

<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> 2014
<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 14, 2014	
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:**

The new water year began fairly dry across the Hydrologic Service Area (HSA). October brought about three widespread precipitation events, but not a lot of rainfall came with those events. With these events very little snow fell in the mountains, and what did come late in the month, fell in the highest elevations.

Again, last month brought very dry conditions with about 5 to 25% of normal precipitation falling across southeastern Idaho with the largest deficit in Oneida and Franklin counties where less than 5% of normal precipitation fell. To start the new water year, we are mostly about 2 inches in deficit in the higher elevations.

October brought an average of around a half an inch to an inch of precipitation within the mid to higher elevations and about two inches in the central mountains within the HSA according to AHPS data. The temperature departure from normal for October shows that across the HSA, temperatures were mostly 1 to 3 degrees F above normal within the upper Snake River plain and 3-6 degrees above normal in the higher elevations.

As far as the short-term 8-14 day Climate Prediction Center Outlook is concerned, the forecast is for near normal temperatures in eastern Idaho with a warming trend as you head west. For the three-month outlook, we stand to have a 33 to 40% chance of above normal temperatures in eastern Idaho and warming up as you head west. For precipitation, the short-term forecast is near normal across most of Idaho and a 33-40% chance of below normal precipitation falling over eastern Idaho for the three-month outlook.

Of the data available for the month, the station within the HSA reaching the highest 24-hour temperature (non-SNOTEL) were the Shoshone 1 WNW and Minidoka Dam COOP stations which reached 83°F on the 8<sup>th</sup> and 21<sup>st</sup> respectively. The station with the lowest recorded temperature was the Island Park COOP station at 14°F on October 28<sup>th</sup>. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Ashton COOP where 1.28 inch fell on the 1<sup>st</sup>. The highest recorded precipitation total (non-SNOTEL) occurred at the Soda Springs 0.3 W CoCoRaHS where 1.60 total inches was recorded. The Mill Creek Summit SNOTEL station received the most snowfall which was 2.00 inches of precipitation total for the month.

Reservoirs last month increased capacity overall by around 8% in the upper Snake River basin system (an increase of about 323 KAF occurred over the month and is currently sitting at 50% of capacity overall).

Compared to last year at this time, it was about 20% of capacity. NRCS reservoir data is not available, but according to U.S. Bureau of Reclamation data, the most notable increases were American Falls storing 15%, Little Wood Reservoir increasing 10% of capacity and Island Park storing 9% for the month. The October 31<sup>st</sup> storage carryover was the fourth highest in the past 15 years for the upper Snake River Reservoir system, only the years 2006, 2009, and 2011 had more carryover at the end of the irrigation year.

Current streamflow conditions in eastern Idaho are mostly near normal for monthly streamflows for the majority of the unregulated streams (see graphic below).

Drought conditions across eastern Idaho have improved slightly since last month. The upper Snake region including Clark, Butte, Jefferson and Bingham and parts of Bannock and Caribou counties have improved as well. Currently, 20 percent and 44 percent of the state is in Severe and Moderate drought respectively. The U.S. Seasonal Drought Outlook continues to forecast drought to persist/intensify across the central mountains and middle Snake River plain where the extreme eastern Idaho and southeast counties are excluded from the outlook.

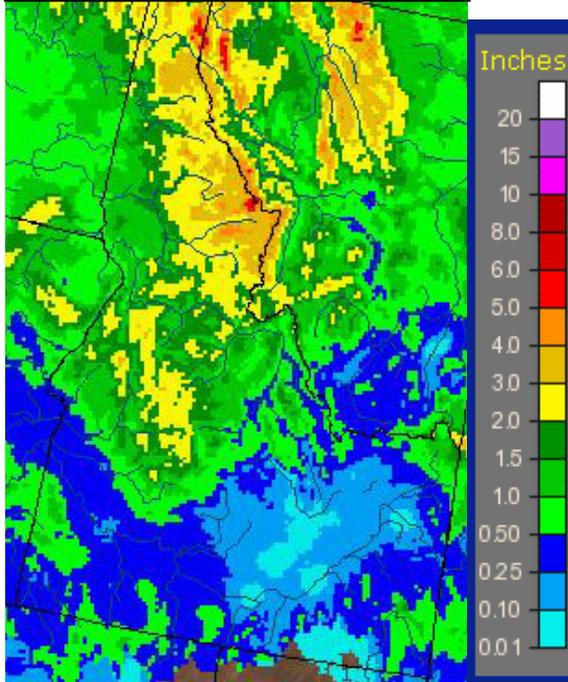
The Idaho NRCS Snow Survey November 1<sup>st</sup> Idaho Surface Water Supply Index (SWSI) was not available this month.

The Idaho Water Year 2014 CoCoRaHS precipitation totals are in. Of the 19 reporting stations in eastern Idaho, the top five that received the most precipitation were:

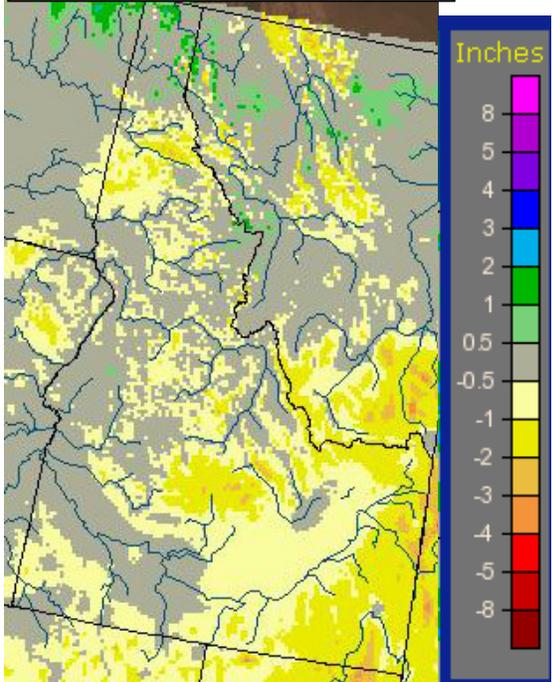
<b>Station Name</b>	<b>Total Prcp Sum</b>	<b>Days With Prcp</b>	<b>Total Snowfall</b>	<b>Days With Snowfall</b>	<b>Days With Snow On Ground</b>	<b>Elevation</b>
Soda Springs 0.3 W	20.13	121	56.2	49	73	5806
Preston 0.8 SE	16.64	86	29.5	18	2	4711
Holbrook 4.0 NNE	15.91	64	31	16	41	4897
Rexburg 0.7 W	15.7	68	21.2	10	13	4860
Idaho Falls 11.7 NE	15.51	111	41.9	37	89	4880

**Precipitation:**

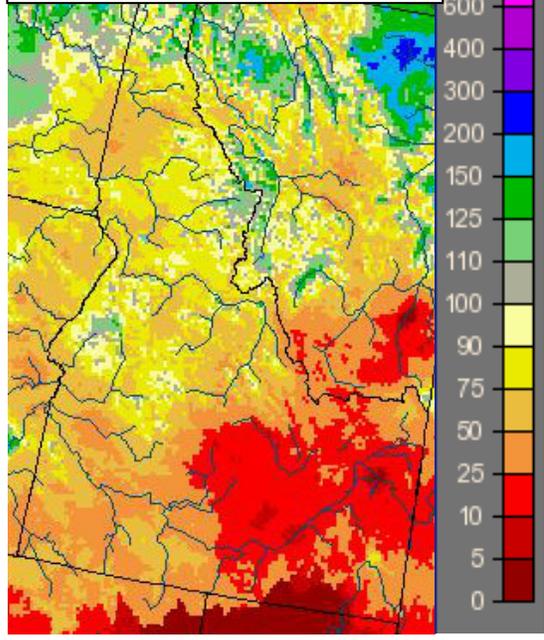
October 2014, Observed Precipitation



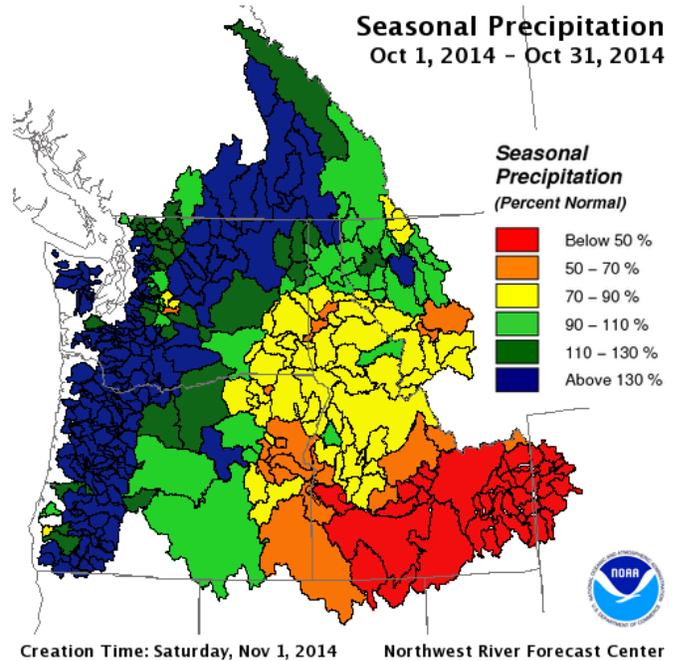
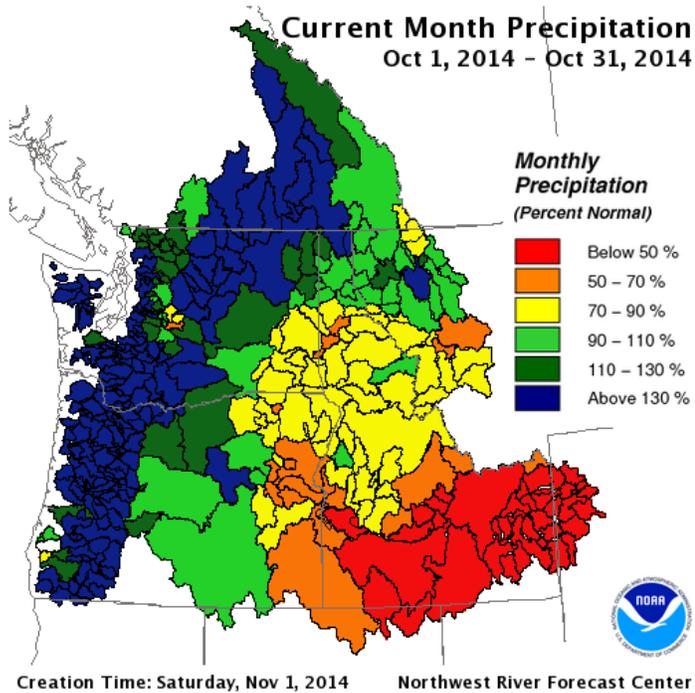
October 2014, Departure from Normal Precipitation



October 2014, Percent of Normal Precipitation



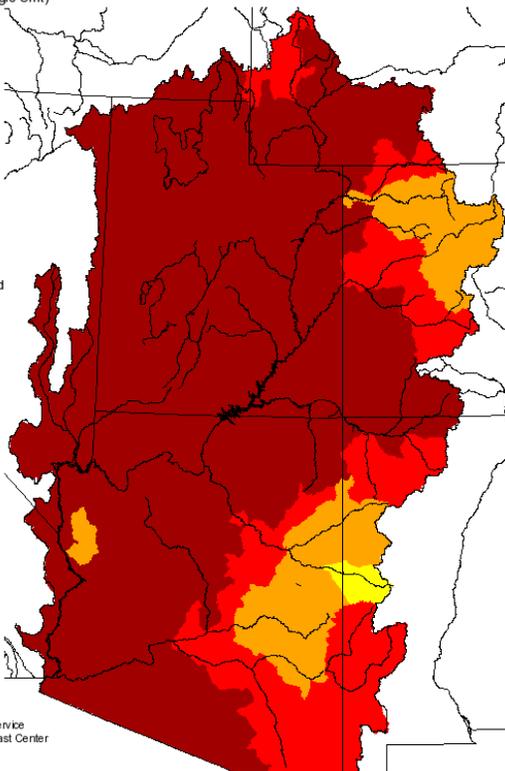
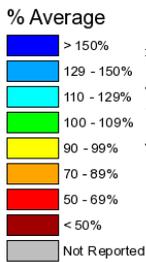
[water.weather.gov/precip/index.php](http://water.weather.gov/precip/index.php)



[nwrfc.noaa.gov/WAT\\_RES\\_wy\\_summary/20141101/CurMonMAP\\_2014Oct31\\_2014110115.png](http://nwrfc.noaa.gov/WAT_RES_wy_summary/20141101/CurMonMAP_2014Oct31_2014110115.png)

[nwrfc.noaa.gov/WAT\\_RES\\_wy\\_summary/20141101/SeasonalMAP\\_2014Oct31\\_2014110115.png](http://nwrfc.noaa.gov/WAT_RES_wy_summary/20141101/SeasonalMAP_2014Oct31_2014110115.png)

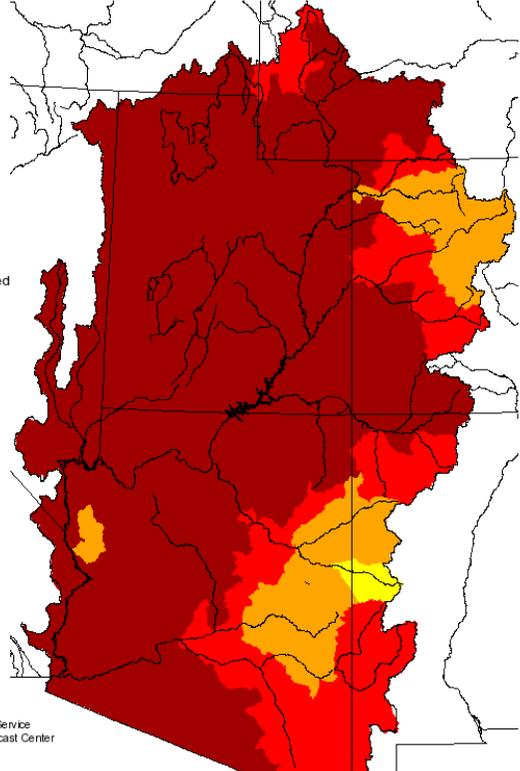
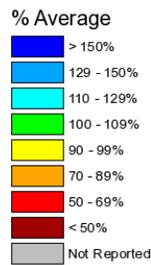
### Monthly Precipitation for October 2014 (Averaged by Hydrologic Unit)



Prepared by  
NOAA, National Weather Service  
Colorado Basin River Forecast Center  
Salt Lake City, Utah  
[www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

[cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?M?2014?10](http://cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?M?2014?10)

### Seasonal Precipitation, October 2014 - October 2014 (Averaged by Hydrologic Unit)



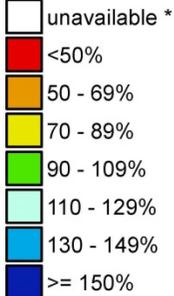
Prepared by  
NOAA, National Weather Service  
Colorado Basin River Forecast Center  
Salt Lake City, Utah  
[www.cbrfc.noaa.gov](http://www.cbrfc.noaa.gov)

[cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?S?2014?10](http://cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?S?2014?10)

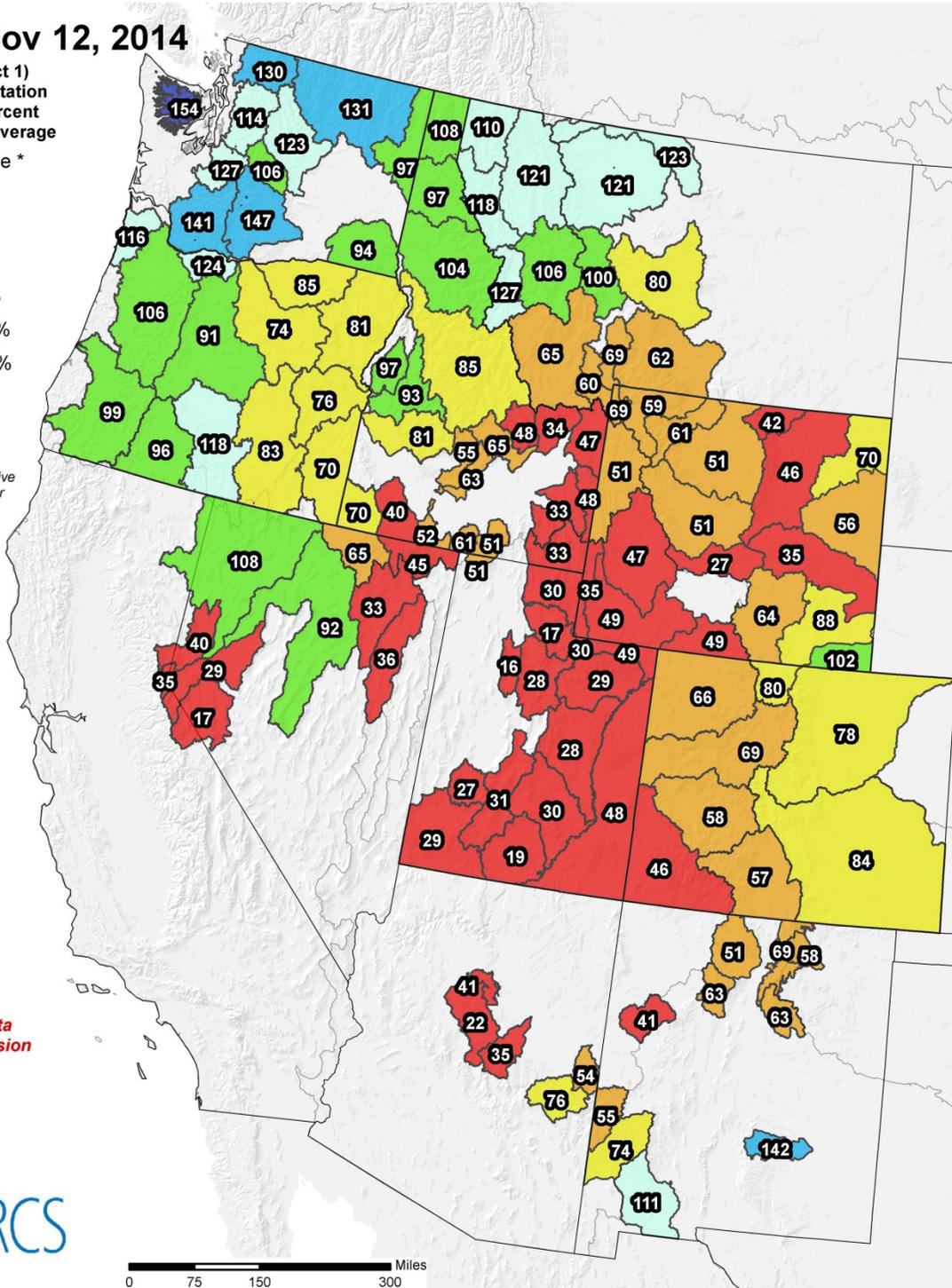
# Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Nov 12, 2014

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



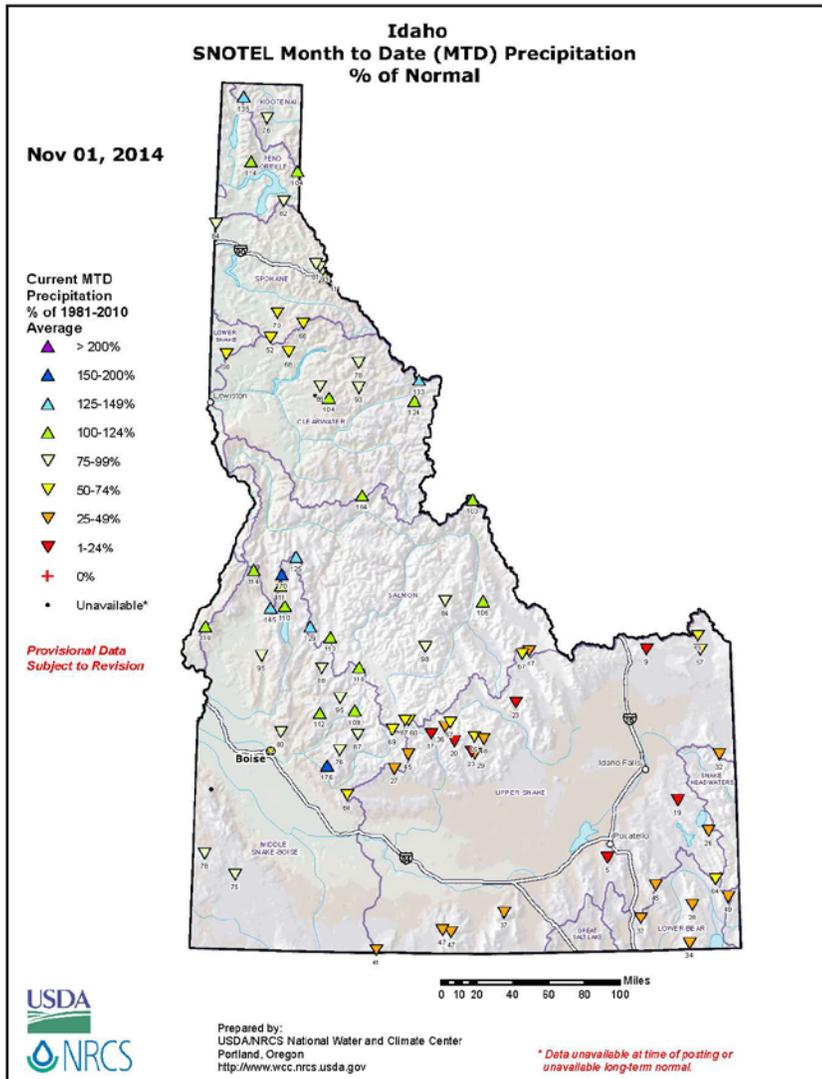
Provisional data  
subject to revision



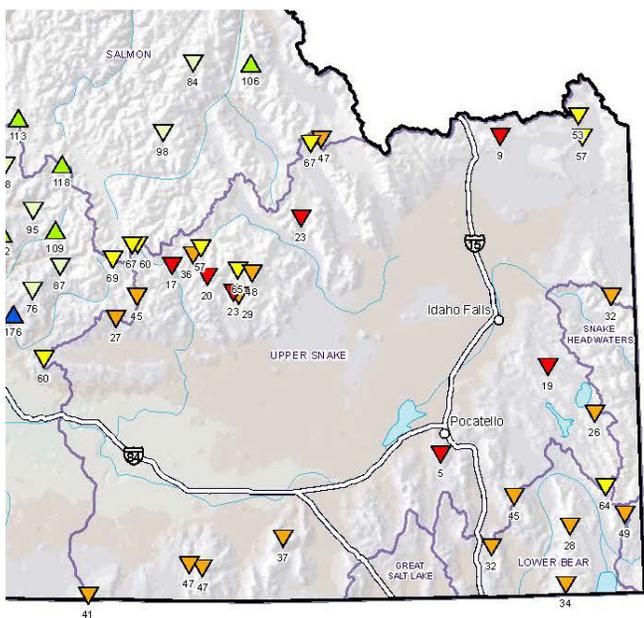
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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

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



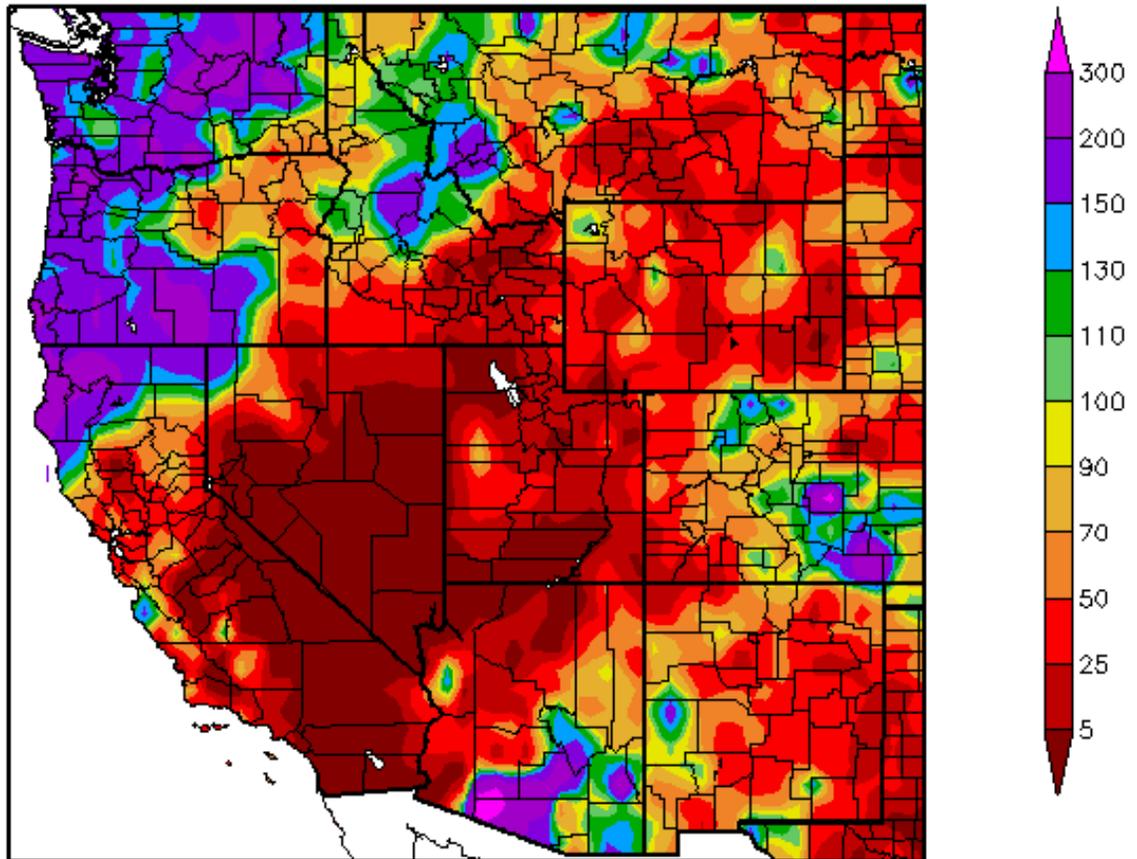
[ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/1stmonth/id/prec/id\\_mtdprecptnormal\\_Nov.pdf](ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/1stmonth/id/prec/id_mtdprecptnormal_Nov.pdf)



**SNOTEL MTD % of Normal  
Precipitation for end of October 2014**  
(image is cropped from above image)

The new 2015 water year came in with a really dry precipitation pattern. All across southern Idaho was dry including the intermountain west. The driest areas were CA, NV, UT and even southeastern Idaho. Contrary to this pattern was the Pacific Northwest which largely gained over 150 percent of normal as well as parts of the central Idaho and western Montana. The “driest” counties were Jefferson, Butte, and parts of Blaine and Cassia. The “wettest” county was Custer county with over 150 percent of Normal in the northernmost part.

## Percent of Normal Precipitation (%) 10/1/2014 – 10/31/2014



Generated 11/11/2014 at HPRCC using provisional data.

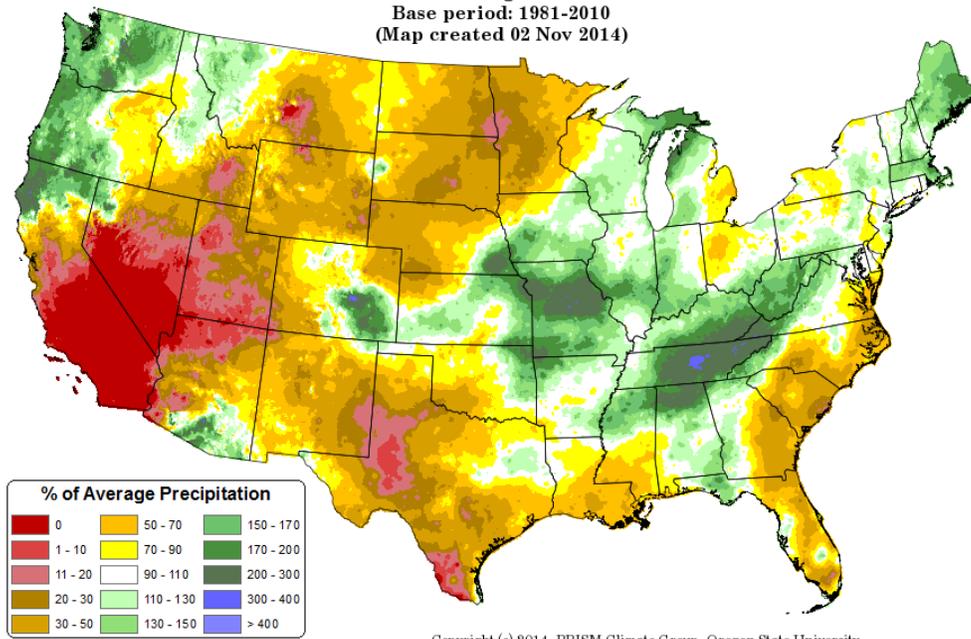
Regional Climate Centers

[hprcc.unl.edu/maps/current/index.php?action=update\\_type&map\\_type=](http://hprcc.unl.edu/maps/current/index.php?action=update_type&map_type=)

# October and September CONUS Precipitation Anomaly Comparisons:

## Total Precipitation Anomaly: October 2014

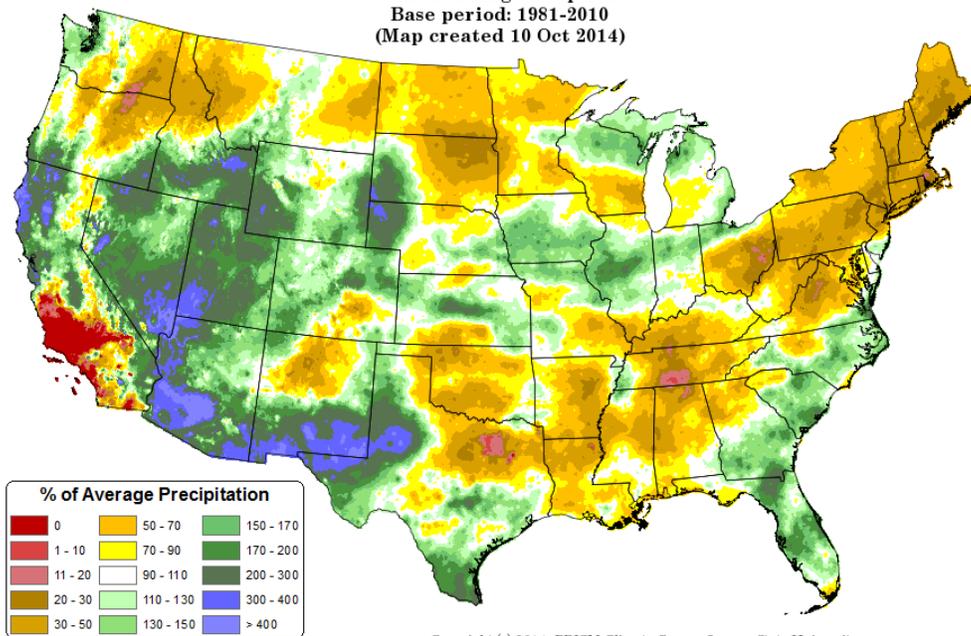
Period ending 31 Oct 2014  
Base period: 1981-2010  
(Map created 02 Nov 2014)



Copyright (c) 2014, PRISM Climate Group, Oregon State University

## Total Precipitation Anomaly: September 2014

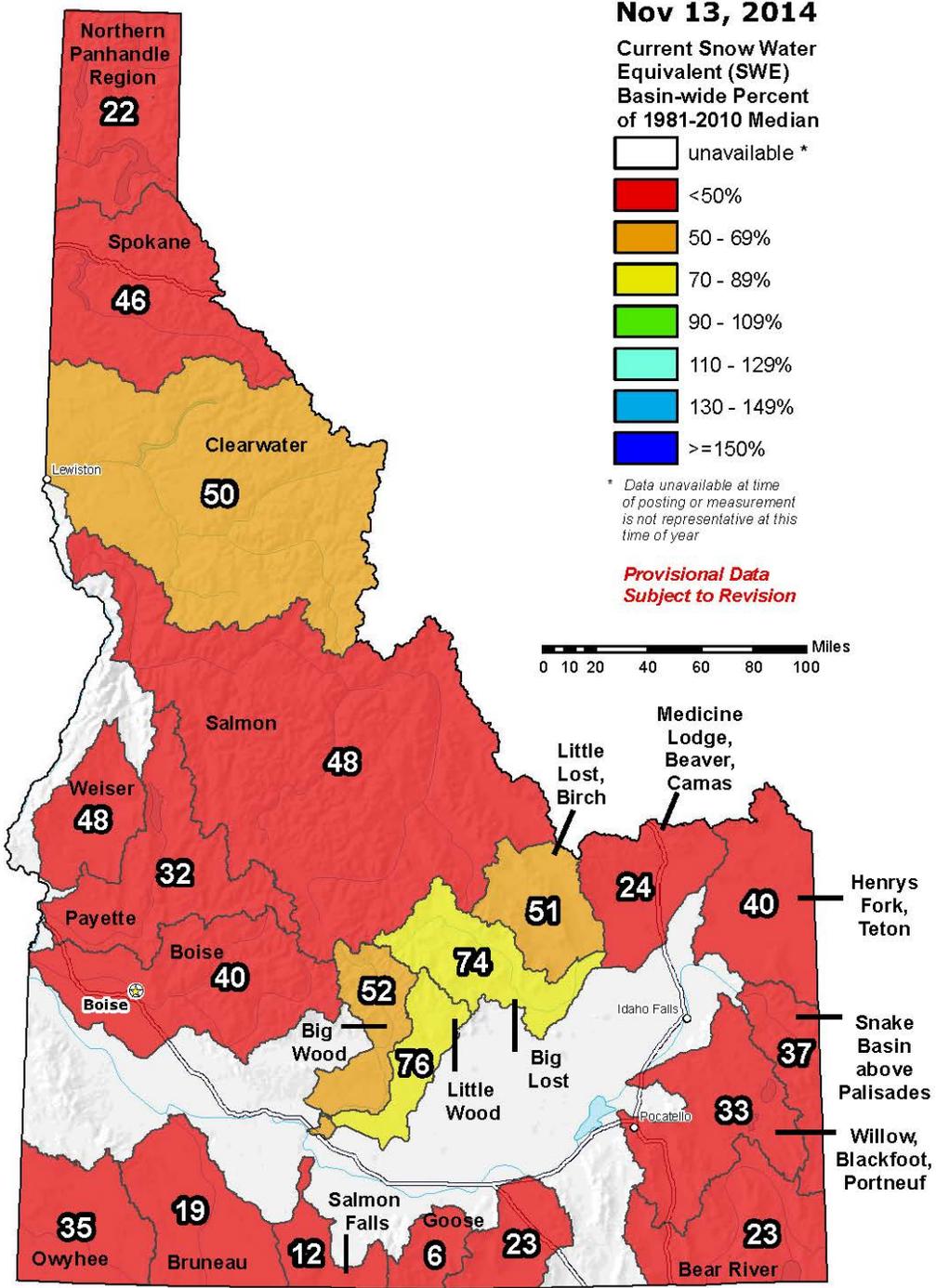
Period ending 30 Sep 2014  
Base period: 1981-2010  
(Map created 10 Oct 2014)



Copyright (c) 2014, PRISM Climate Group, Oregon State University

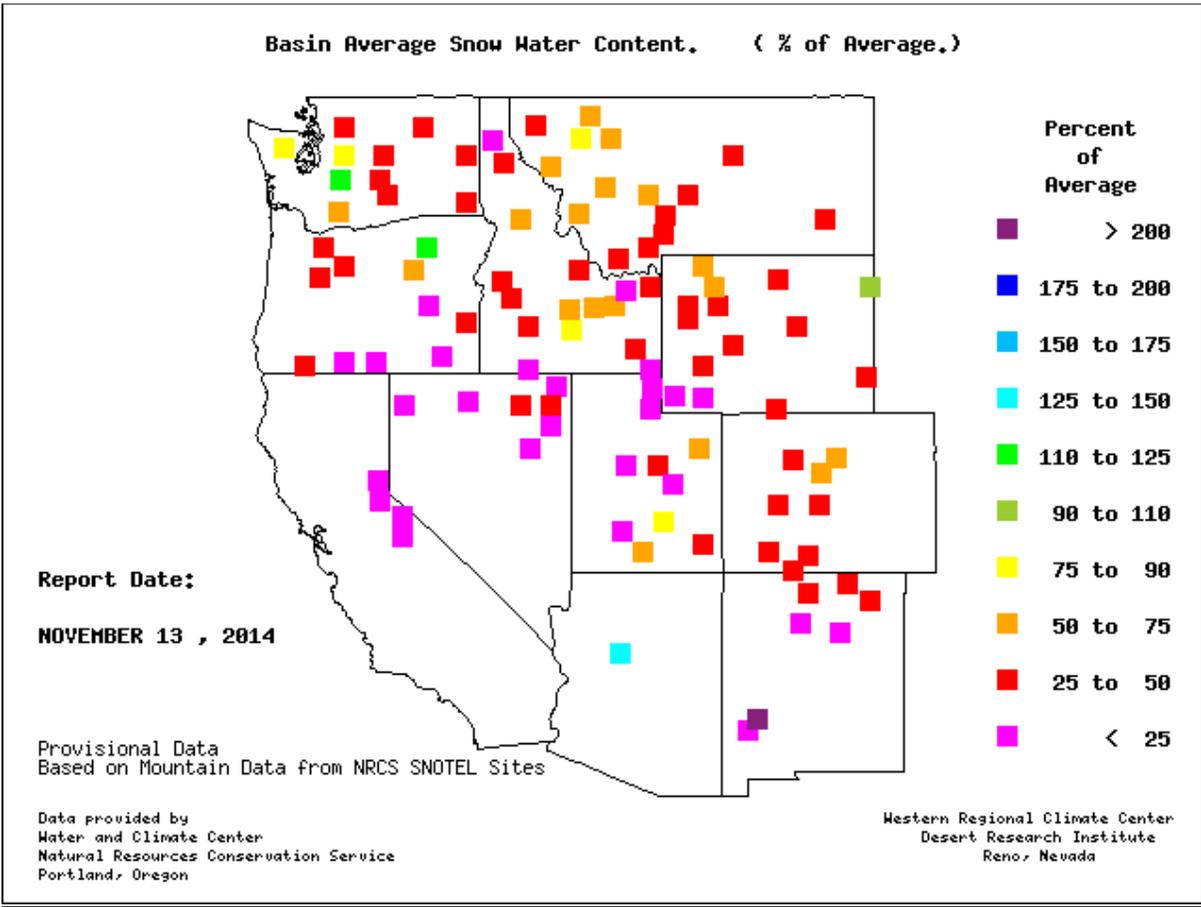
[prism.oregonstate.edu/comparisons](http://prism.oregonstate.edu/comparisons)

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

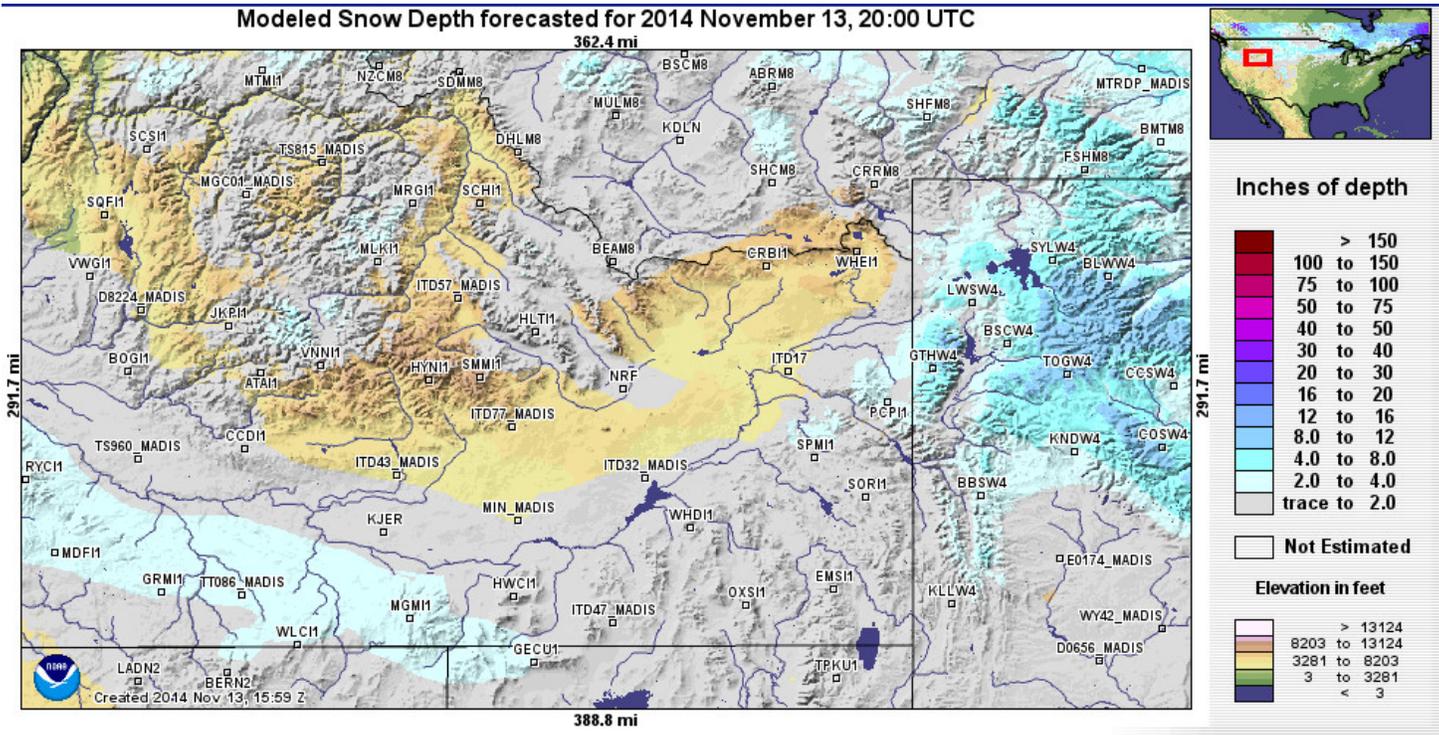


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



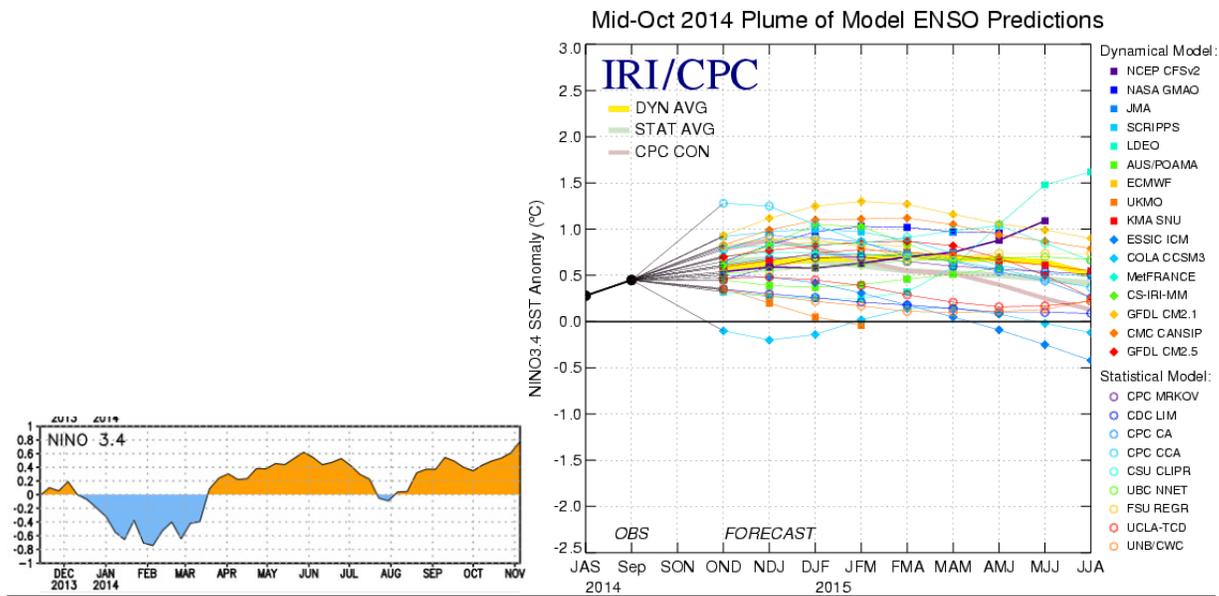
[wrcc.dri.edu/snotelanom/basinswe.html](http://wrcc.dri.edu/snotelanom/basinswe.html)



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

**ENSO Update:**

**Latest Observed SST Departure: Niño 3.4 ~ 0.8 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:** ENSO-Neutral conditions continue, an El Niño watch remains in effect with a probability of 58% chance of an El Niño pattern developing in the Northern Hemisphere for spring 2015.

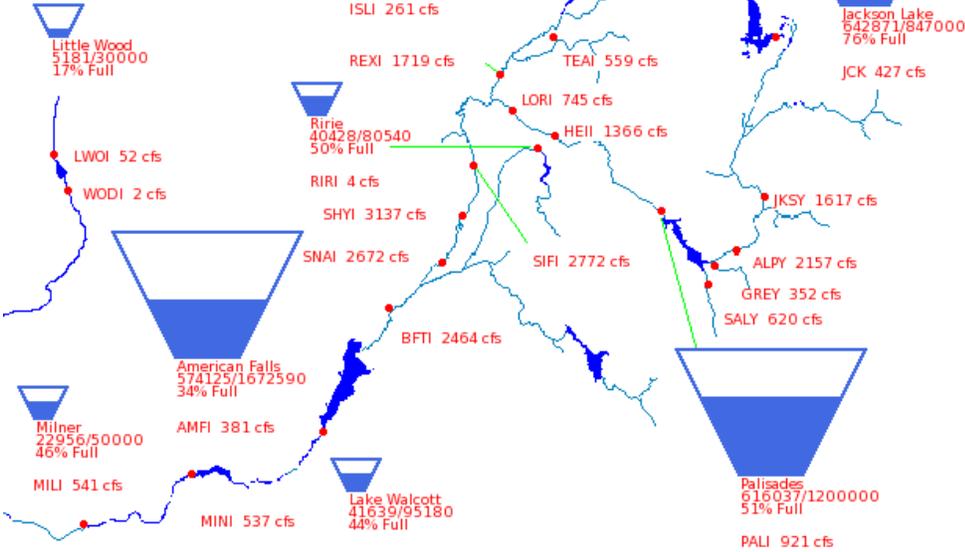
**Note:** The ENSO-Neutral climate pattern is forecast to continue in the Northern Hemisphere and transition to El Niño by Spring. Consensus is that it will be a weak pattern. Above average sea surface temperatures (SSTs) increased slightly across eastern half of the equatorial Pacific Ocean. MJO signal remains weak.

**Reservoirs:**

Reservoir	% Capacity September 30 <sup>1</sup>	% Capacity October 31 <sup>2</sup>	Percent Change	% of Average <sup>2</sup>	% of Last Year <sup>2</sup>
Henrys Lake	95	n/a	n/a	n/a	n/a
Island Park	52	n/a	n/a	n/a	n/a
Grassy Lake	77	n/a	n/a	n/a	n/a
Jackson Lake	76	n/a	n/a	n/a	n/a
Palisades	52	n/a	n/a	n/a	n/a
Ririe	64	n/a	n/a	n/a	n/a
Blackfoot	41	n/a	n/a	n/a	n/a
American Falls	17	n/a	n/a	n/a	n/a
Bear Lake	36	n/a	n/a	n/a	n/a
Magic	9	n/a	n/a	n/a	n/a
Little Wood	5	n/a	n/a	n/a	n/a
Mackay	23	n/a	n/a	n/a	n/a
Oakley	14	n/a	n/a	n/a	n/a
Lake Walcott	52 <sup>3</sup>	44 <sup>4</sup>	-8	n/a	n/a
Milner	71 <sup>3</sup>	46 <sup>4</sup>	-25	n/a	n/a

Source: (1) NRCS September 30, 2014; (2) NRCS October 31, 2014.  
 (3) US Bureau of Reclamation (BOR) October 8, 2014 (4) BOR November 11, 2014

[wcc.nrcs.usda.gov/ftpref/data/water/basin\\_reports/idaho/wy2015/bareid10.txt](http://wcc.nrcs.usda.gov/ftpref/data/water/basin_reports/idaho/wy2015/bareid10.txt)

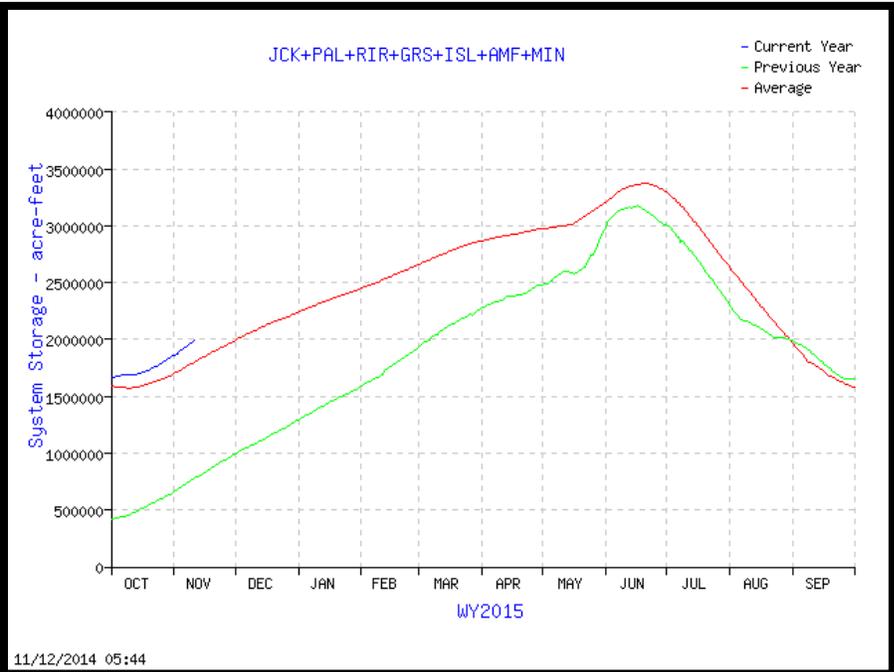


**50% of Capacity in Upper Snake River System**  
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

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

**Upper Snake River:**  
 Total Space Available: 2,034,541 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)

## Bear River Basin Current Reservoir Conditions:

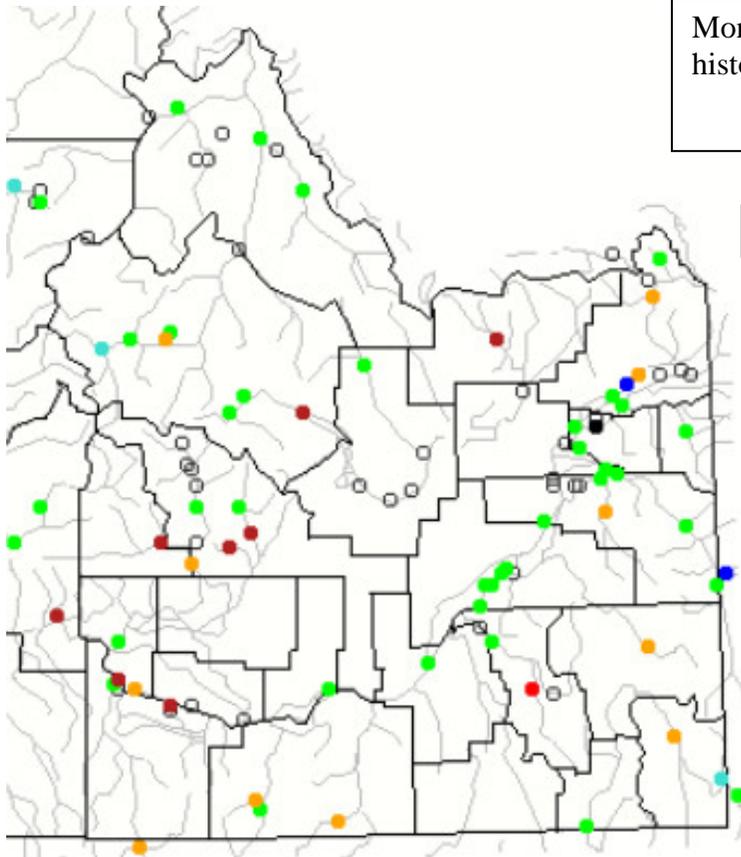
### Dam Level Condition

● No Data 
 ● Normal 
 ● Near Spill 
 ● Spill 
 ● Pass Flow 
 ● Critical 
 ● Forecast Spill

NWS ID	Location	Level Condition	Current Level	Observed Date	Forecast Peak (5 days)	Peak Date	Gate Level	Gate	Pass Flow Level	Crit Level
1 BLK11	Bear River - Bear Lake, Nr Lifton	<span style="color: blue;">●</span>	5912.6e	11/12 05:00	5912.6	11/15 10:00				5925

[cbrfc.noaa.gov/gmap/list/list.php?search=&point=all&plot=&sort=damcritids&type=damcrit&basin=5&subbasin=0&espqpf=0&espdist=empirical](http://cbrfc.noaa.gov/gmap/list/list.php?search=&point=all&plot=&sort=damcritids&type=damcrit&basin=5&subbasin=0&espqpf=0&espdist=empirical)

## Streamflow:



Monthly average streamflow compared to historical average streamflow for October 2014.



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

Explanation - Percentile classes							
<span style="color: red;">●</span>	<span style="color: red;">●</span>	<span style="color: orange;">●</span>	<span style="color: green;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	<span style="color: grey;">○</span>
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

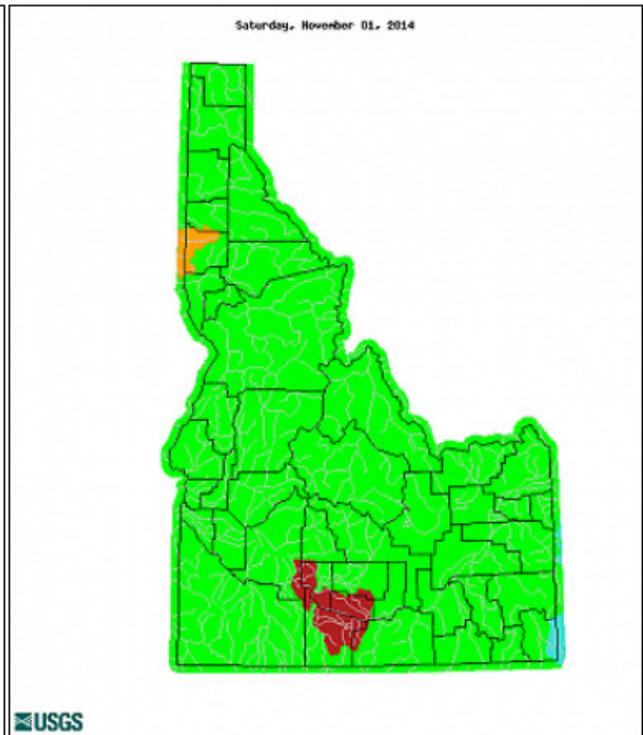
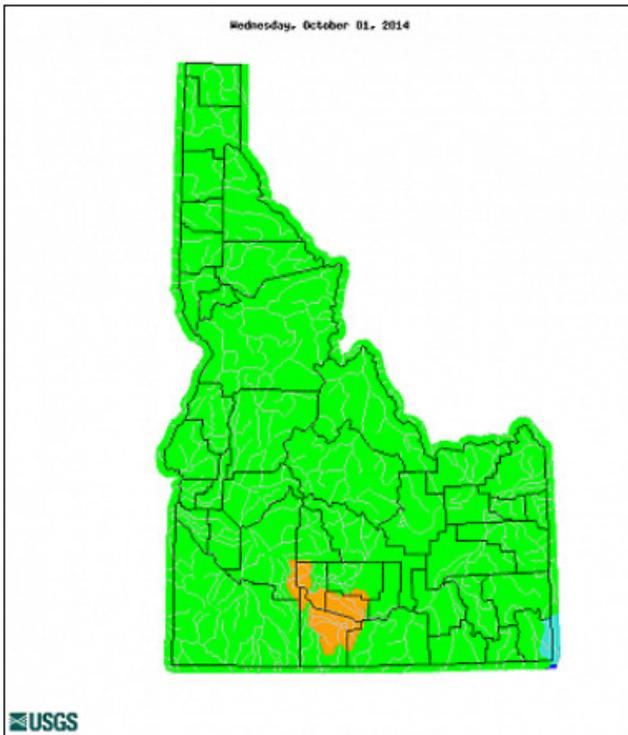
# Historic Streamflow Comparison, September 2014 and October 2014:

## Comparison of Streamflow Maps

**Geographic area:**  **Water resource region:**    
**Map type:**  **Sub type:**

Date (YYYYMM):

Date (YYYYMM):



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		

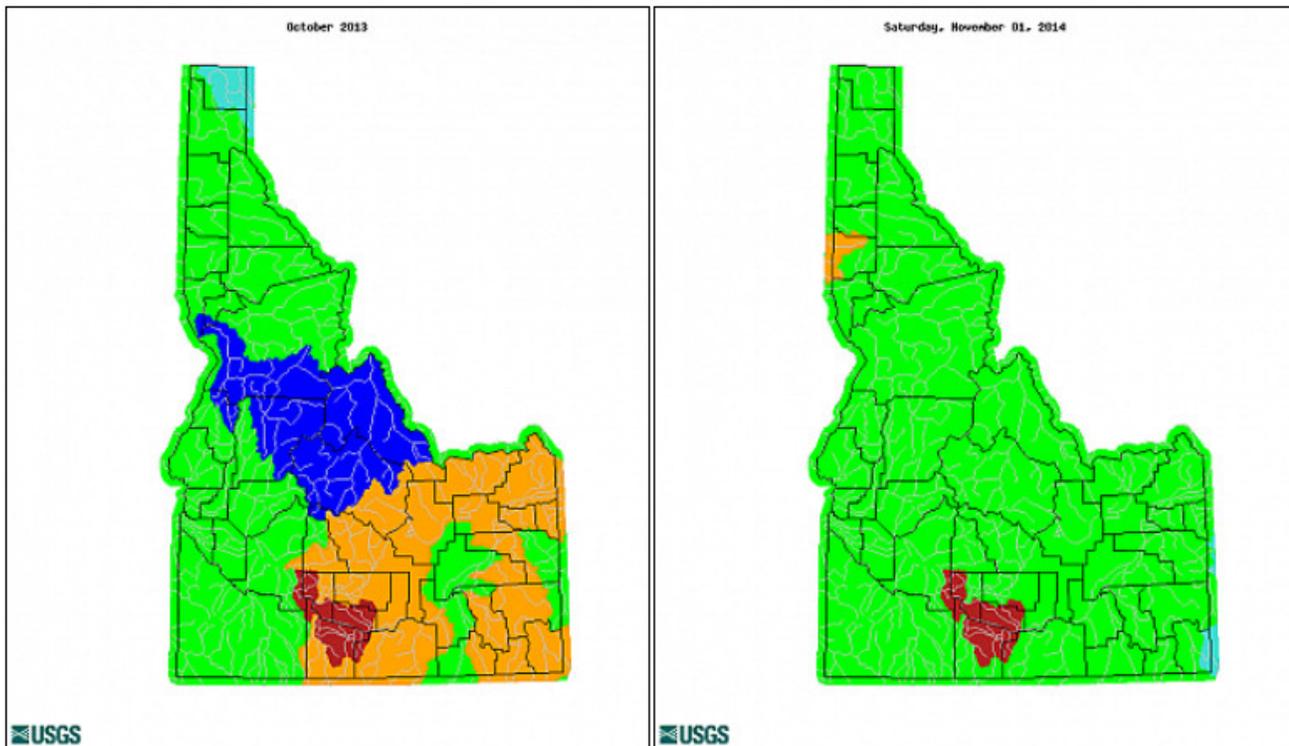
# Historic Streamflow Comparison, October 2013 and October 2014:

## Comparison of Streamflow Maps

**Geographic area:**  **Water resource region:**    
**Map type:**  **Sub type:**

Date (YYYYMM):

Date (YYYYMM):

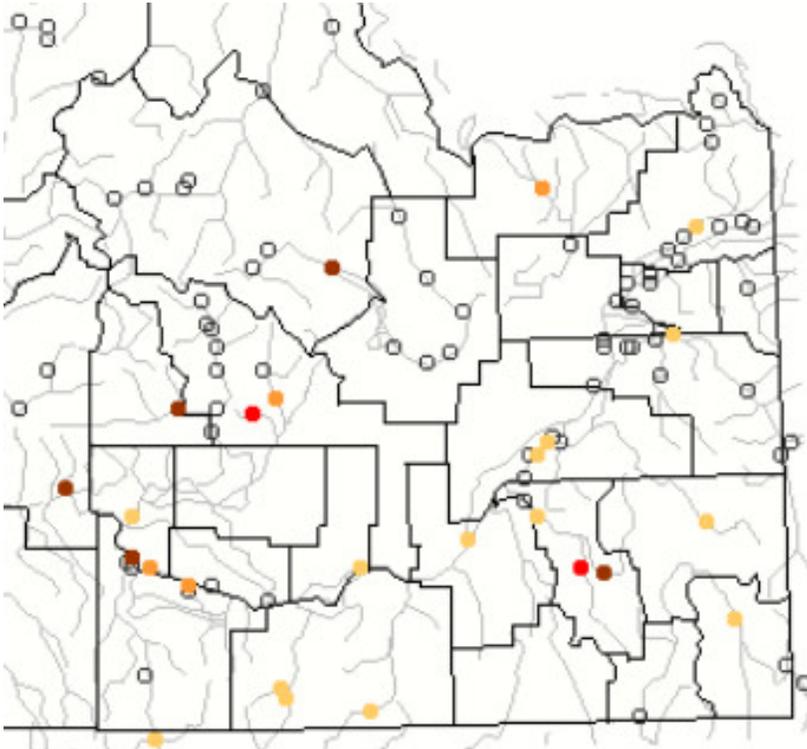


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

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

**Below Normal 28-Day average streamflow as of November 12, 2014 (see graphic below):**

Marsh Creek nr McCammon, 14.25 cfs, 1<sup>st</sup> percentile, (new low),  
 Portneuf River at Topaz, 78.57 cfs, 4<sup>th</sup> percentile,  
 Silver Creek nr Picabo, 74.54 cfs, 2<sup>nd</sup> percentile, (new low),  
 Big Lost River blo Mackay Reservoir, 54.71 cfs, 4<sup>th</sup> percentile



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

List of all stations  Single station  Nearest stations

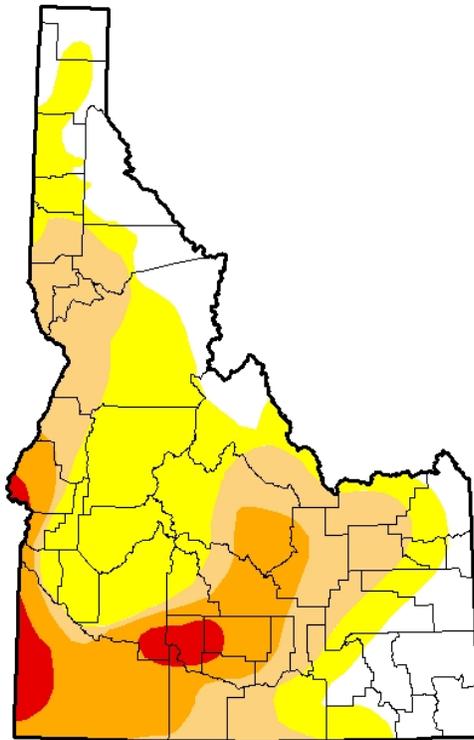
Explanation - Percentile classes				
●	●	●	●	○
New low	≤5	6-9	10-24	Not ranked
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

[waterwatch.usgs.gov/index.php?m=pa28d\\_dry&r=id&w=map](http://waterwatch.usgs.gov/index.php?m=pa28d_dry&r=id&w=map)

**Drought Information:**

**U.S. Drought Monitor  
Idaho**

**November 11, 2014**  
(Released Thursday, Nov. 13, 2014)  
Valid 7 a.m. EST



*Drought Conditions (Percent Area)*

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
<b>Current</b>	21.90	78.10	43.96	20.01	3.53	0.00
<b>Last Week</b> <i>11/4/2014</i>	21.43	78.57	44.17	20.01	3.53	0.00
<b>3 Months Ago</b> <i>8/12/2014</i>	15.92	84.08	46.33	28.95	2.09	0.00
<b>Start of Calendar Year</b> <i>12/31/2013</i>	21.66	78.34	70.07	45.43	7.70	0.00
<b>Start of Water Year</b> <i>9/30/2014</i>	13.19	86.81	52.39	26.35	3.53	0.00
<b>One Year Ago</b> <i>11/12/2013</i>	21.66	78.34	70.07	41.87	5.09	0.00

Intensity:

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

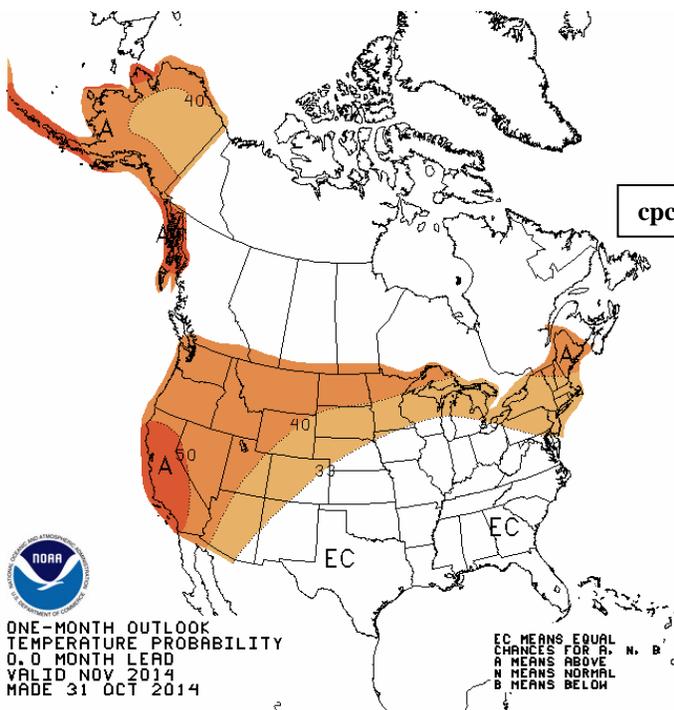
*The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.*

**Author:**

*Matthew Rosencrans  
CPC/NCEP/NWS/NOAA*



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

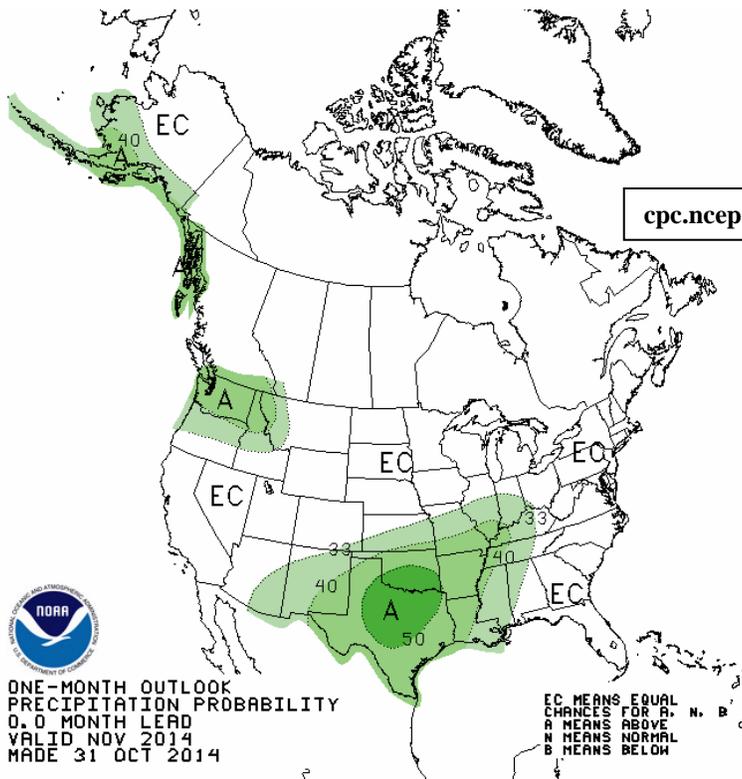


[cpc.ncep.noaa.gov/products/predictions/30day/off15\\_temp.gif](http://cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif)



**ONE-MONTH OUTLOOK  
TEMPERATURE PROBABILITY  
0.0 MONTH LEAD  
VALID NOV 2014  
MADE 31 OCT 2014**

**EC MEANS EQUAL  
CHANCES FOR A, N, B  
A MEANS ABOVE  
N MEANS NORMAL  
B MEANS BELOW**

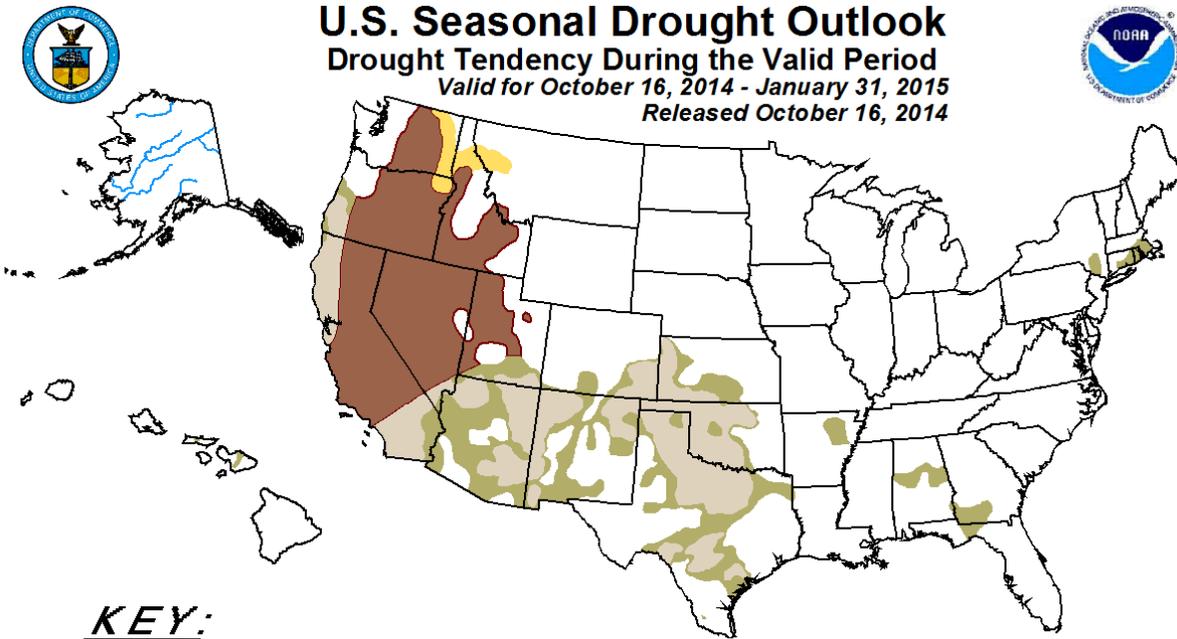


[cpc.ncep.noaa.gov/products/predictions/30day/off15\\_prpc.gif](http://cpc.ncep.noaa.gov/products/predictions/30day/off15_prpc.gif)

## U.S. Seasonal Drought Outlook

### Drought Tendency During the Valid Period

Valid for October 16, 2014 - January 31, 2015  
Released October 16, 2014



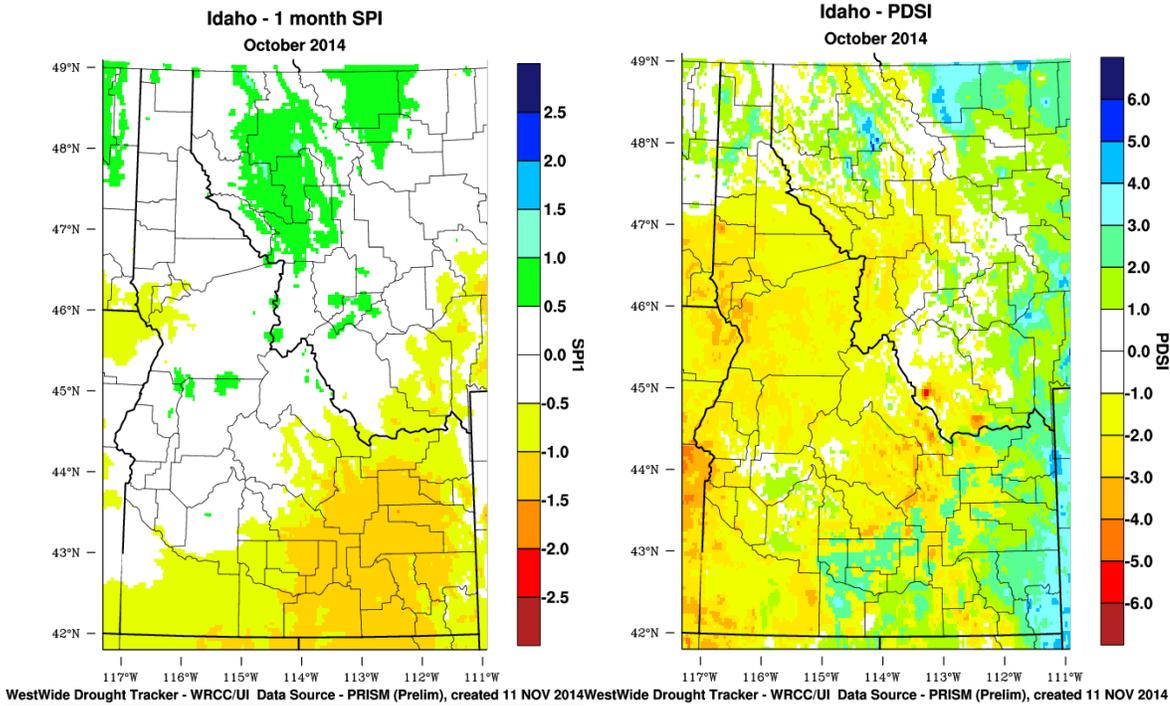
**KEY:**

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

Author: Brad Pugh, Climate Prediction Center, NOAA  
[http://www.cpc.ncep.noaa.gov/products/expert\\_assessment/sdo\\_summary.html](http://www.cpc.ncep.noaa.gov/products/expert_assessment/sdo_summary.html)

Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Short-term events -- such as individual storms -- cannot be accurately forecast more than a few days in advance. Use caution for applications -- such as crops -- that can be affected by such events. "Ongoing" drought areas are approximated from the Drought Monitor (D1 to D4 intensity). For weekly drought updates, see the latest U.S. Drought Monitor. NOTE: The tan area 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)

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



[wrcc.dri.edu/monitor/WWDT/index.php?region=id](http://wrcc.dri.edu/monitor/WWDT/index.php?region=id)

- cc:
- Mike Schaffner, Western Region HCSD
  - Harold Opitz, Hydrologist-in-Charge, Northwest River Forecast Center
  - Joe Intermill, Service Coordination Hydrologist, Northwest River Forecast Center
  - Steve King, Development and Operations Hydrologist, Northwest River Forecast Center
  - Michelle Stokes, Hydrologist-in-Charge, Colorado Basin River Forecast Center
  - John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center
  - Hydrometeorological Information Center
  - Dean Hazen, 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

End  
cbl