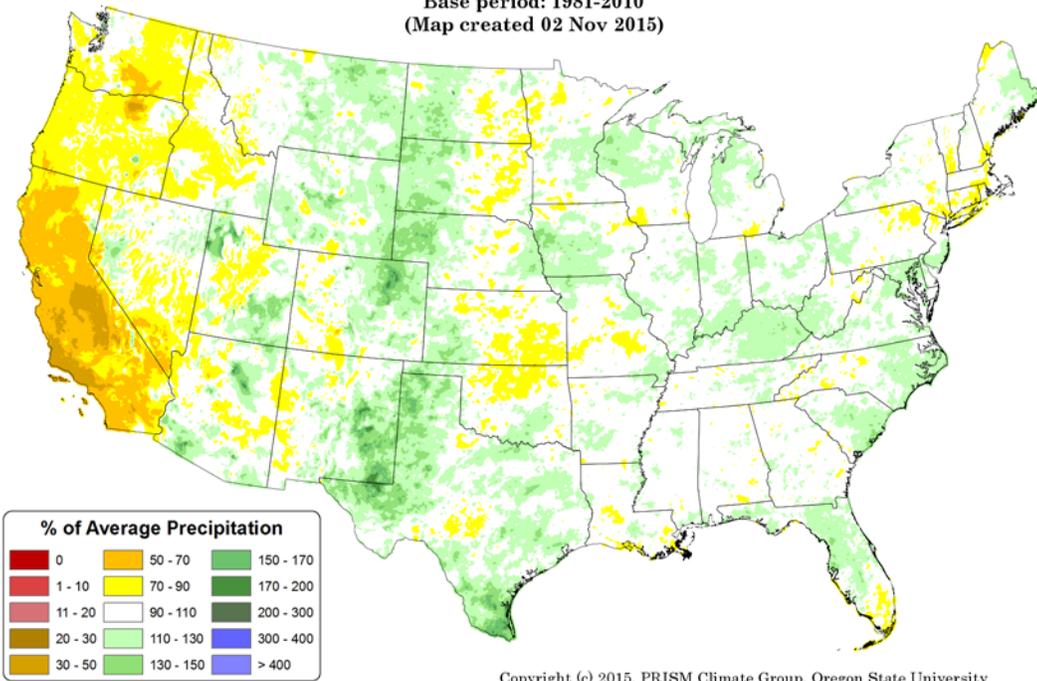
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

[wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west\\_wytdprecptnormal\\_update.pdf](http://wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecptnormal_update.pdf)

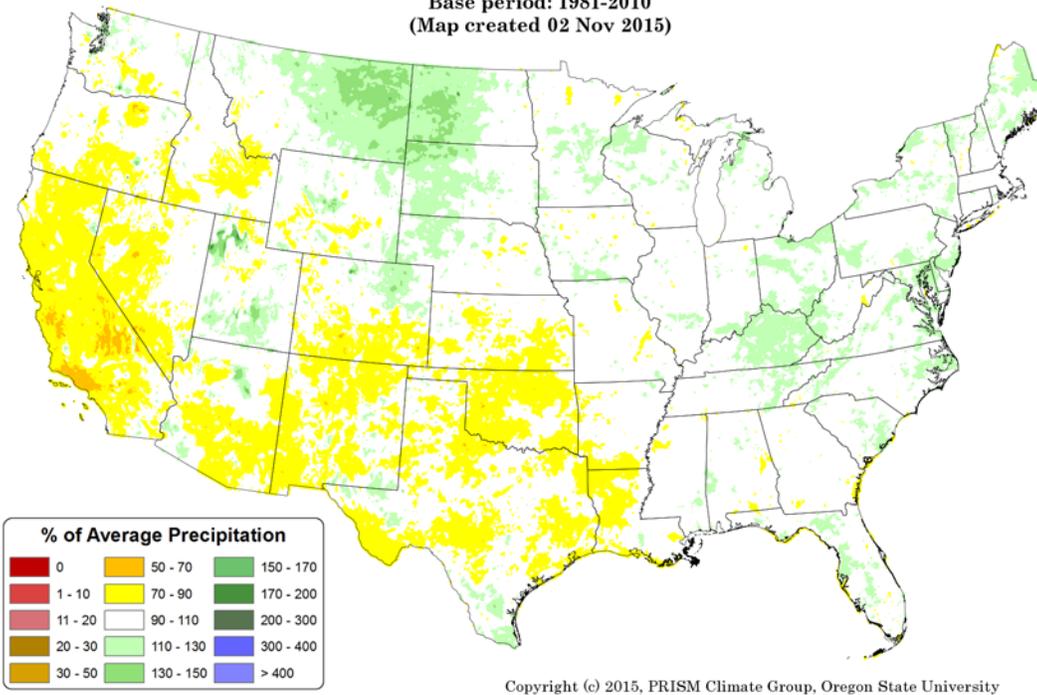
**Past 2 Years of Precipitation % of Average:**

**Total Precipitation Anomaly: November 2013 - October 2015**  
Period ending 7 AM EST 31 Oct 2015  
Base period: 1981-2010  
(Map created 02 Nov 2015)

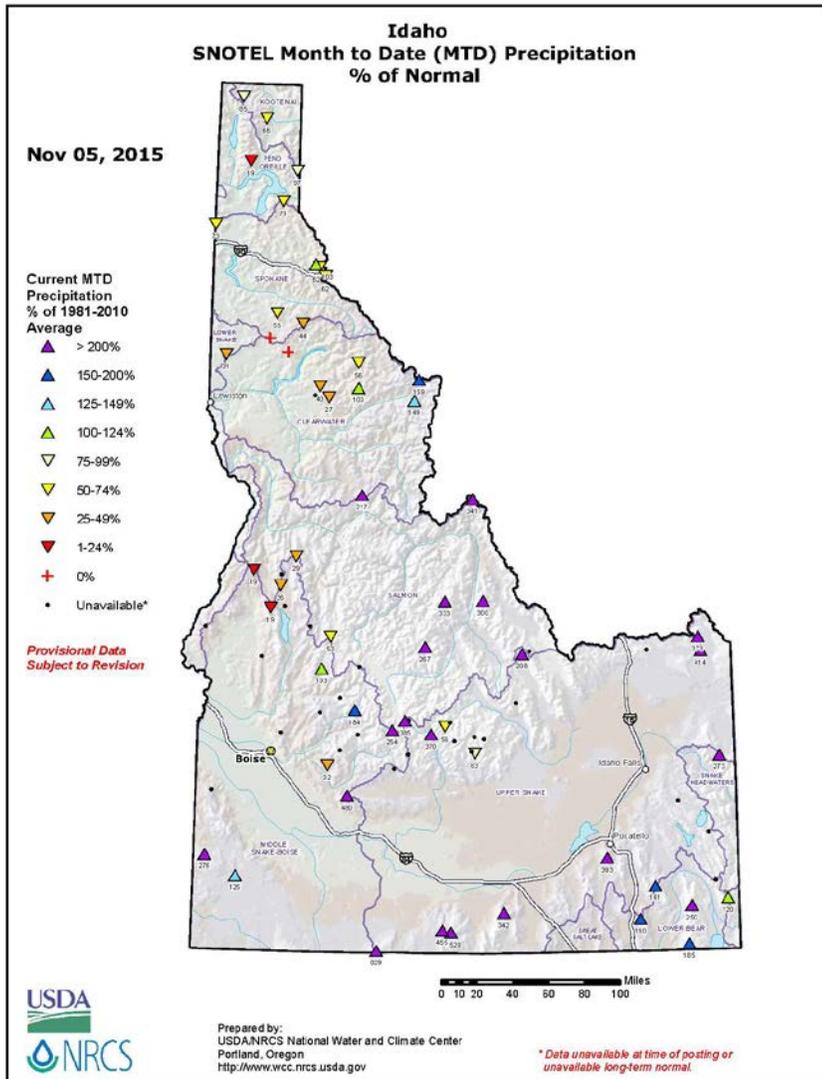


**Past 6 Years of Precipitation % of Average:**

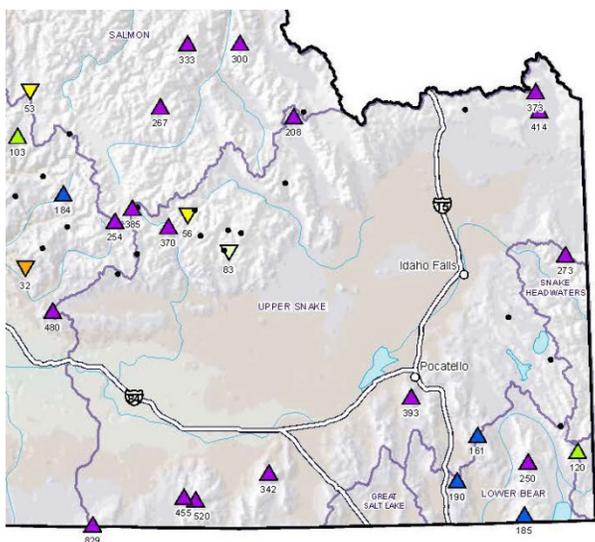
**Total Precipitation Anomaly: November 2009 - October 2015**  
Period ending 7 AM EST 31 Oct 2015  
Base period: 1981-2010  
(Map created 02 Nov 2015)



[prism.oregonstate.edu/comparisons/drought.php](http://prism.oregonstate.edu/comparisons/drought.php)



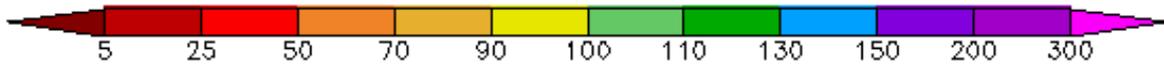
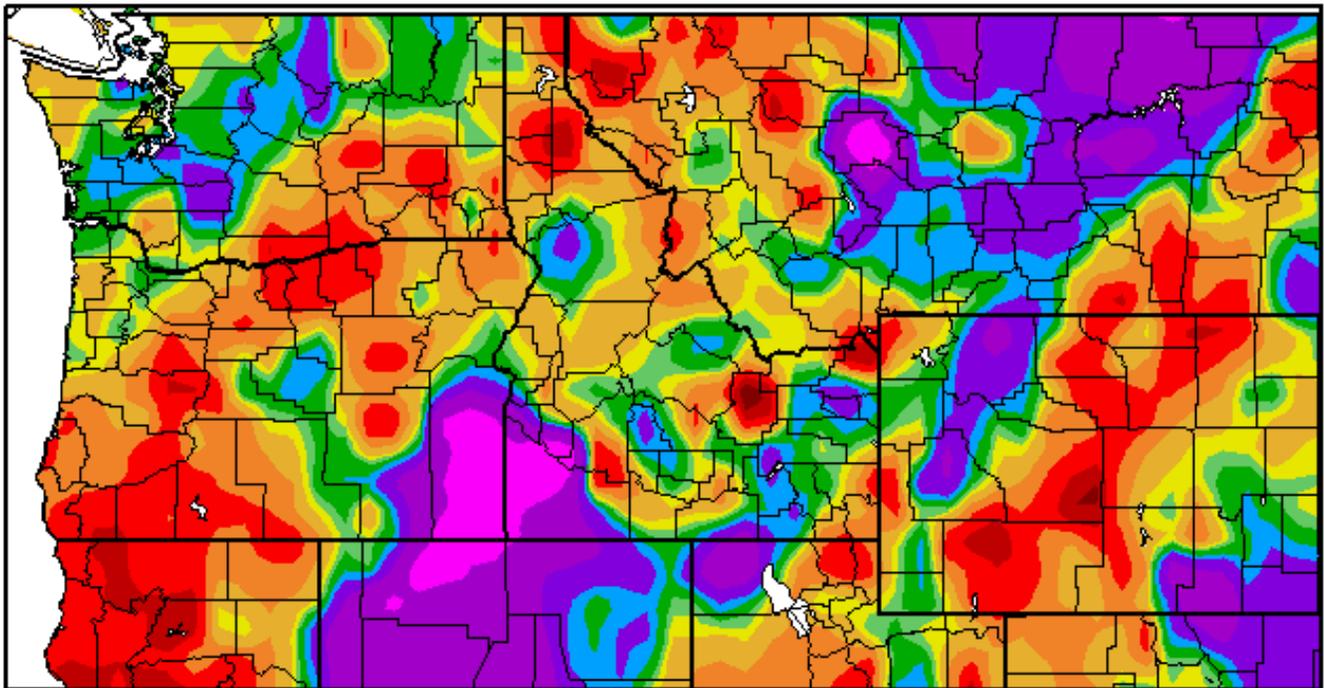
[wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id\\_mtdprecptnormal.pdf](http://wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecptnormal.pdf)



**SNOTEL MTD % of Normal  
Precipitation for end of October 2015**  
(image is cropped from above image)

October kept the generally warmer than normal trend going, but we received greater than normal precipitation in the Henrys Fork and Snake River plain-even into southwestern Idaho!! Across the HSA, the majority of the area received near normal precipitation last month with some areas getting well over 200%. Both the Bear River and Lost River Basins were dry, but much needed precipitation fell in a small portion of the central mountains and surprisingly the Snake River plain. The majority of the Pacific Northwest was generally dry last month, but areas of MT, ID, OR, NV, UT and WY received much needed above average moisture. In Idaho the benefitting counties for precipitation were: Jefferson, Madison, Teton, Bingham, Power and southern Cassia.

## Percent of Normal Precipitation (%) 10/1/2015 – 10/31/2015

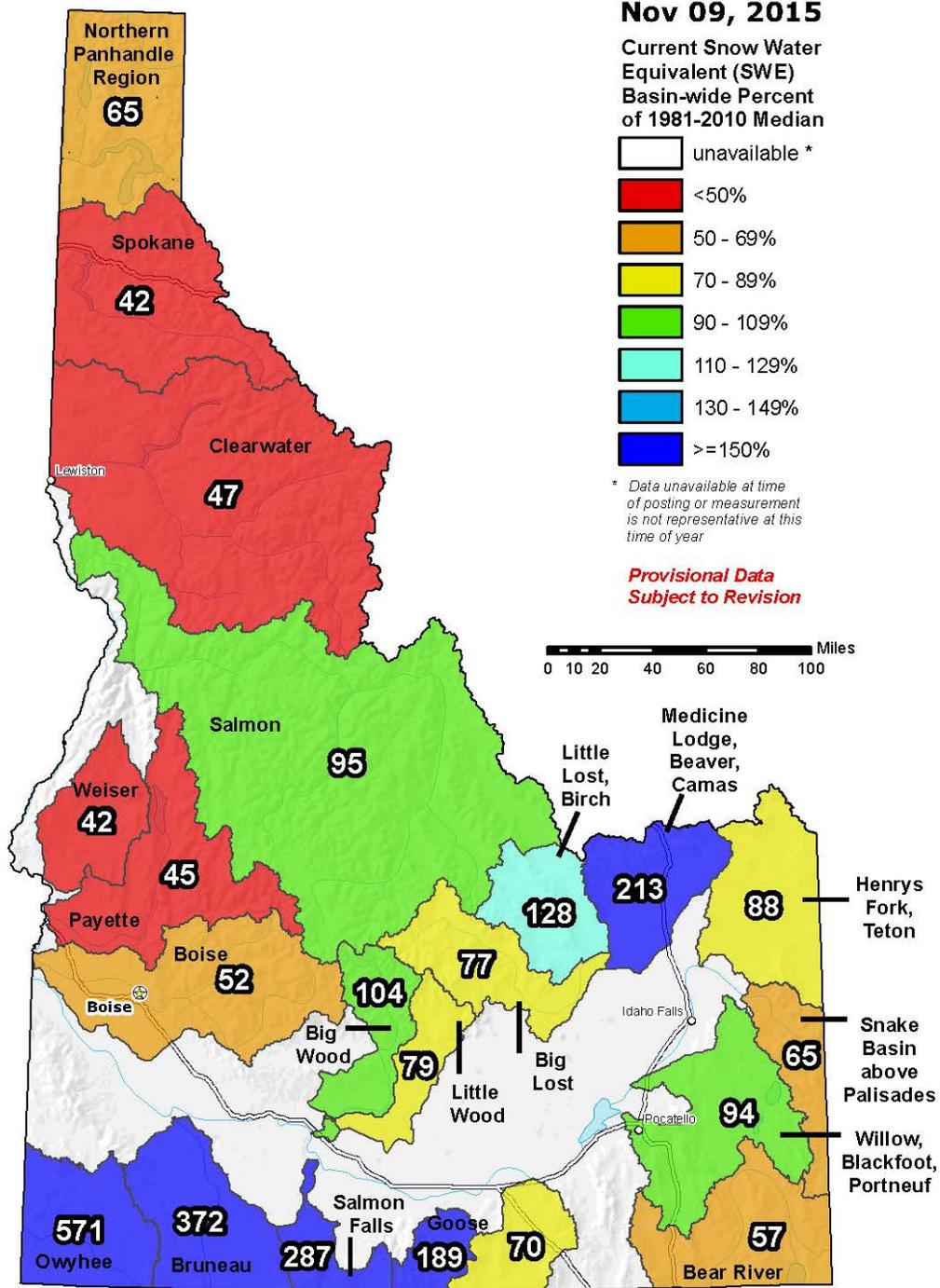


Generated 11/5/2015 at HPRCC using provisional data.

Regional Climate Centers

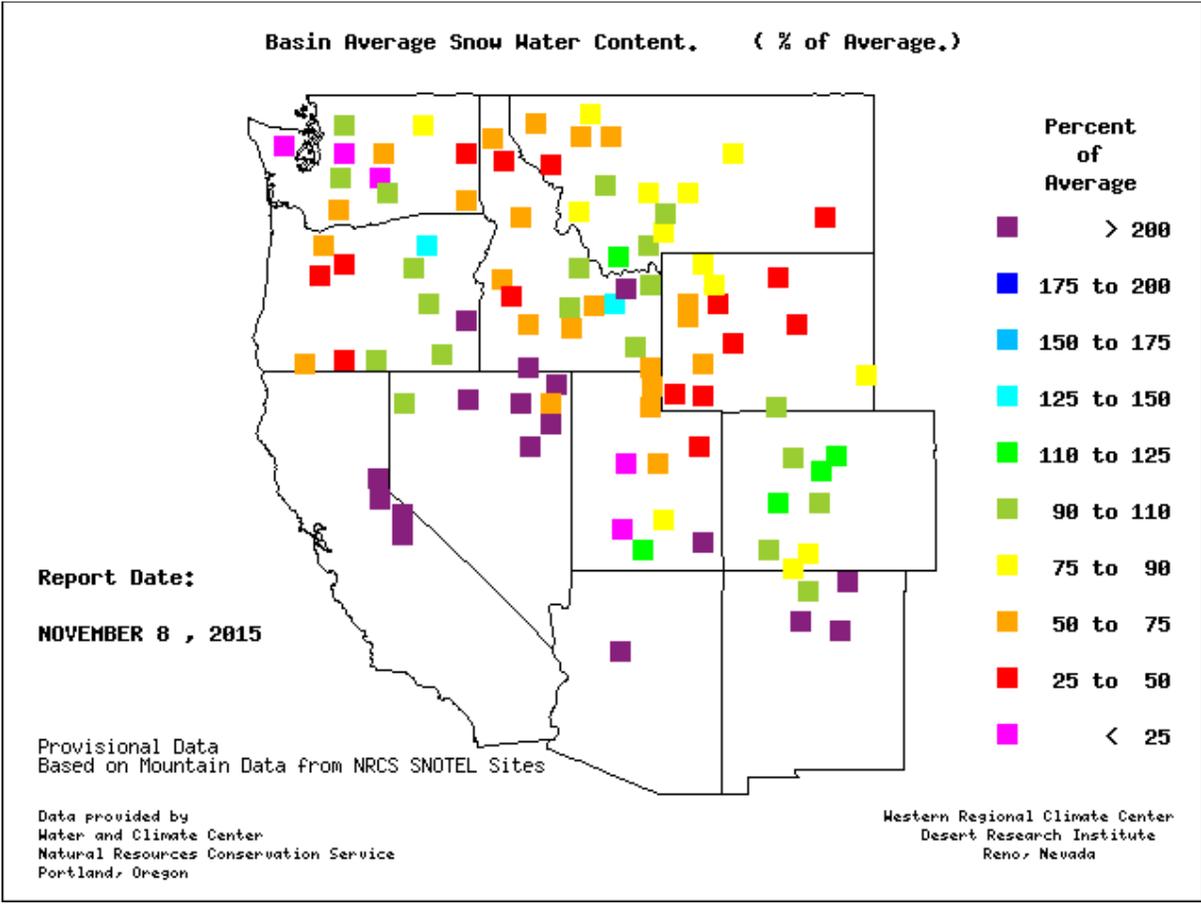
[hprcc.unl.edu/maps.php?map=ACISClimateMaps](http://hprcc.unl.edu/maps.php?map=ACISClimateMaps)

# Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal

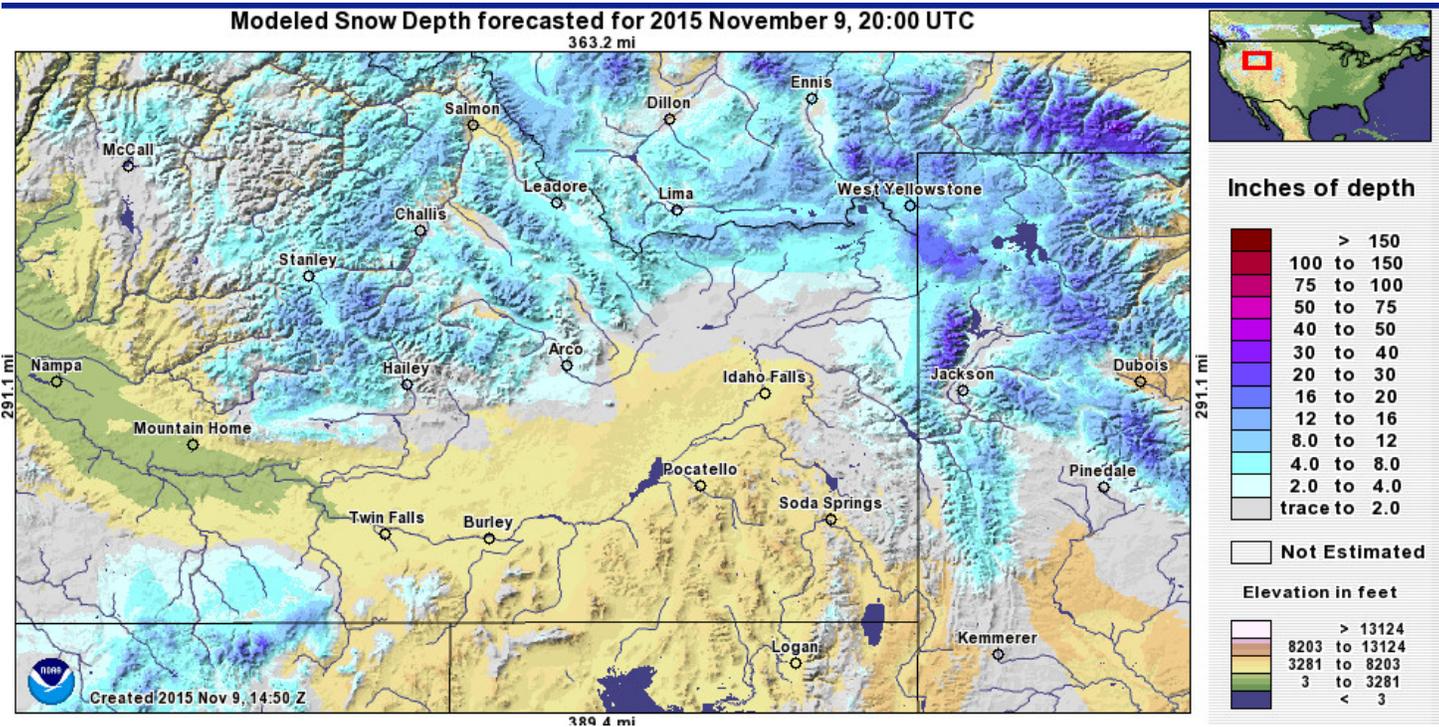


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



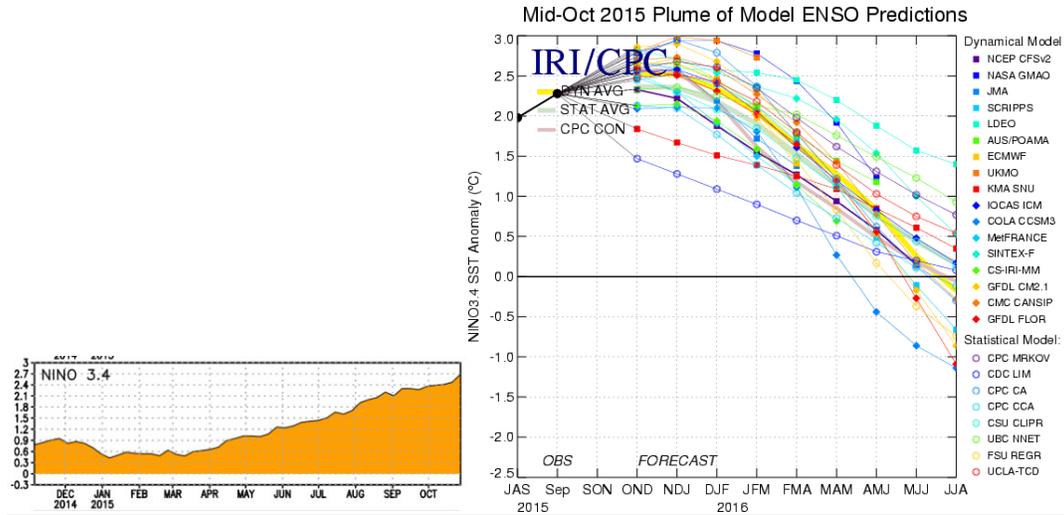
[wrcc.dri.edu/snotelanom/basinswe.html](http://wrcc.dri.edu/snotelanom/basinswe.html)



[nohrc.noaa.gov/interactive/html/map.html](http://nohrc.noaa.gov/interactive/html/map.html)

**ENSO Update:**

**Latest Observed SST Departure: Niño 3.4 ~ 2.7 Deg C**



[cpc.ncep.noaa.gov](http://cpc.ncep.noaa.gov), [iri.columbia.edu/climate/ENSO](http://iri.columbia.edu/climate/ENSO) and [cpc.ncep.noaa.gov/products/analysis\\_monitoring/enso\\_advisory/ensodisc.pdf](http://cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf)

**CPC Synopsis:** El Niño conditions continue. There is a greater than a 95% chance that El Niño conditions continue in the Northern Hemisphere for winter 2015-16 and gradually weakening in the spring.

**Note:** Positive equatorial sea surface temperature (SSTs) anomalies continue across most of the Pacific Ocean. MJO indices indicate a strengthening signal during the past week. The Pacific Decadal Oscillation (PDO) is currently positive.

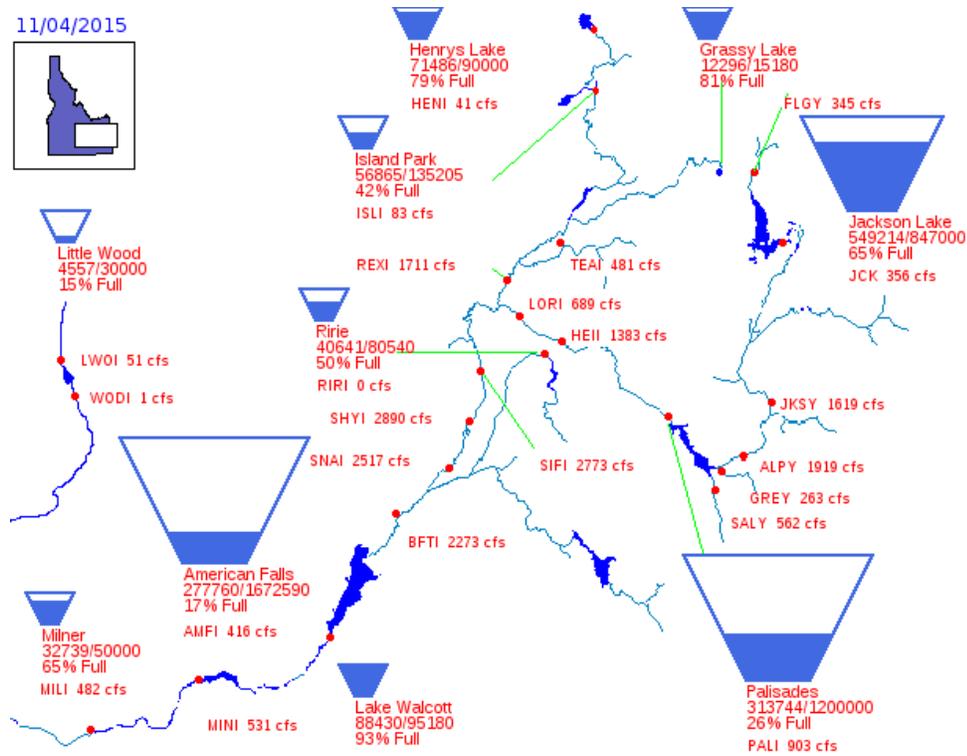
**Reservoirs:**

Reservoir	% Capacity September 30 <sup>1</sup>	% Capacity October 31 <sup>2</sup>	Percent Change	% of Average <sup>2</sup>	% of Average Last Year <sup>2</sup>
Jackson Lake	66	64	-2	133	156
Palisades	39	36	-3	65	101
Henrys Lake	82	78	-4	92	112
Island Park	32	40	8	75	110
Grassy Lake	79	81	2	109	106
Ririe	52	50	-2	114	115
Blackfoot	NA	44	NA	93	90
American Falls	7	14	7	45	85
Mackay	14	20	6	89	139
Little Wood	7	14	7	51	50
Magic	8	10	2	35	42
Oakley	10	10	0	49	67
Bear Lake	37	36	-1	79	86
Lake Walcott	94 <sup>3</sup>	93 <sup>4</sup>	-1	n/a	n/a
Milner	70 <sup>3</sup>	65 <sup>4</sup>	-5	n/a	n/a

**Source:** (1) NRCS September 30, 2015; (2) NRCS October 31, 2015. (3) US Bureau of Reclamation (BOR) October 12, 2015 (4) BOR November 4, 2015

[wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes\\_11\\_2015.pdf](http://wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_11_2015.pdf)

11/04/2015

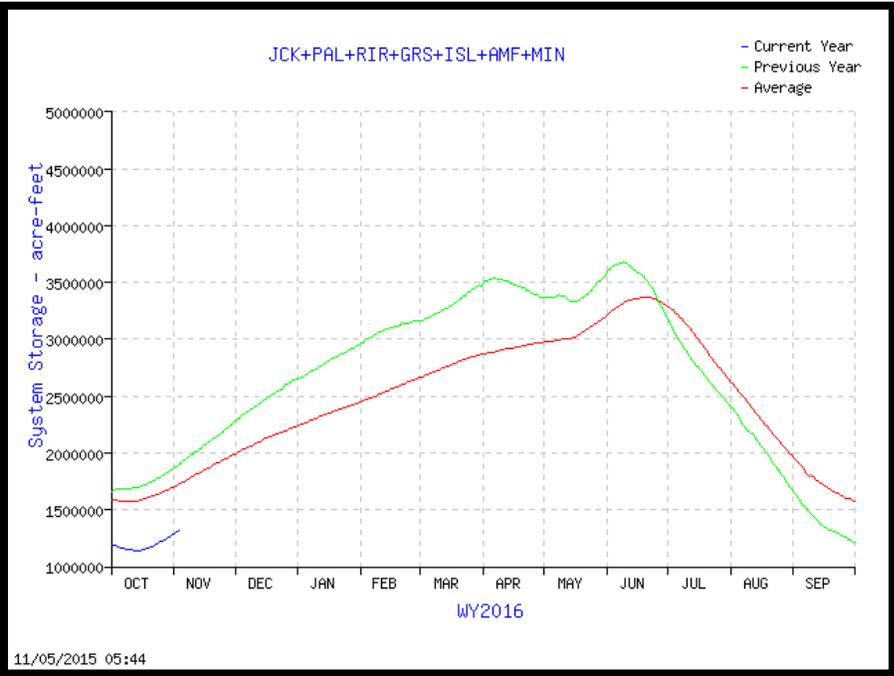


**33% of Capacity  
in Upper Snake  
River System**  
(Jackson Lake, Palisades,  
Grassy Lake, Island Park,  
Ririe, American Falls &  
Lake Walcott)

[usbr.gov/pn/hydromet/burtea.html](http://usbr.gov/pn/hydromet/burtea.html)

**Upper Snake River:**  
**Total Space Available: 2,706,745 AF**  
**Total Storage Capacity: 4,045,695 AF**

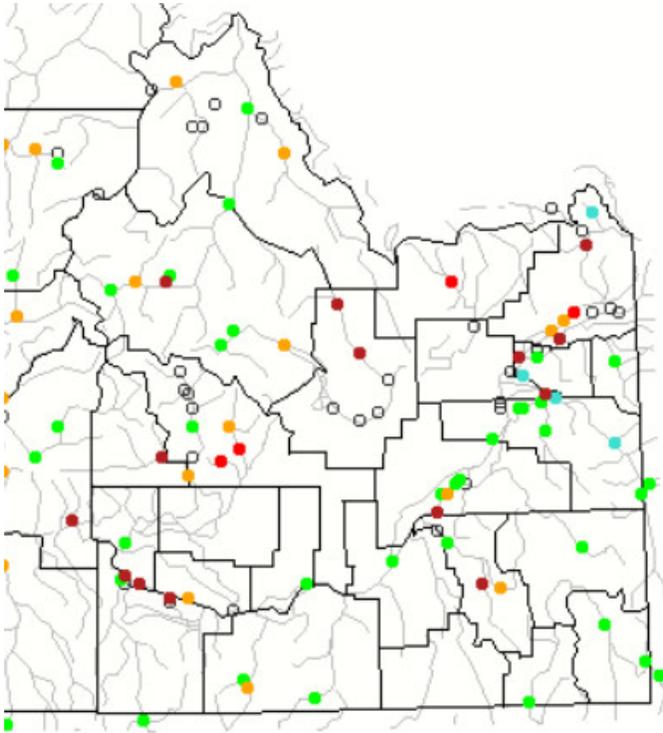
**Graph of Upper Snake River  
Current Total System Reservoir  
Storage**



[usbr.gov/pn-bin/graphwy2.pl?snasys\\_af](http://usbr.gov/pn-bin/graphwy2.pl?snasys_af)

**Streamflow:**

Monthly average streamflow compared to historical average streamflow for October 2015.



[waterwatch.usgs.gov/?m=mv01d&r=id&w=map](http://waterwatch.usgs.gov/?m=mv01d&r=id&w=map)

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

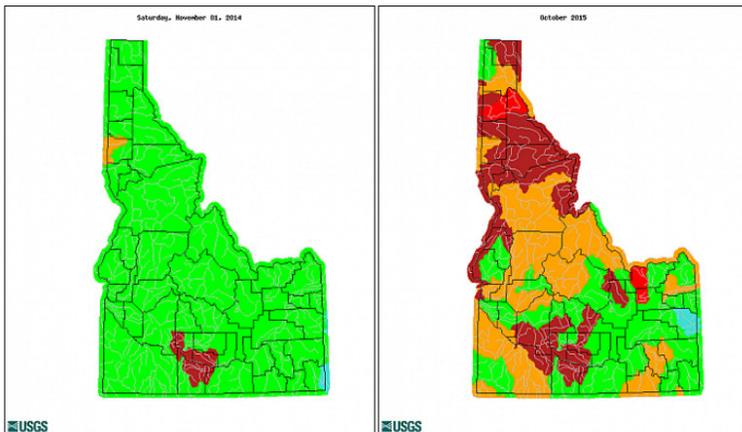
**Comparison of Streamflow Maps**

Geographic area:  Water resource region:  GO

Map type:  Sub type:

Date (YYYYMM):

Date (YYYYMM):



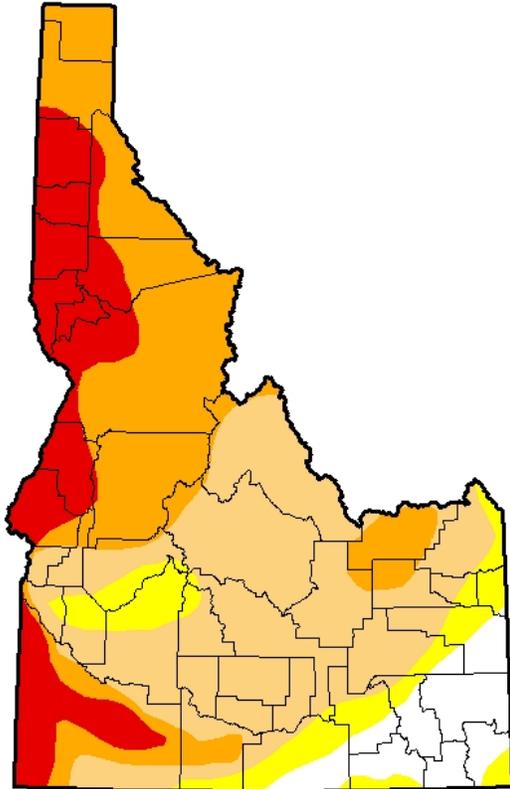
[waterwatch.usgs.gov/index.php](http://waterwatch.usgs.gov/index.php)

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

**Drought Information:**

**U.S. Drought Monitor  
Idaho**

**November 3, 2015**  
(Released Thursday, Nov. 5, 2015)  
Valid 7 a.m. EST



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	8.63	91.37	82.14	45.42	16.84	0.00
<b>Last Week</b> <i>10/27/2015</i>	8.51	91.49	82.14	45.42	28.49	0.00
<b>3 Months Ago</b> <i>8/4/2015</i>	0.00	100.00	86.63	51.71	22.20	0.00
<b>Start of Calendar Year</b> <i>1/23/2014</i>	23.76	76.24	41.73	18.49	3.40	0.00
<b>Start of Water Year</b> <i>9/29/2015</i>	0.00	100.00	85.59	47.55	29.26	0.00
<b>One Year Ago</b> <i>11/4/2014</i>	21.43	78.57	44.17	20.01	3.53	0.00

*Intensity:*

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

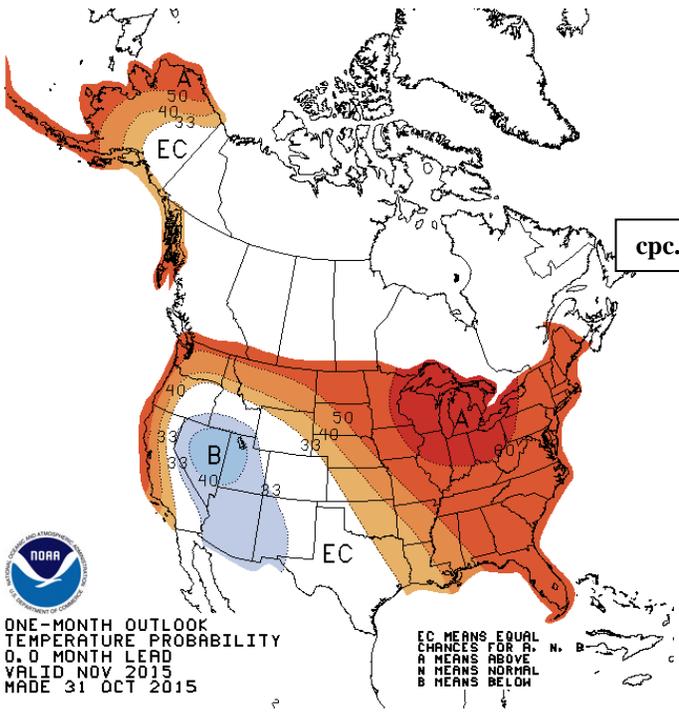
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**

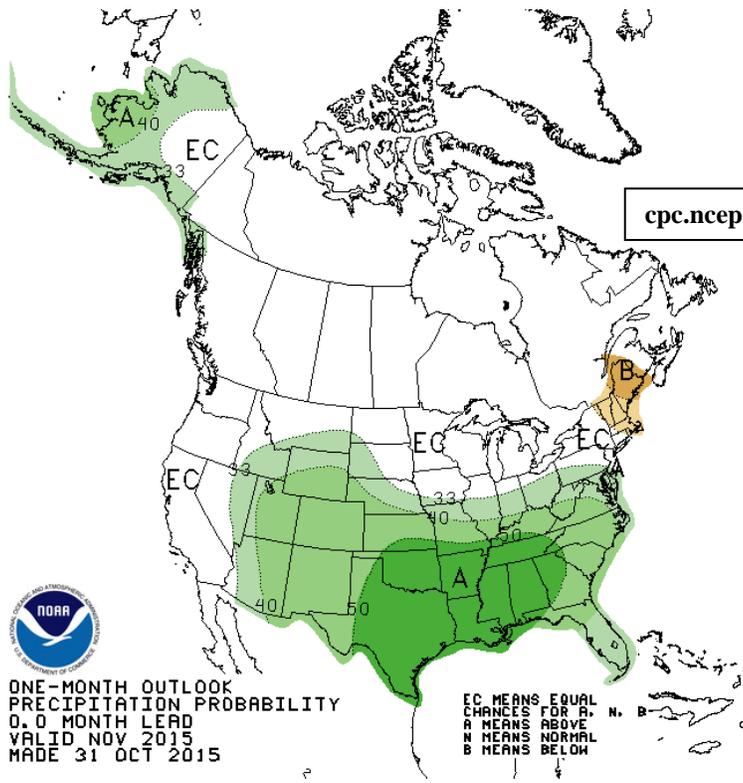
David Miskus  
NOAA/NWS/NCEP/CPC



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



[cpc.ncep.noaa.gov/products/predictions/30day/off15\\_temp.gif](http://cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif)

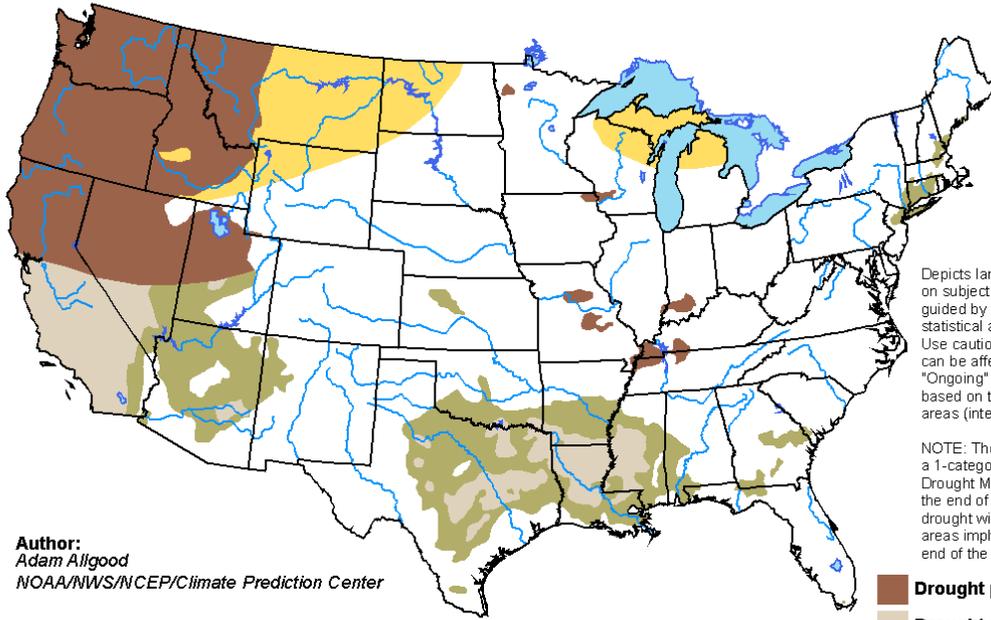


[cpc.ncep.noaa.gov/products/predictions/30day/off15\\_prpc.gif](http://cpc.ncep.noaa.gov/products/predictions/30day/off15_prpc.gif)

# U.S. Seasonal Drought Outlook

## Drought Tendency During the Valid Period

Valid for October 15 - January 31, 2016  
Released October 15, 2015



Author:  
Adam Allgood  
NOAA/NWS/NCEP/Climate Prediction Center

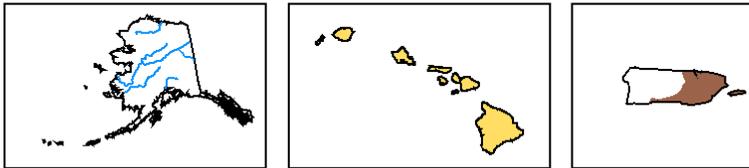
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to D4).

NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

- Drought persists/intensifies
- Drought remains but improves
- Drought removal likely
- Drought development likely



<http://go.usa.gov/3eZ73>



[cpc.ncep.noaa.gov/products/expert\\_assessment/season\\_drought.png](http://cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png)

- cc:
- Mike Schaffner, Western Region HCSD
  - Joe Intermill, Hydrologist-in-Charge, Northwest River Forecast Center
  - Steve King, Development and Operations Hydrologist, Northwest River Forecast Center
  - Michelle Stokes, Hydrologist-in-Charge, Colorado Basin River Forecast Center
  - Greg Smith, Acting Service Coordination Hydrologist, Colorado Basin River Forecast Center
  - John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center
  - Hydrometeorological Information Center
  - Dean Hazen, Meteorologist-in-Charge, Pocatello, Idaho
  - Dawn Harmon, Acting Science and Operations Officer, Pocatello, Idaho
  - Vern Preston, Warning Coordination Meteorologist, Pocatello, Idaho
  - Troy Lindquist, Senior Service Hydrologist, Boise, Idaho
  - Brian McInerney, Senior Service Hydrologist, Salt Lake City, Utah
  - Kevin Berghoff, Senior Hydrologist, Northwest River Forecast Center
  - Taylor Dixon, Hydrologist, Northwest River Forecast Center
  - Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
  - PIH Mets/HMT's (pih.ops)

End  
cbl