

NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE MONTHLY REPORT OF HYDROLOGIC CONDITIONS	HYDROLOGIC SERVICE AREA: Pocatello, Idaho
	REPORT FOR: MONTH: November YEAR: 2014
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	SIGNATURE Corey Loveland Service Hydrologist
DATE: December 10, 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:

November brought about six separate storms of rain and snow across the Hydrologic Service Area (HSA). Overall, about an inch of precipitation fell over the Snake River Plain and mid elevations with an average of about 4.5 inches of snowfall. The higher elevations of the central mountains received upwards of five inches of precipitation with the Caribou Highlands getting about two to three inches according to AHPS data. The temperature departure from normal for November shows that across the HSA, temperatures were mostly -3 to -1 degrees F below normal within the upper Snake River plain and around -1 to 1 degree below normal in the higher elevations and upper Snake desert plains.

Last month brought a pretty decent start to the winter snowpack buildup in the higher elevations. Where the precipitation counts the most (in the high elevations), about 125 to 150% of normal precipitation fell. The lower Snake River plain received about half of normal precipitation. For this time of year, we are doing well in the central mountains and over the western Caribou Highlands for snowpack, but are in about an inch deficit in the Henrys Fork Basin area.

As far as the short-term 8-14 day Climate Prediction Center Outlook is concerned, the forecast is a 40 to 50 percent chance of above normal temperatures in eastern Idaho and a near normal chance of precipitation. For the three-month outlook, we stand to have a near 40% chance of above normal temperatures within the HSA and for precipitation, the outlook is near normal across eastern Idaho in the next three months.

Of the data available for the month, the station within the HSA reaching the highest 24-hour temperature (non-SNOTEL) were the Massacre Rocks and Pocatello 2 NE COOP stations which reached 72°F on the 2nd and 1st respectively. The station with the lowest recorded temperature was the Stanley COOP station at -25°F on November 16th. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Island Park COOP where 1.20 inch fell on the 24th. The highest recorded precipitation total (non-SNOTEL) occurred at the Stanley Ranger Station WBAN site where 2.88 total inches was recorded. The Howell Canyon SNOTEL station received the most snowfall which recorded 7.90 inches of precipitation total for the month. The second highest was the Bostetter Ranger station SNOTEL recording 4.80 total inches.

Reservoirs last month increased capacity overall by around 9% in the upper Snake River basin system (an increase of about 366 KAF occurred over the month and is currently sitting at 59% of capacity overall).

Compared to last year at this time, it was about 27% of capacity. According to NRCS and U.S. Bureau of Reclamation reservoir data, the most notable increases were American Falls storing 16%, Milner Reservoir increasing 16% of capacity and Little Wood Reservoir storing 10% for the month. To start the beginning of the winter season, Oakley Reservoir is 68% of average capacity, Little Wood Reservoir is 62% of average and Magic Reservoir is sitting at 46% of average capacity.

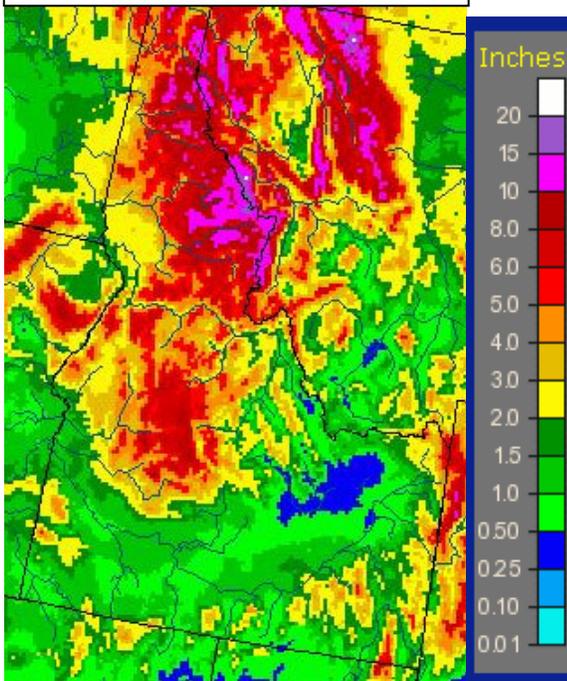
Current streamflow conditions in eastern Idaho are mostly near normal for monthly streamflows for the majority of the unregulated streams (see graphic below).

Drought conditions across eastern Idaho have largely remained the same since last month. Currently, about 20 percent and near 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.

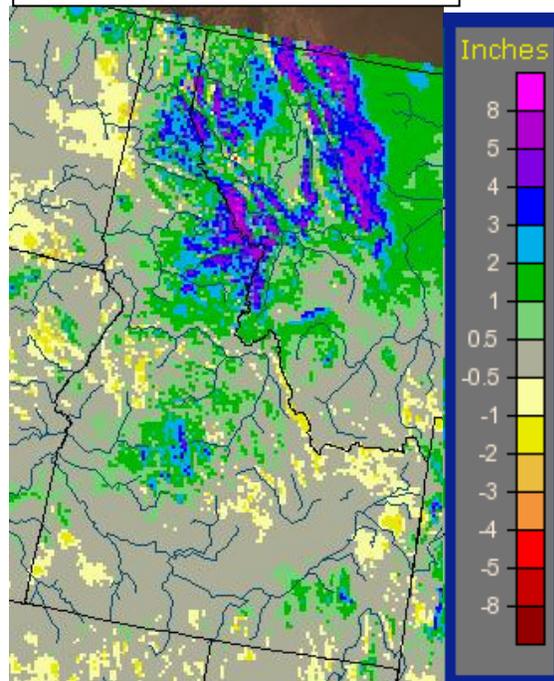
The Idaho NRCS Snow Survey December 1st Idaho Surface Water Supply Index (SWSI) was not available.

Precipitation:

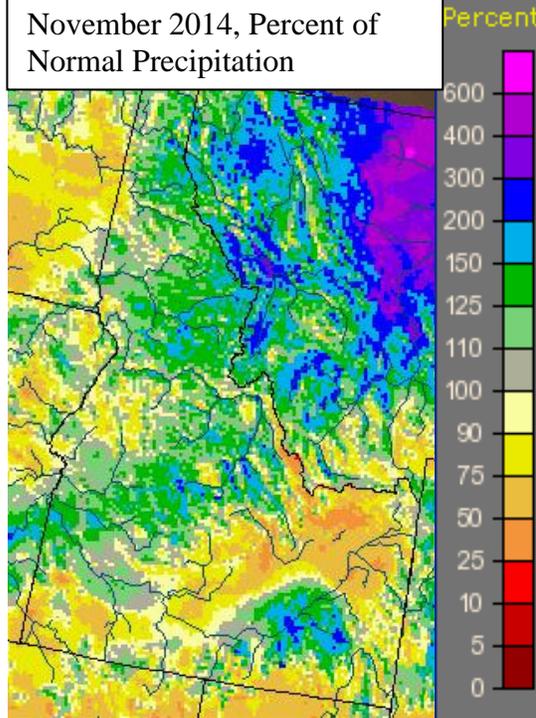
November 2014, Observed
Precipitation



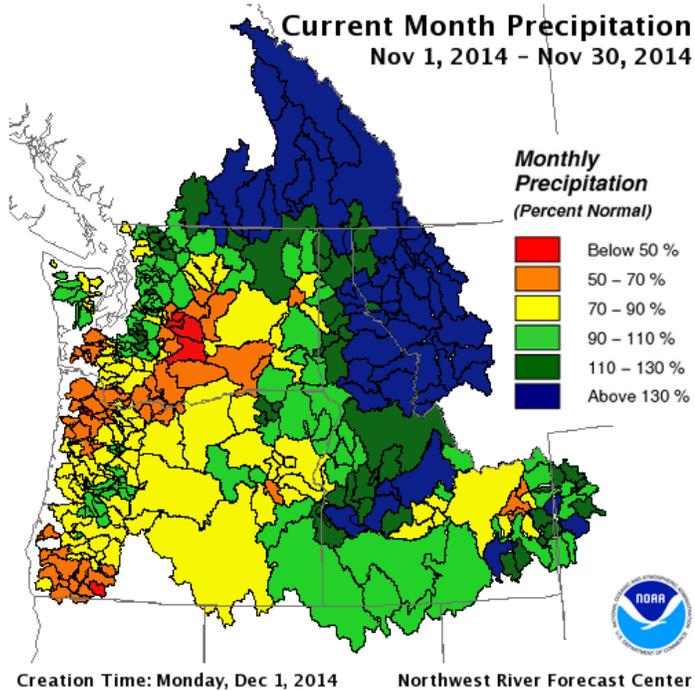
November 2014, Departure
from Normal Precipitation



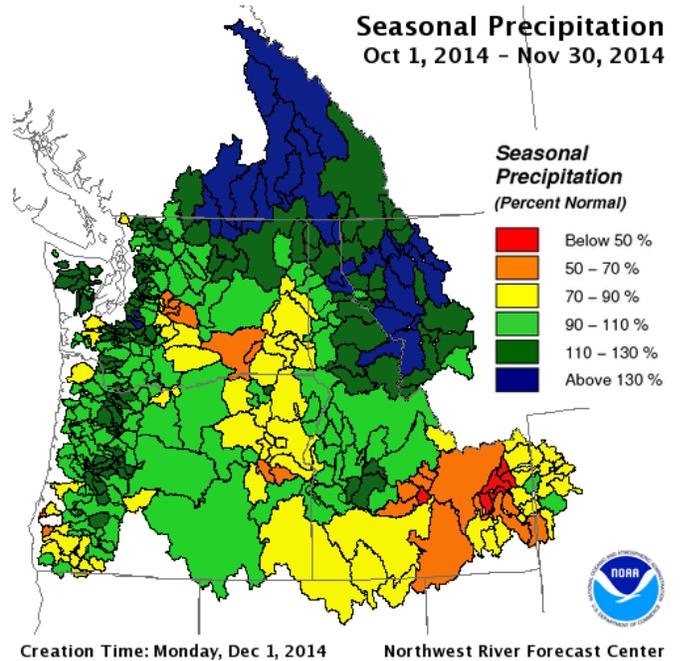
November 2014, Percent of
Normal Precipitation



water.weather.gov/precip/index.php



nwrfc.noaa.gov/WAT_RES_wy_summary/20141201/CurMonMAP_2014Nov30_2014120121.png



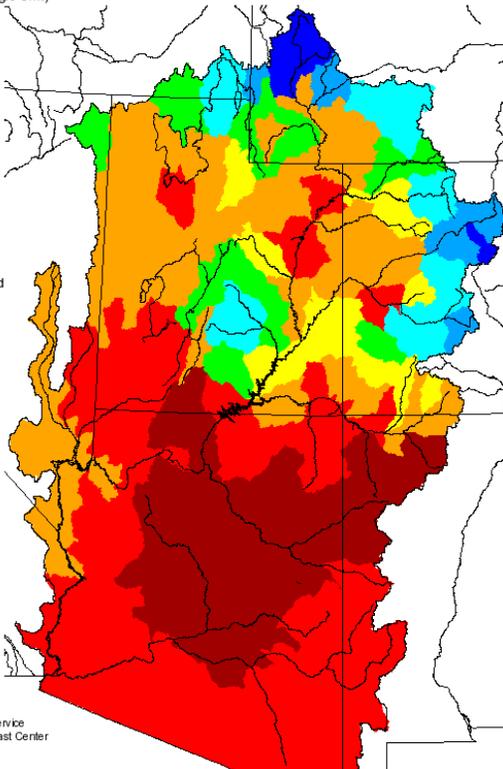
nwrfc.noaa.gov/WAT_RES_wy_summary/20141201/SeasonalMAP_2014Nov30_2014120121.png

Monthly Precipitation for November 2014

(Averaged by Hydrologic Unit)

% Average

- > 150%
- 129 - 150%
- 110 - 129%
- 100 - 109%
- 90 - 99%
- 70 - 89%
- 50 - 69%
- < 50%
- Not Reported



Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

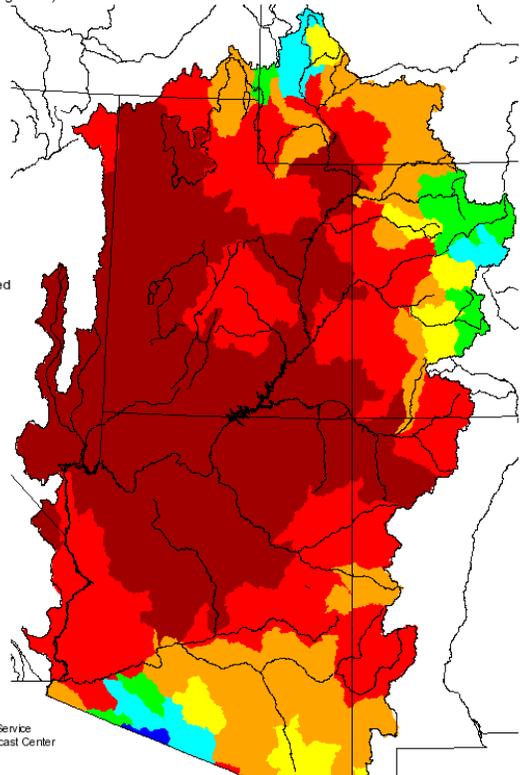
cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?M?2014?11

Seasonal Precipitation, October 2014 - November 2014

(Averaged by Hydrologic Unit)

% Average

- > 150%
- 129 - 150%
- 110 - 129%
- 100 - 109%
- 90 - 99%
- 70 - 89%
- 50 - 69%
- < 50%
- Not Reported



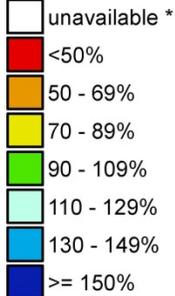
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?S?2014?11

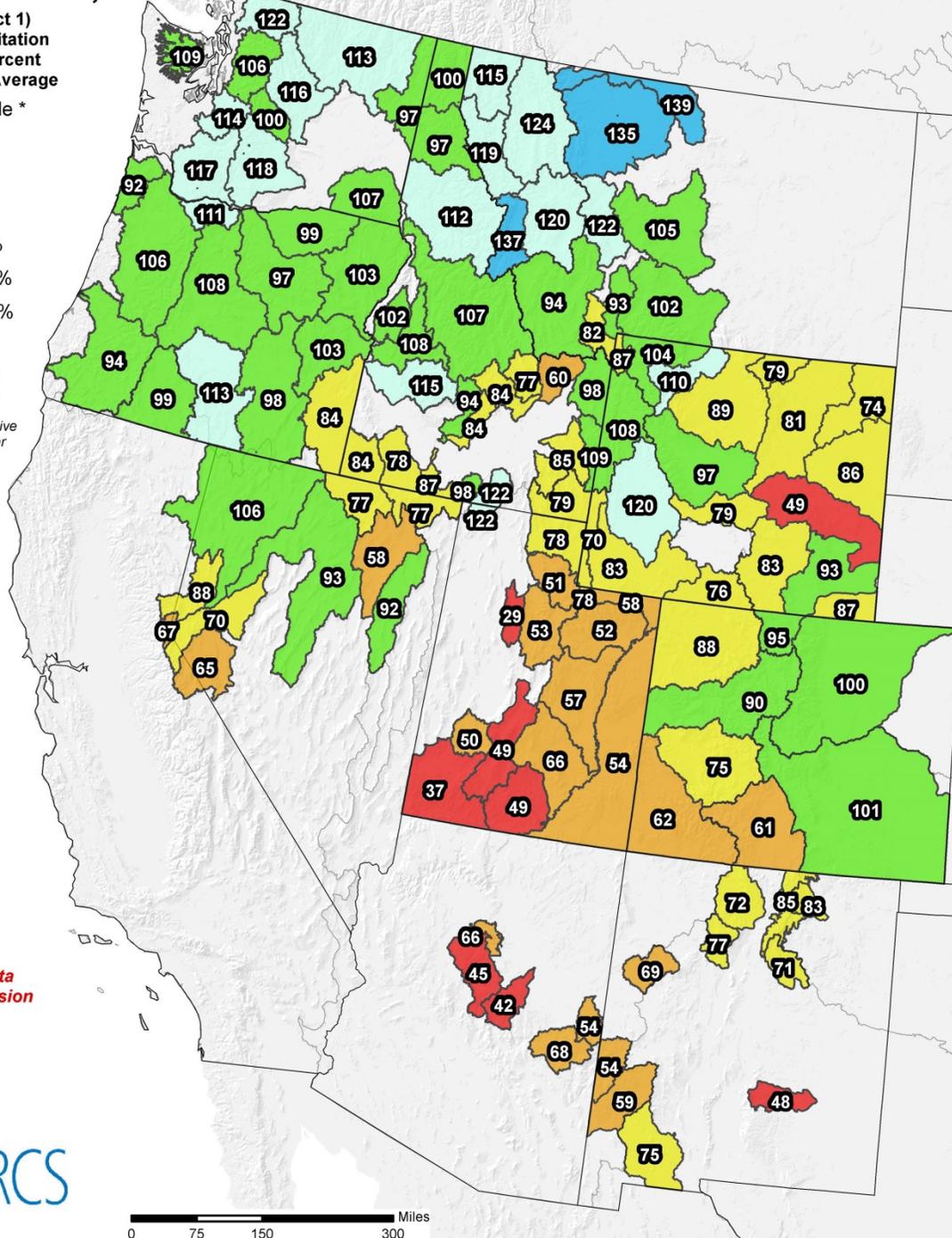
Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Dec 08, 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



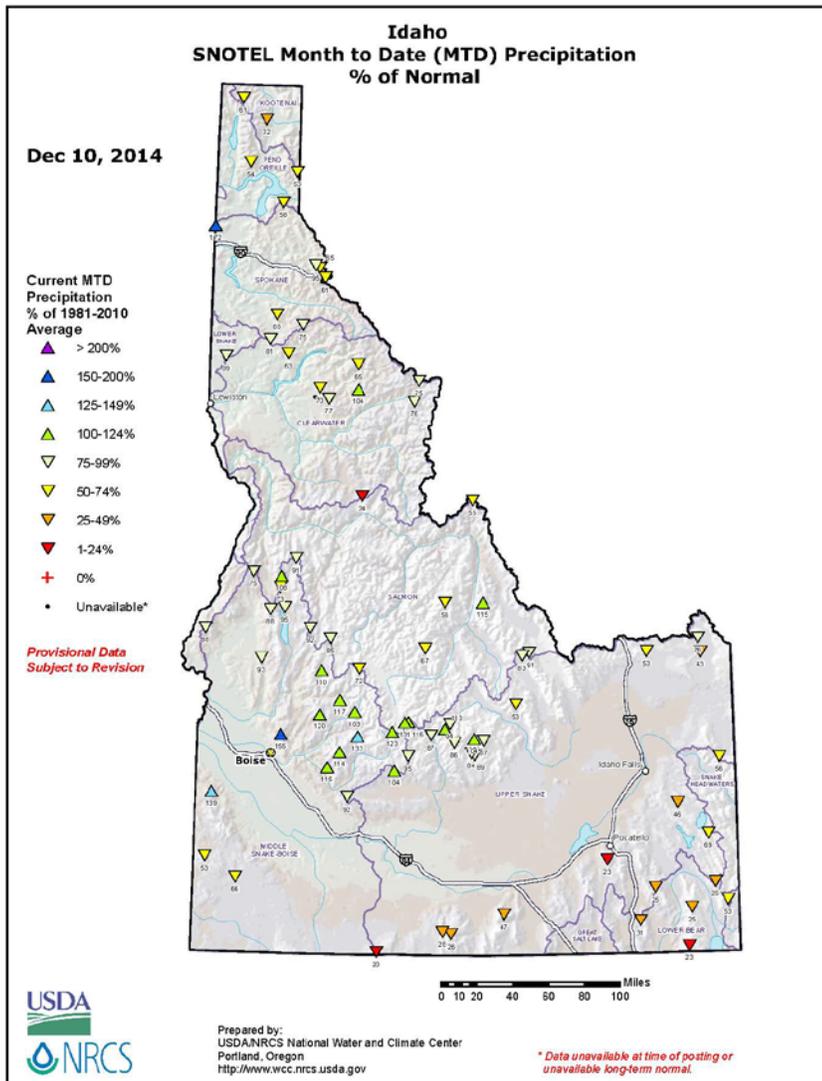
*Provisional data
subject to revision*



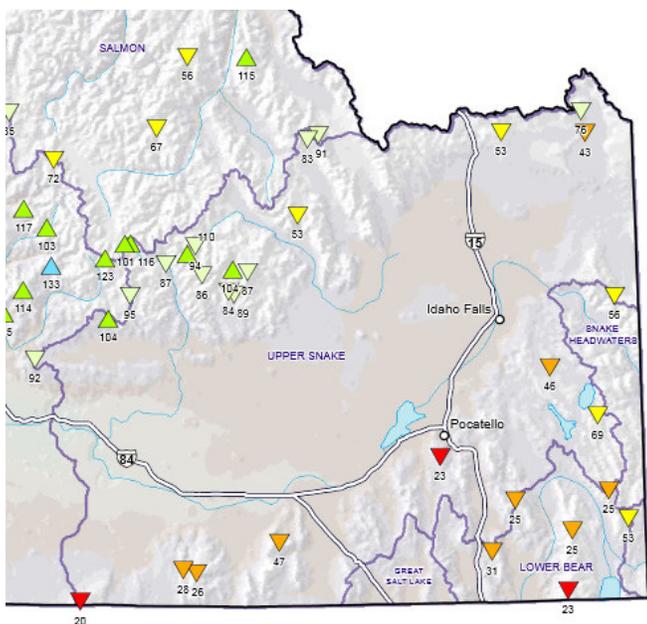
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



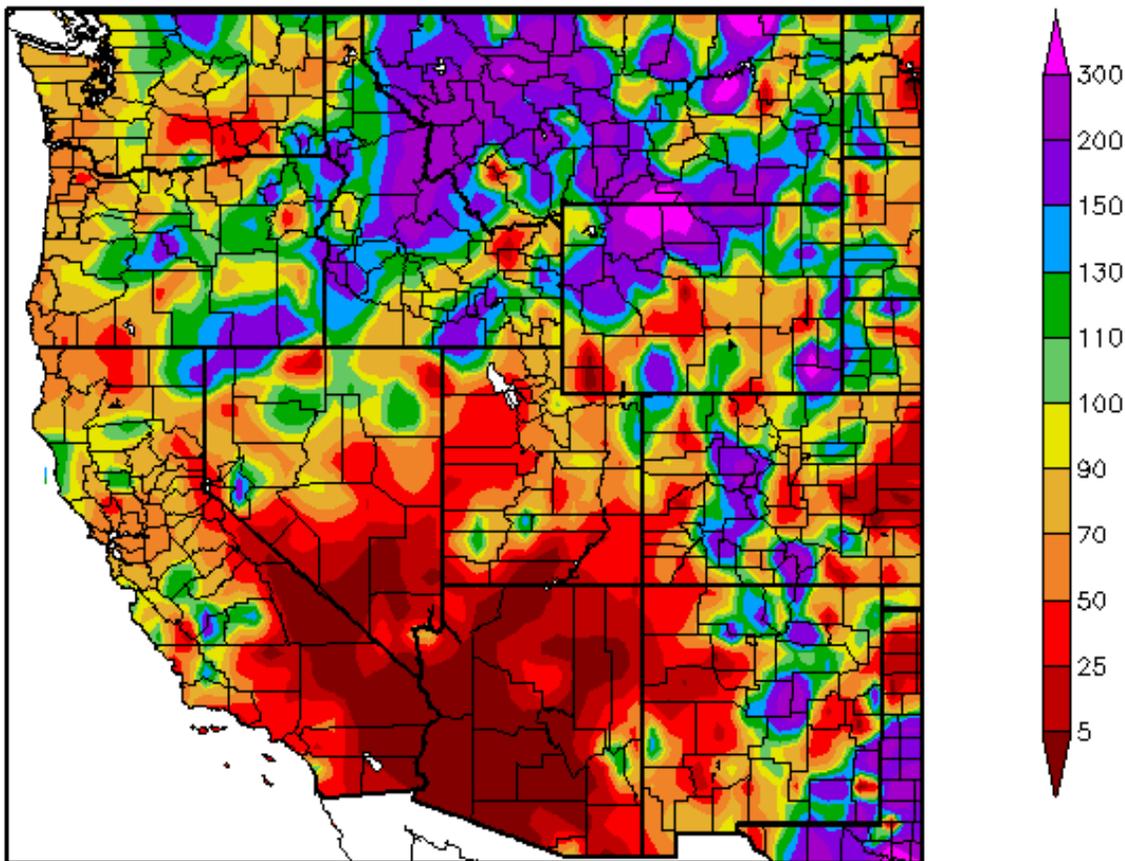
wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecptnormal.pdf



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

November's precipitation pattern was a mixed bag, Cassia, southern Blaine, Power, Clark, western Bingham, Eastern Bonneville and Teton counties received well above normal for the month. Most of MT, northern WY and the Salmon River basin did very well with over 150% of normal precipitation. Other areas of the HSA were near to drier than normal especially in the Henrys Fork headwaters. The driest parts of the west were UT, NV, western NM, southern CA and AZ.

Percent of Normal Precipitation (%) 11/1/2014 - 11/30/2014



Generated 12/5/2014 at HPRCC using provisional data.

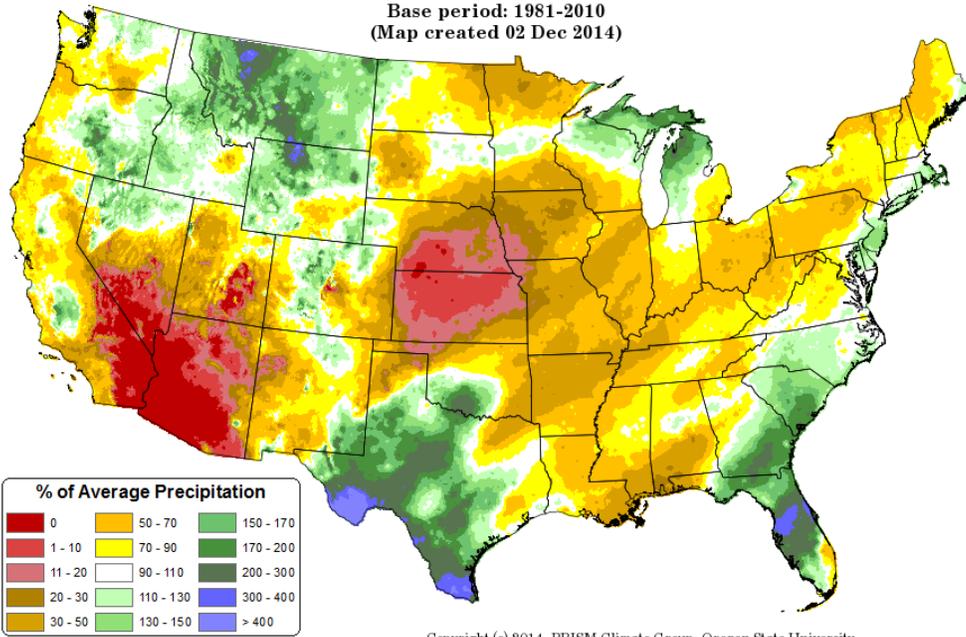
Regional Climate Centers

hprcc.unl.edu/maps/current/index.php?action=update_type&map_type=

November and October CONUS Precipitation Anomaly Comparisons:

Total Precipitation Anomaly: November 2014

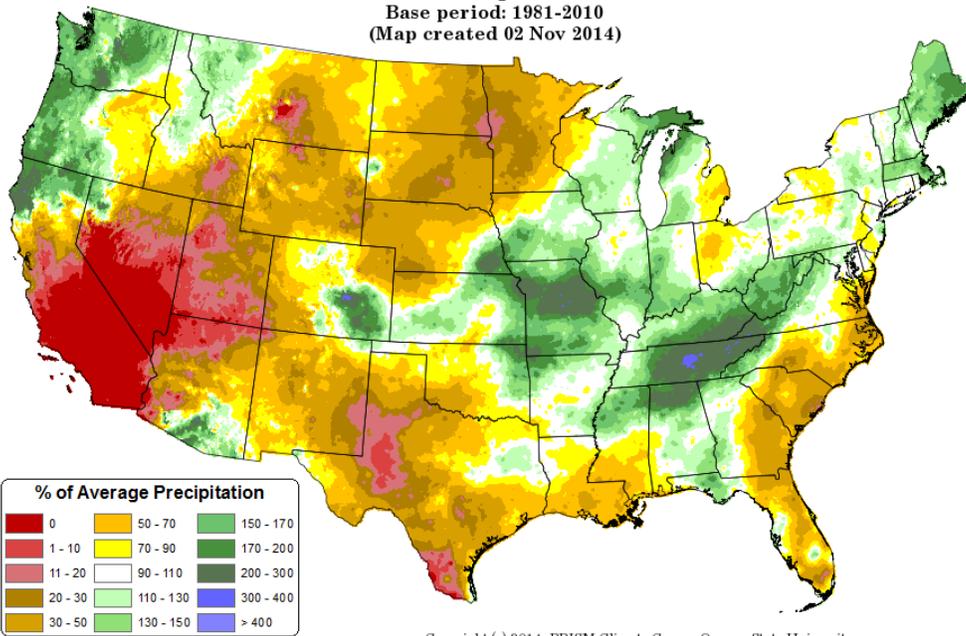
Period ending 30 Nov 2014
Base period: 1981-2010
(Map created 02 Dec 2014)



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

Total Precipitation Anomaly: October 2014

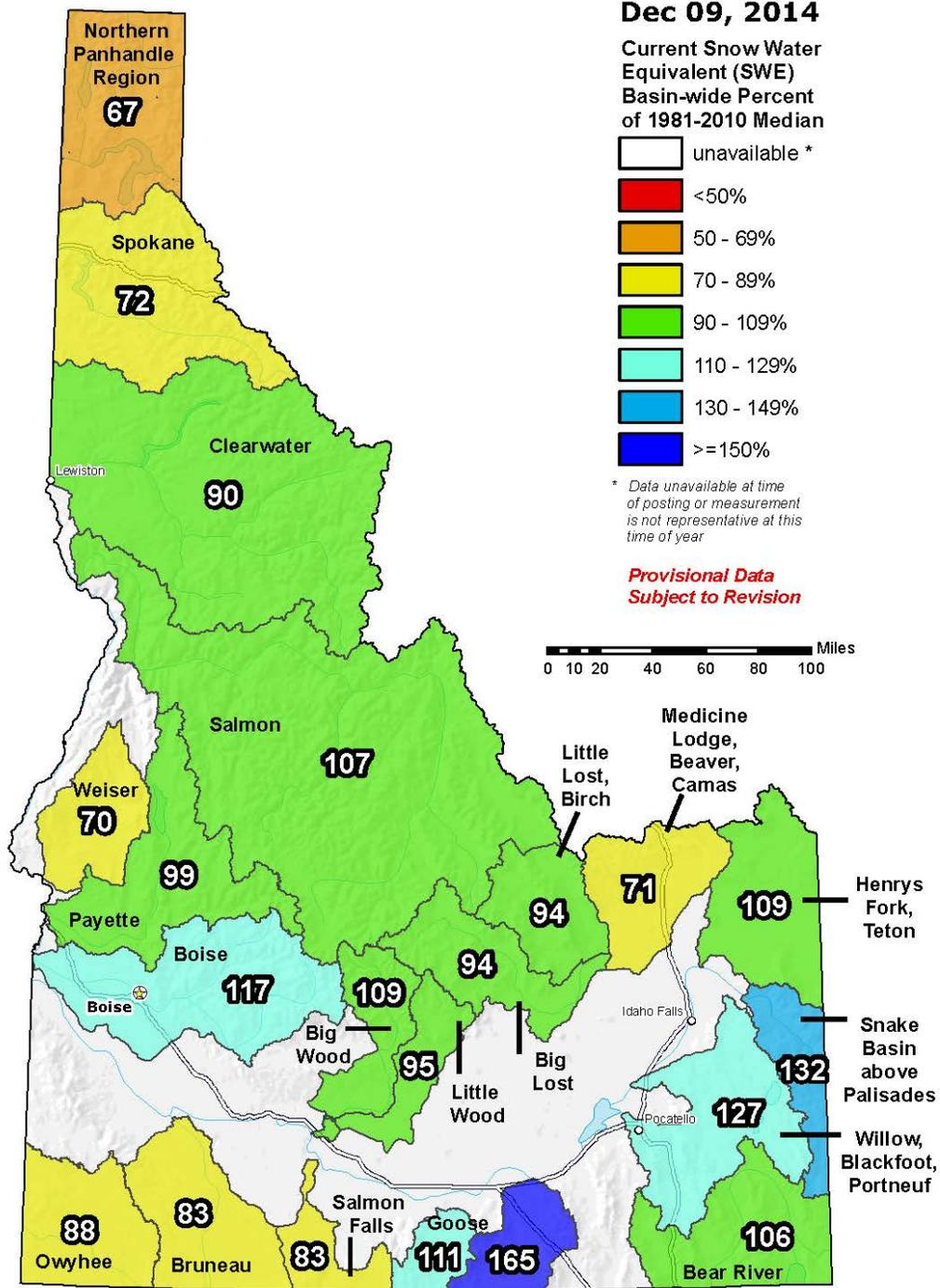
Period ending 31 Oct 2014
Base period: 1981-2010
(Map created 02 Nov 2014)



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

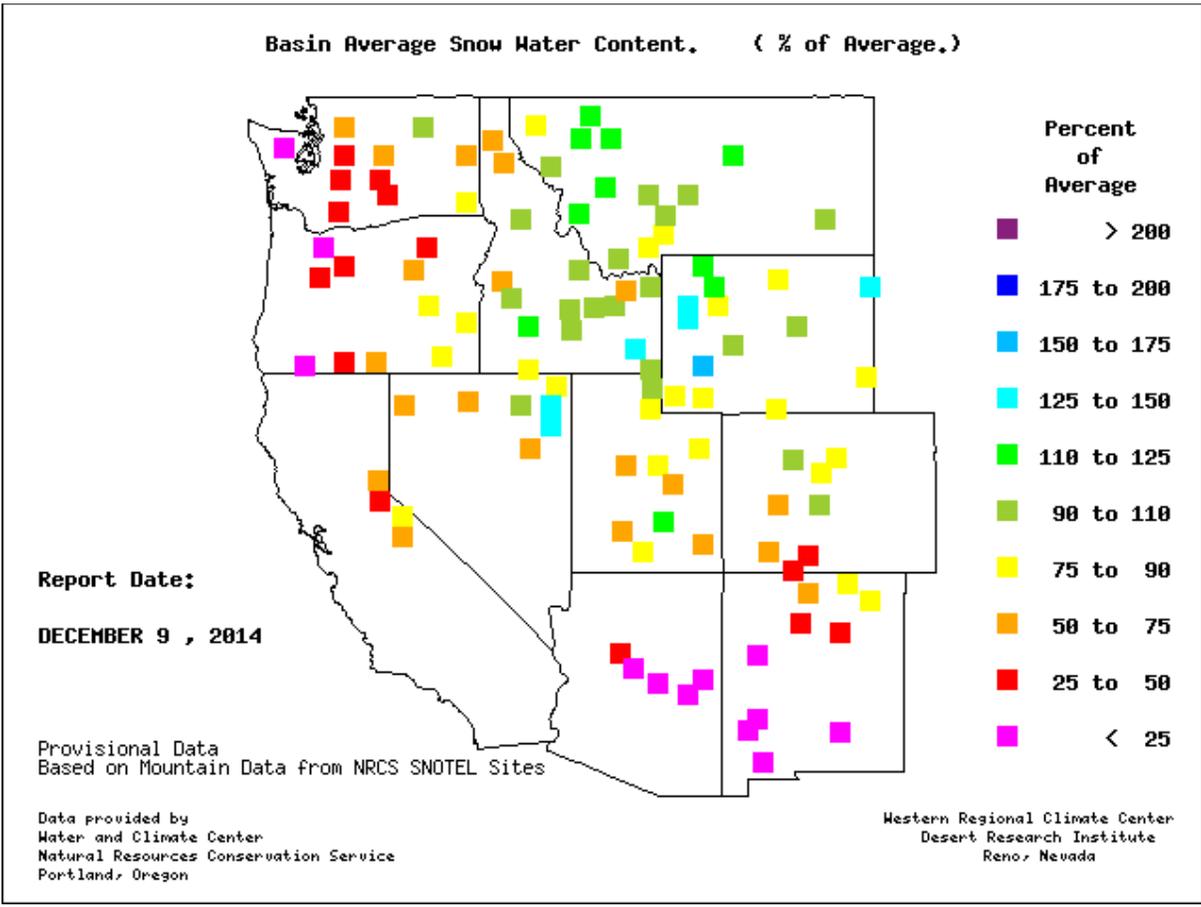
prism.oregonstate.edu/comparisons

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

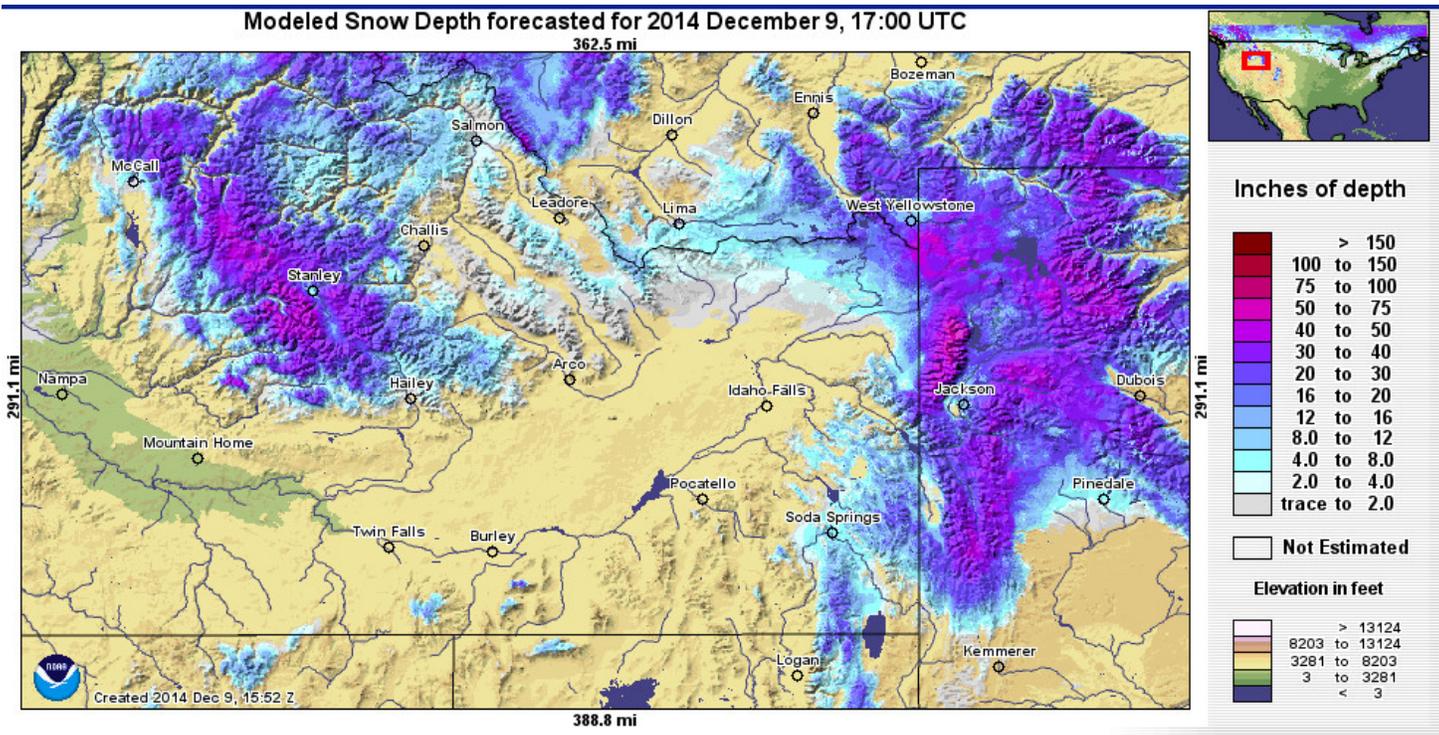


The snow water equivalent percent of normal represents the current snow water equivalent found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



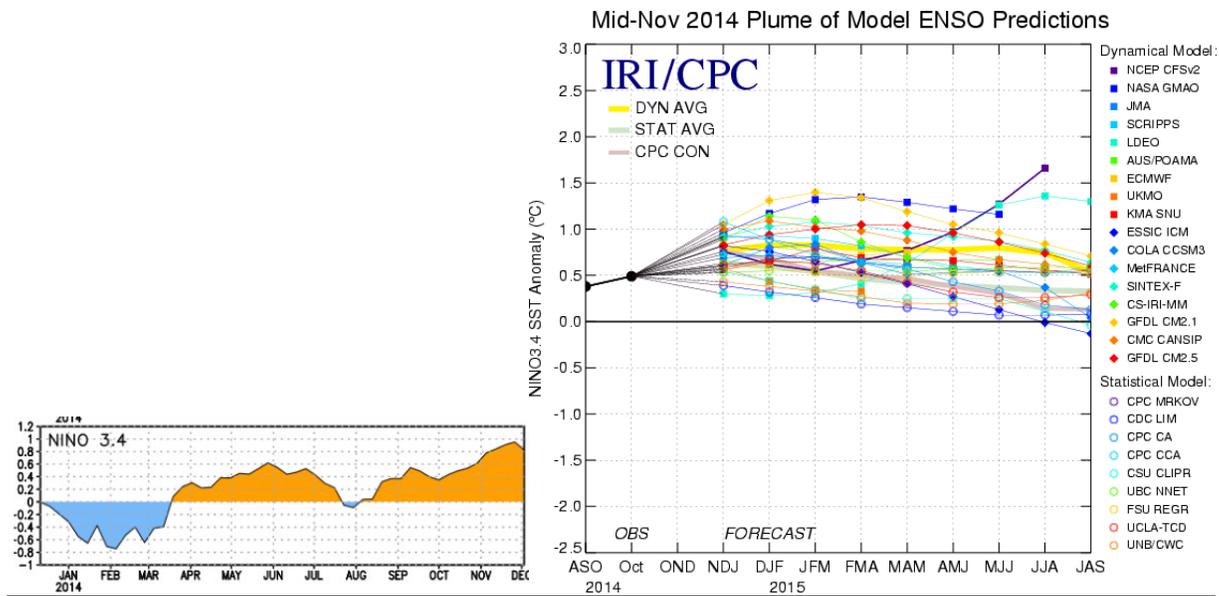
wrcc.dri.edu/snotelanom/basinswe.html



nohrc.noaa.gov/interactive/html/map.html

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 0.8 Deg C



cpc.ncep.noaa.gov, iri.columbia.edu/climate/ENSO and 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 65% 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. Positive equatorial sea surface temperature (SSTs) anomalies continue across the Pacific Ocean. MJO signal is strong.

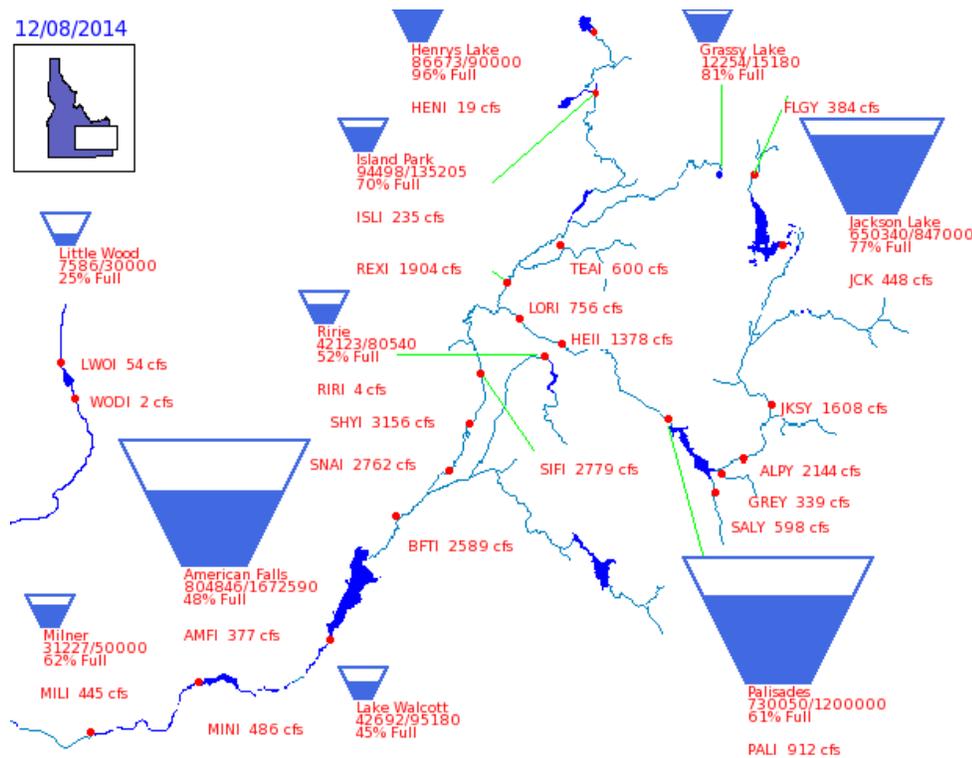
Reservoirs:

Reservoir	% Capacity October 31 ¹	% Capacity November 30 ²	Percent Change	% of Average ²	% of Last Year ²
Henrys Lake	95	96	1	111	89
Island Park	59	68	9	109	81
Grassy Lake	78	80	2	107	113
Jackson Lake	76	76	0	155	40
Palisades	56	64	8	107	47
Ririe	51	52	1	122	120
Blackfoot	43	45	2	91	87
American Falls	28	44	16	97	63
Bear Lake	39	41	2	91	90
Magic	12	14	2	46	59
Little Wood	13	23	10	62	70
Mackay	32	41	9	112	88
Oakley	n/a	17	n/a	68	64
Lake Walcott	44 ³	45 ⁴	1	n/a	n/a
Milner	46 ³	62 ⁴	16	n/a	n/a

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

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_12_2014.pdf

12/08/2014

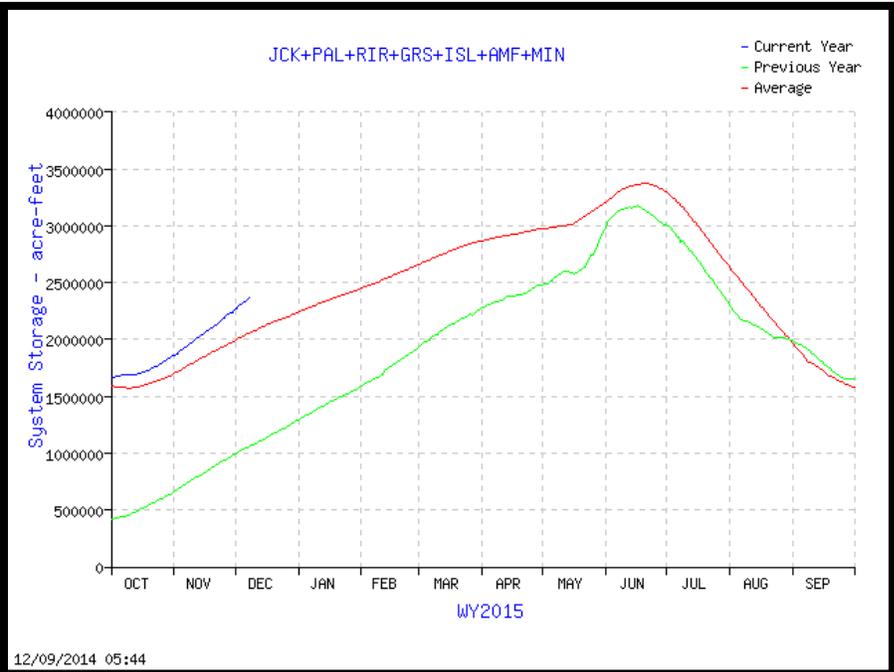


59% of Capacity in Upper Snake River System
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
 Total Space Available: 1,668,895 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

Bear River Basin Current Reservoir Conditions:

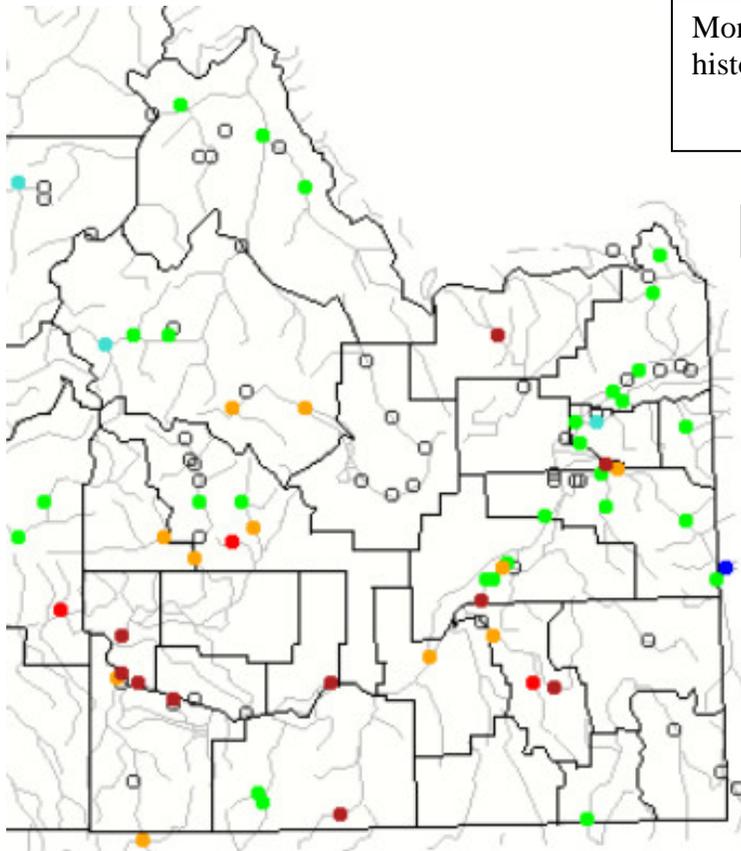
Dam Level Condition

● 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	●	5912.5	12/9 05:00	5912.6	12/13 07:00				5925

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

Streamflow:



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



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

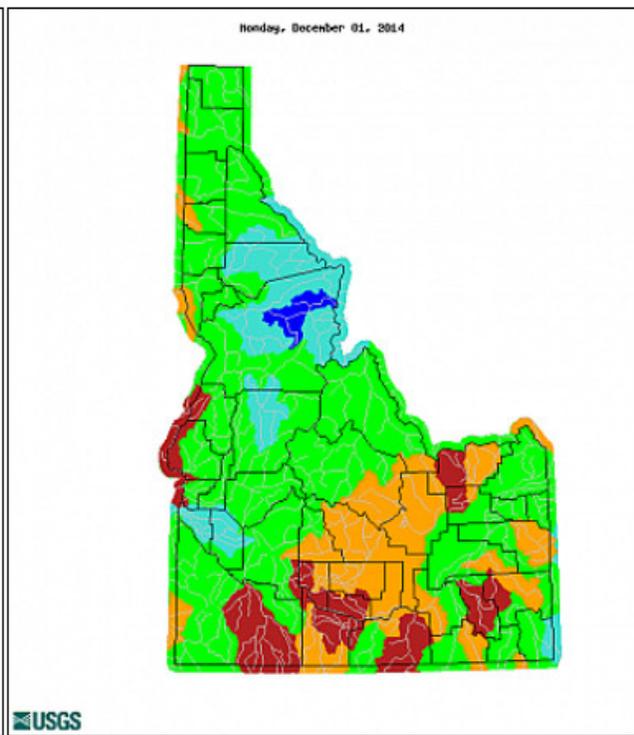
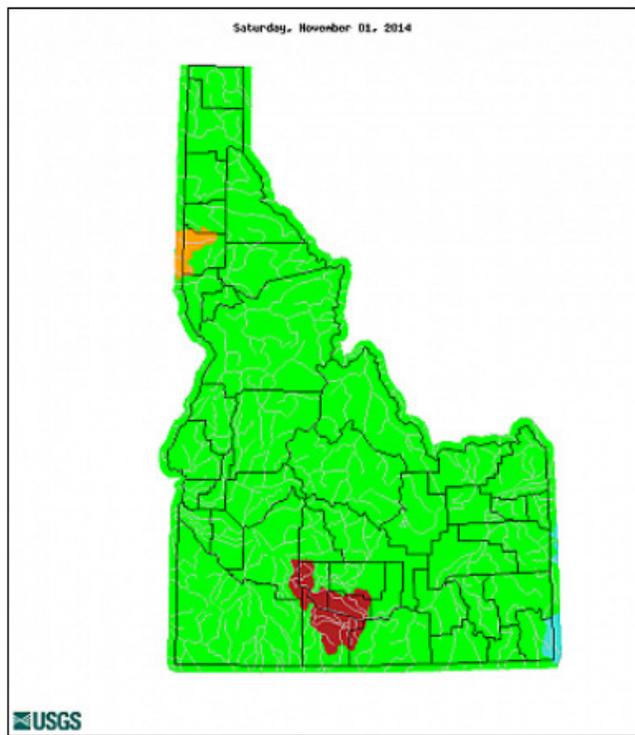
Historic Streamflow Comparison, October 2014 and November 2014:

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		

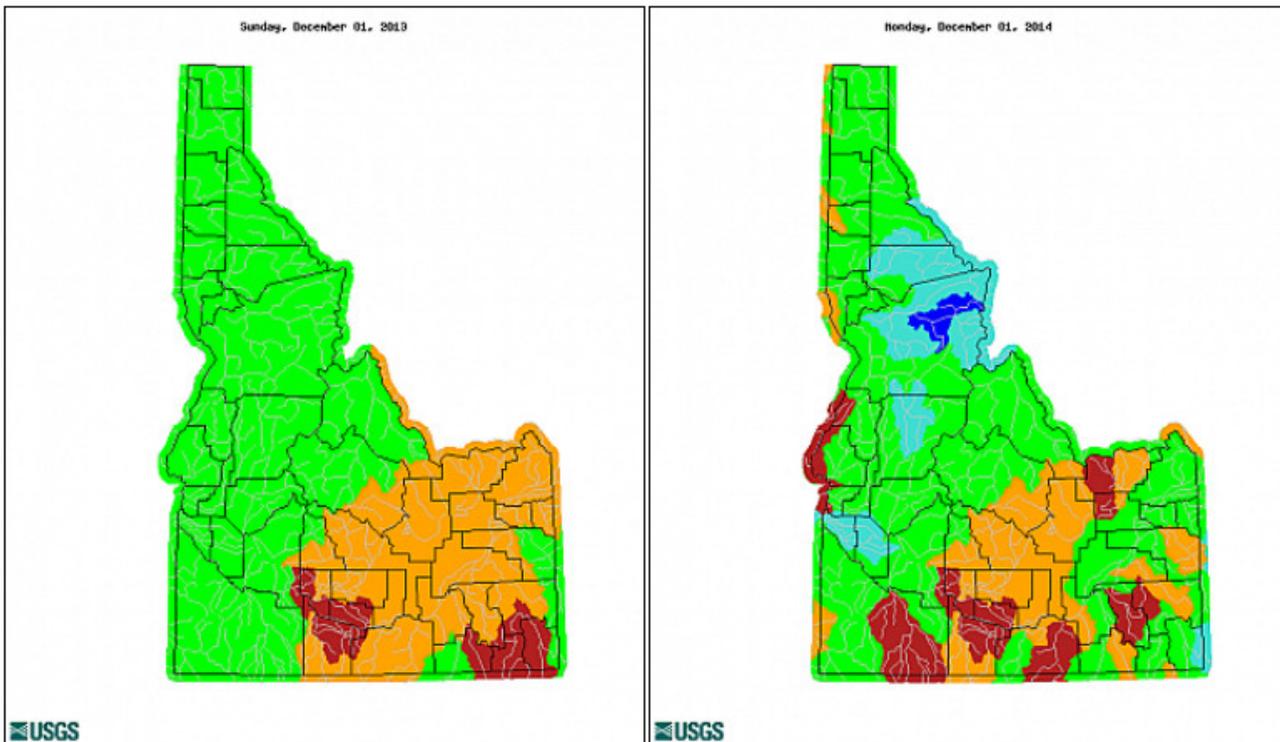
Historic Streamflow Comparison, November 2013 and November 2014:

Comparison of Streamflow Maps

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

Date (YYYYMM):

Date (YYYYMM):

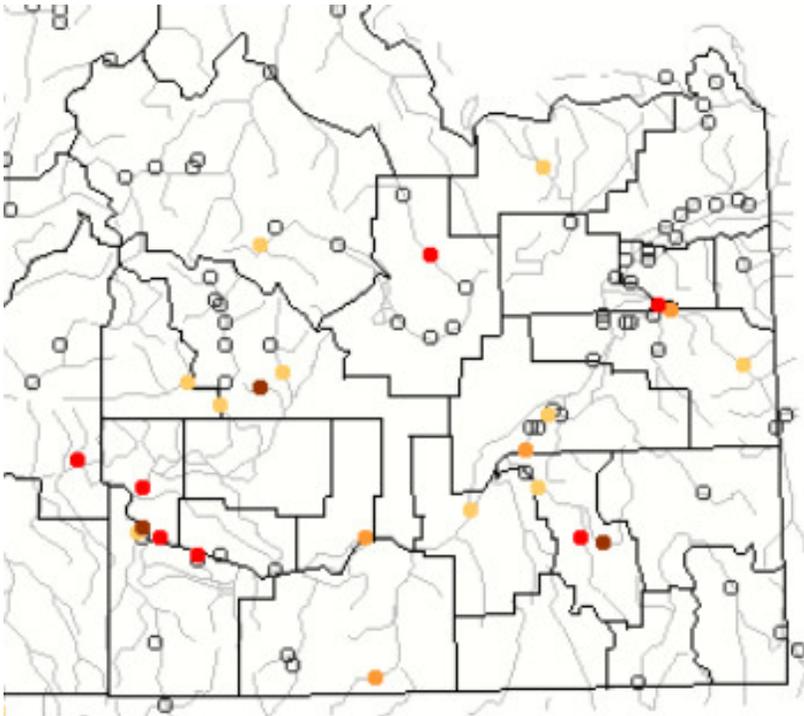


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

waterwatch.usgs.gov/index.php

Below Normal 28-Day average streamflow as of December 8, 2014 (see graphic below):

Dry Bed nr Ririe, 105.9 cfs, 2nd percentile, (new low),
 Marsh Creek nr McCammon, 26.43 cfs, 1st percentile, (new low),
 Little Lost River nr Howe, 9.68 cfs, 2nd percentile, (new low),
 Portneuf River at Topaz, 92.50 cfs, 2nd percentile,
 Silver Creek nr Picabo, 90.39 cfs, 3rd percentile,



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

List of all stations Single station Nearest stations

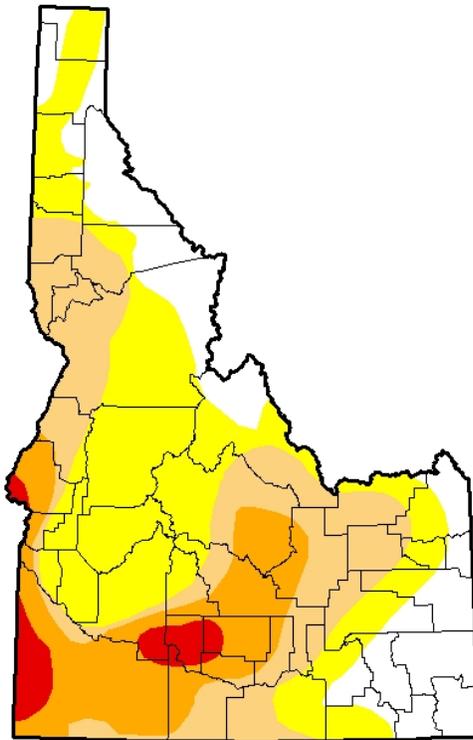
Explanation - Percentile classes				
New low	<=5	6-9	10-24	Not ranked
Extreme hydrologic drought	Severe hydrologic drought	Moderate hydrologic drought	Below normal	

waterwatch.usgs.gov/index.php?m=pa28d_dry&r=id&w=map

Drought Information:

**U.S. Drought Monitor
Idaho**

December 2, 2014
(Released Thursday, Dec. 4, 2014)
Valid 7 a.m. EST



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.08	78.92	44.14	19.49	3.53	0.00
Last Week <i>11/25/2014</i>	21.08	78.92	44.14	19.49	3.53	0.00
3 Months Ago <i>9/2/2014</i>	16.04	83.96	46.30	25.27	2.09	0.00
Start of Calendar Year <i>12/31/2013</i>	21.66	78.34	70.07	45.43	7.70	0.00
Start of Water Year <i>9/30/2014</i>	13.19	86.81	52.39	26.35	3.53	0.00
One Year Ago <i>12/3/2013</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

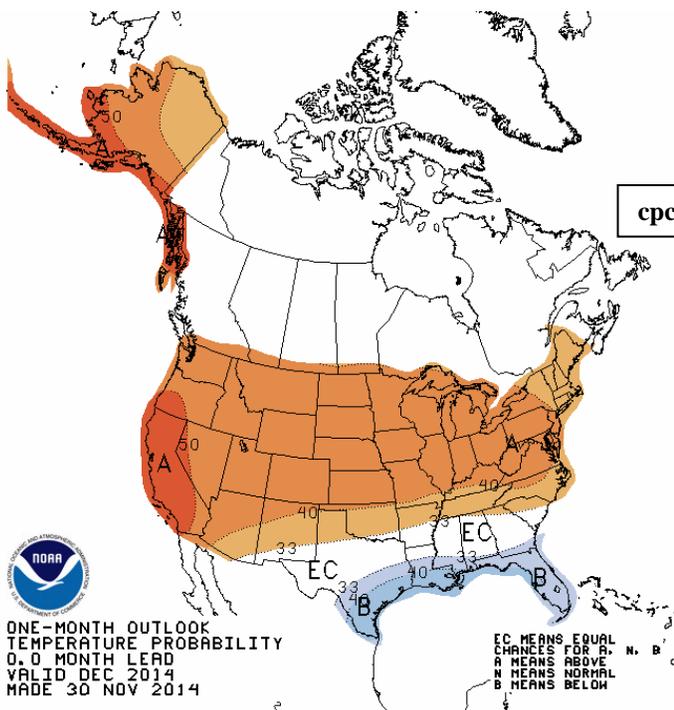
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:

Anthony Artusa
NOAA/NWS/NCEP/CPC



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

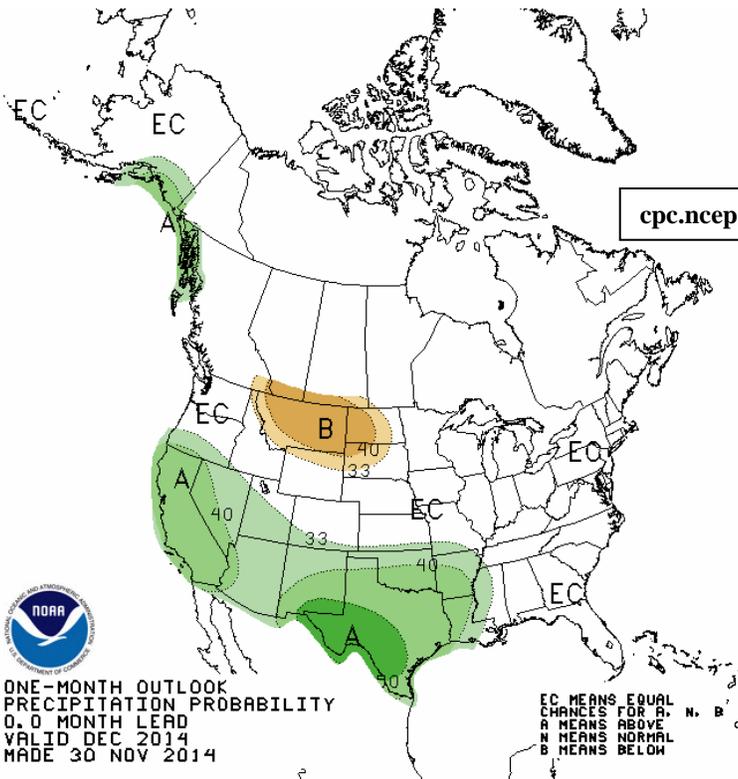


cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID DEC 2014
MADE 30 NOV 2014

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

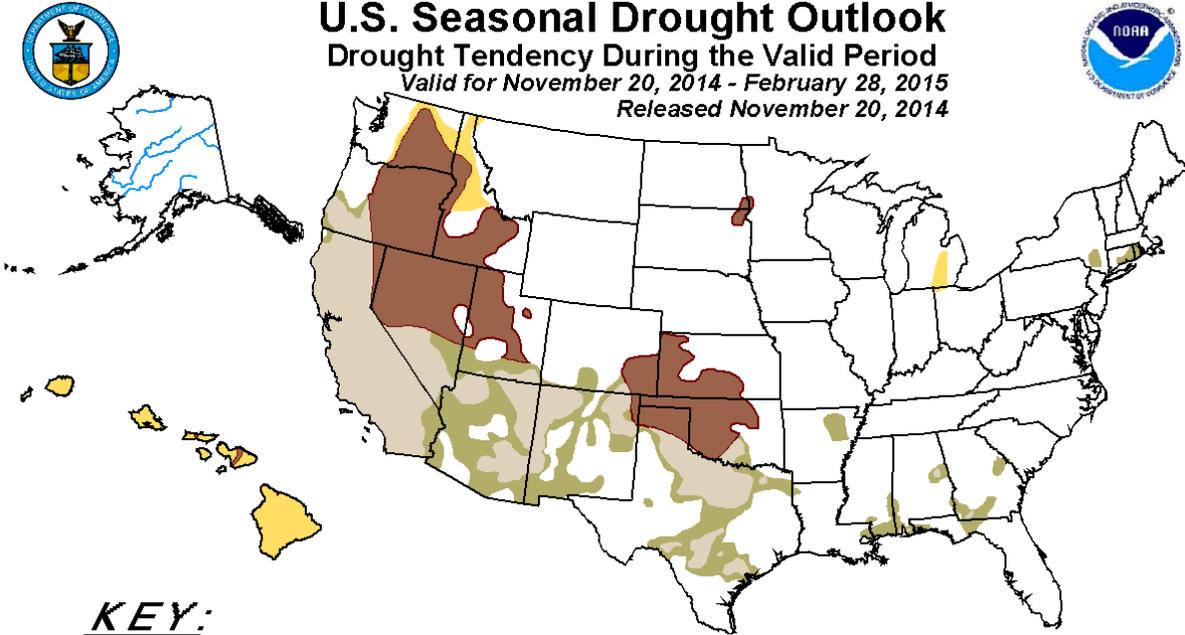


cpc.ncep.noaa.gov/products/predictions/30day/off15_prpc.gif

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for November 20, 2014 - February 28, 2015
Released November 20, 2014



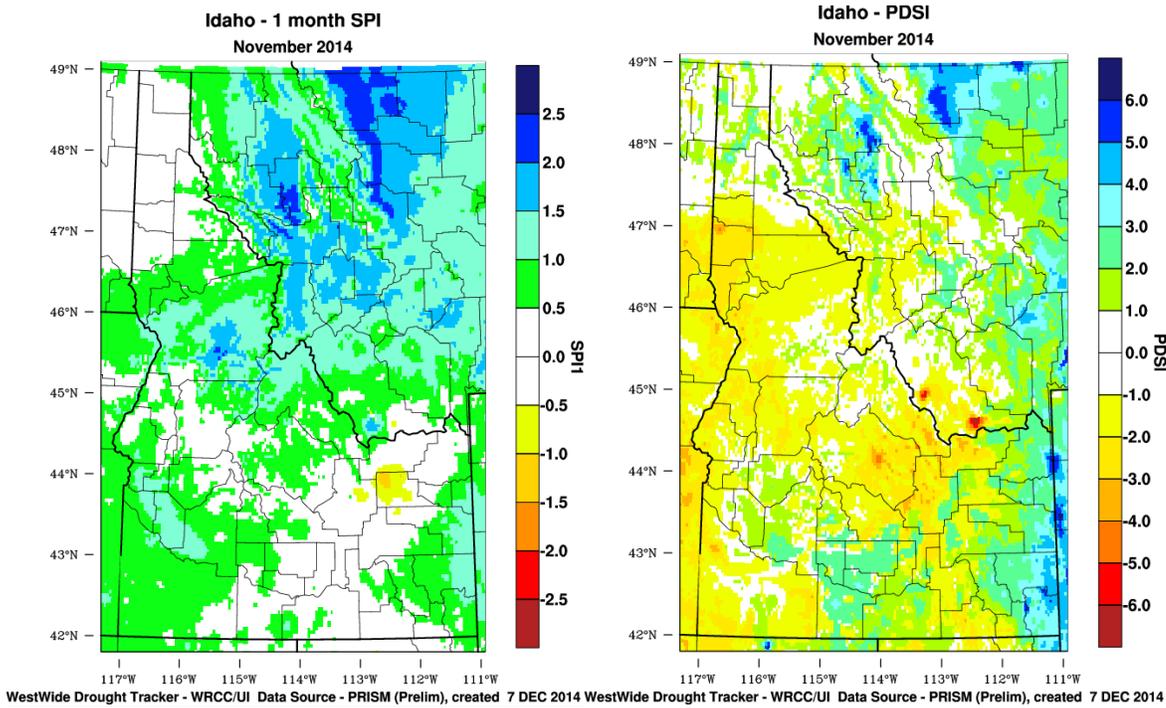
KEY:

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

Author: Rich Tinker, Climate Prediction Center, NOAA
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



wrcc.dri.edu/monitor/WWDT/index.php?region=id

cc:

- Mike Schaffner, Western Region HCSD
- 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