

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: October YEAR: 2012
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	SIGNATURE Corey Loveland Service Hydrologist
DATE: November 6, 2012	
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

October was a transitional month throughout the Hydrologic Service Area and a great lead-in for fall/winter. The month started off with cool temperatures, early in the month, on Oct 7th, we put out hard freeze warnings which did verify. It was a great month to start the winter season as far as precipitation goes; a drastic change from the hot and dry summer months. As you can see from the AHPS precipitation images below, the entire state received a great amount of moisture, especially the panhandle area. In our region, we averaged about an inch and a half across the area putting us near normal this last month in our accumulation. This brought some much needed soil moisture and snowpack to the higher elevations to begin the winter snow season. Temperatures did warm up; melting most of the snow in the mountains, but the added soil moisture will certainly help going into the snow accumulation season.

The greatest amount of precipitation fell in the form of snow in the high elevations of the Caribou Highlands, Bear Basin, upper Snake Basin in Wyoming and the Sawtooth Mountains, ranging between 2 to 4 inches with the most falling in the central mountains. Of the data available for the month, the highest 24-hour precipitation total was 1.66 inch on the 16th day of the month at the Swan Valley 2E site which also received 1.25 inch on the 26th (for a total of 2.91 inches for the month). The location having the highest temperature was Preston at 83°F on the 2nd with the lowest temperature being recorded at the Stanley Ranger Station at a very cold 1°F.

With this added precipitation, reservoirs increased capacity overall by 5% in the upper Snake River Basin system (an increase of over 215,000 AF since last month). Most notable were American Falls, and Island Park reservoirs, with increases of 14% and 11% of capacity respectively. Conversely, Lake Walcott and Milner reservoirs decreased in capacity by 25% and 22% respectively according to NRCS data.

Monthly average streamflow improved slightly across the area, but was not very noticeable. During the month, additional streamgaging sites have reduced to zero flow, but no additional sites have reached record lows in Idaho. Please see note below regarding the Portneuf Basin.

With the additional rainfall and subsequent soil moisture improvements, the state as a whole improved in both the areas where no drought conditions exist and in the D0 category, each by 5.4%, as well as saw an improvement of 0.83% in the D1 drought category for the entire state. It appears that eastern Idaho still has a 40% chance of above average temperatures for the next month. As far as the one-month outlook for

precipitation goes, the upper Snake Basin may receive much needed additional moisture. Even with the recent moisture, the U.S. Seasonal Drought Outlook shows continued persistence of drought at least through the end of January for eastern Idaho. Overall, the soil moisture anomaly has improved across eastern Idaho from an average of about -40 mm to -20 mm for the end of October, which has improved the drought severity index for this area to ‘moderate drought’ status.

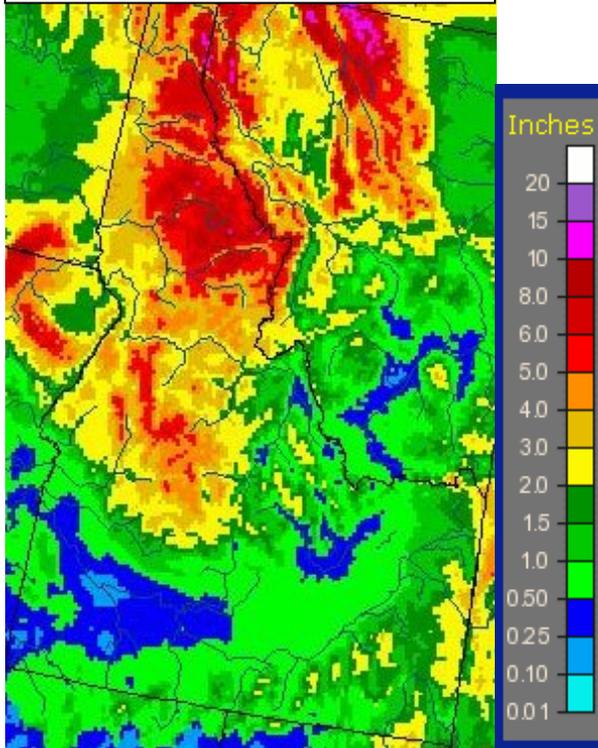
The Idaho Water Year 2012 CoCoRaHS precipitation data totals came in this month and out of the 19 stations in the eastern Idaho area, the top five that received the most precipitation were:

Station Name	Total Prcp Sum	Days With Prcp	Days With Trace	Total Snowfall	Days With Snowfall	Days With Snow On Ground	Elevation
Soda Springs 0.3 W	13.05	94	40	59.7	46	97	5806
Idaho Falls 11.7 NE	11.55	89	41	33.6	34	55	4880
American Falls 8.2W	9.32	70	35	7.5	22	0	4574
Preston 0.8 SE	9.31	72	17	25.6	20	1	4711
Salmon 0.2 NNW	8.29	64	20	1.7	1	0	3974

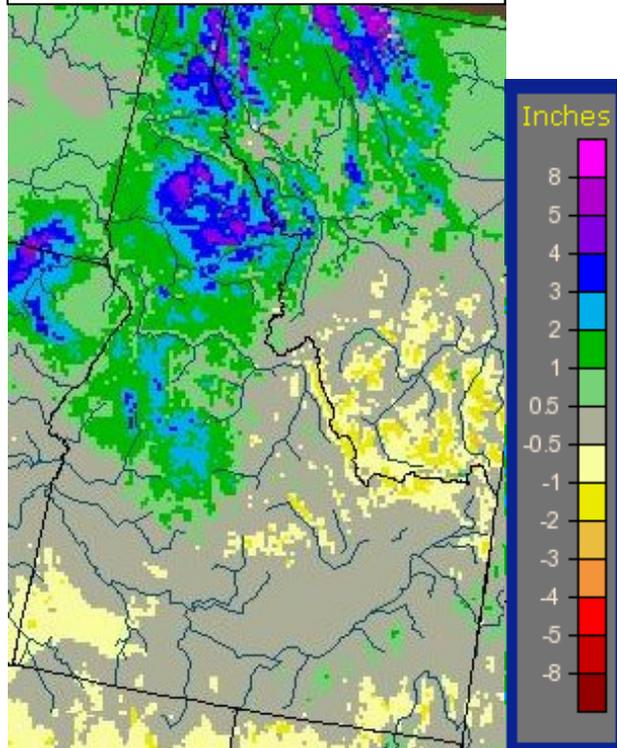
With the significant decrease in temperatures and some added moisture to the soils and vegetation this past month, we have finally entered the time that the wildfire season is over for the year.

Precipitation: (*Note: In the month of October the NWS AHPS precipitation website began using the updated PRISM normal based on 1981-2010 data, before it 1971-2000 data was used.)

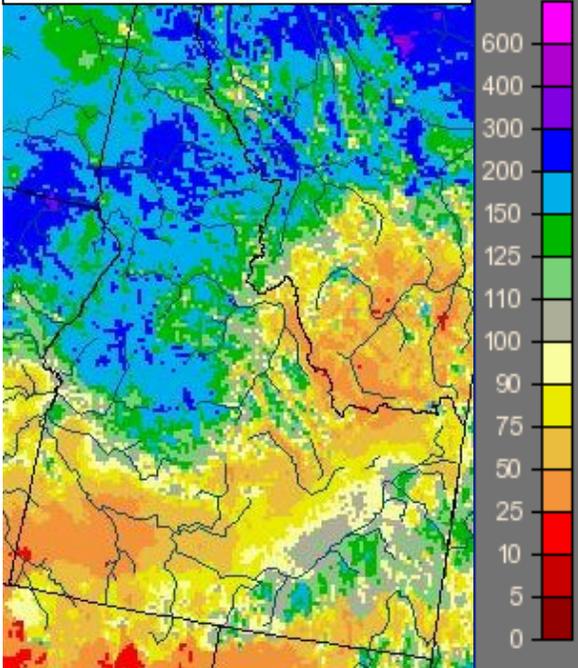
October 2012, Observed Precipitation



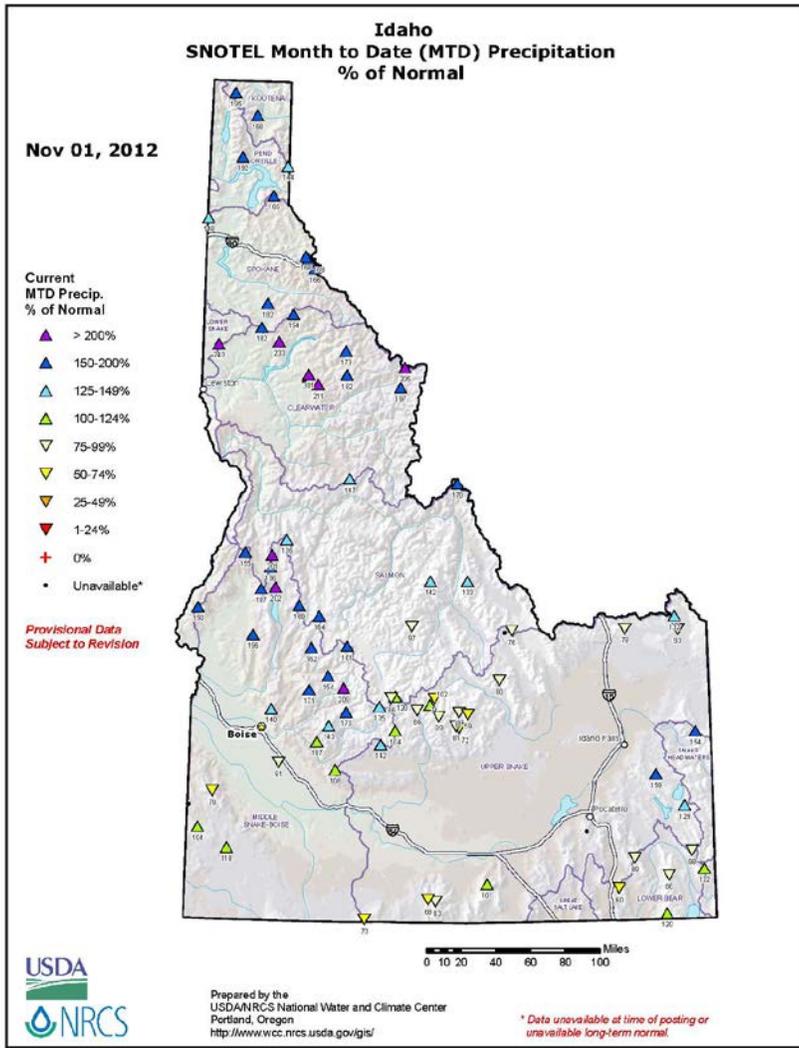
October 2012, Departure from Normal Precipitation



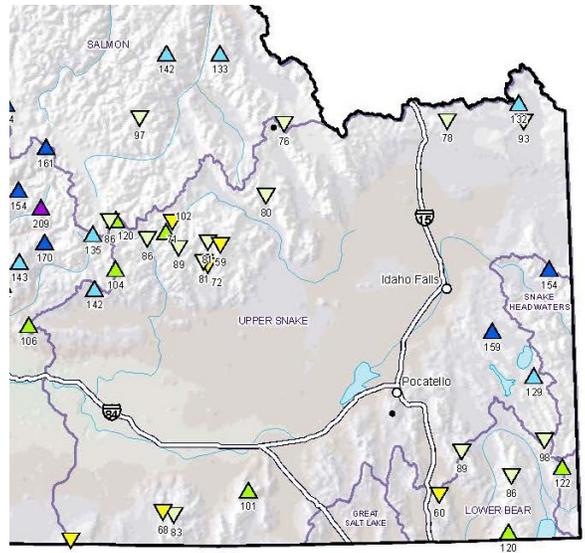
October 2012, Percent of Normal Precipitation



<http://water.weather.gov/precip/index.php>



**SNOTEL MTD % of Normal
Precipitation for end of October 2012**
(image below is cropped from left image)

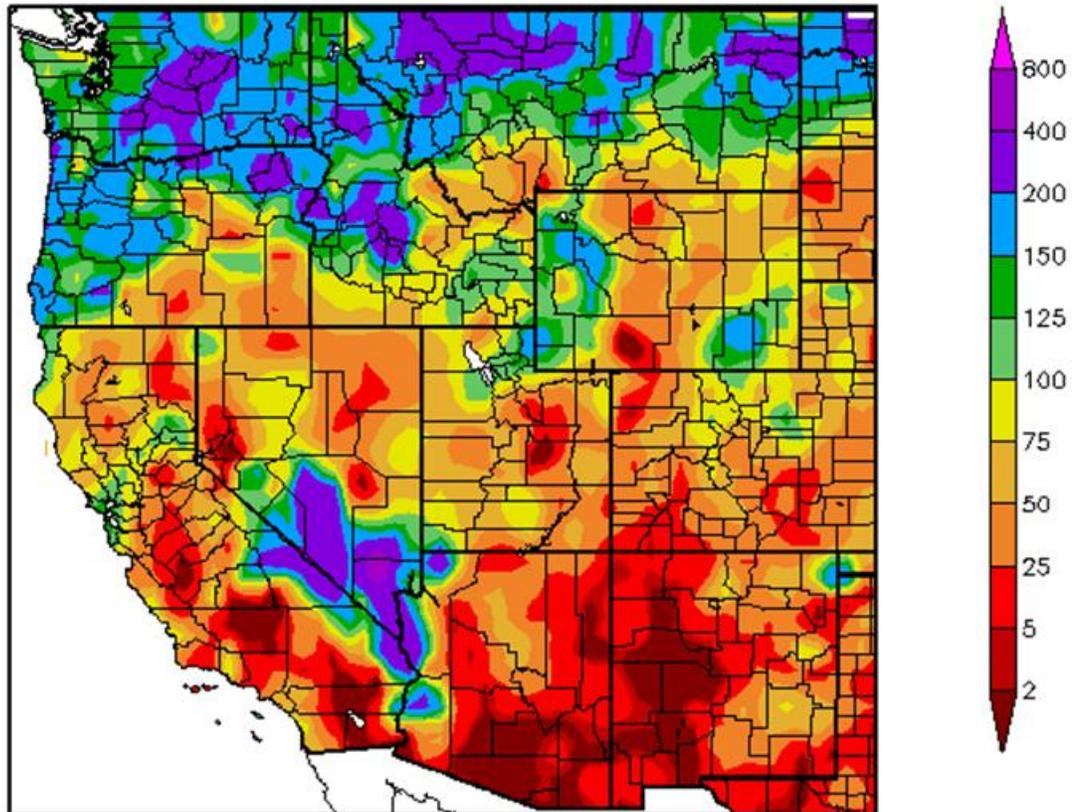


ftp://ftp.wcc.nrcs.usda.gov/data/water/wcs/gis/maps/1stmonth/id/prec/id_mtdprecptnormal_Nov.pdf

Note that last month's precipitation pattern in the image below reflects a similar pattern to a La Niña for Idaho.

But looking at the weather pattern in the next few weeks according to the AO index forecast, it appears to be shifting to an El Niño pattern.

Percent of Normal Precipitation (%)
10/1/2012 - 10/30/2012



Generated 10/31/2012 at HPRCC using provisional data.

Regional Climate Centers

Idaho

SNOTEL Snow Water Equivalent (SWE) % of Normal

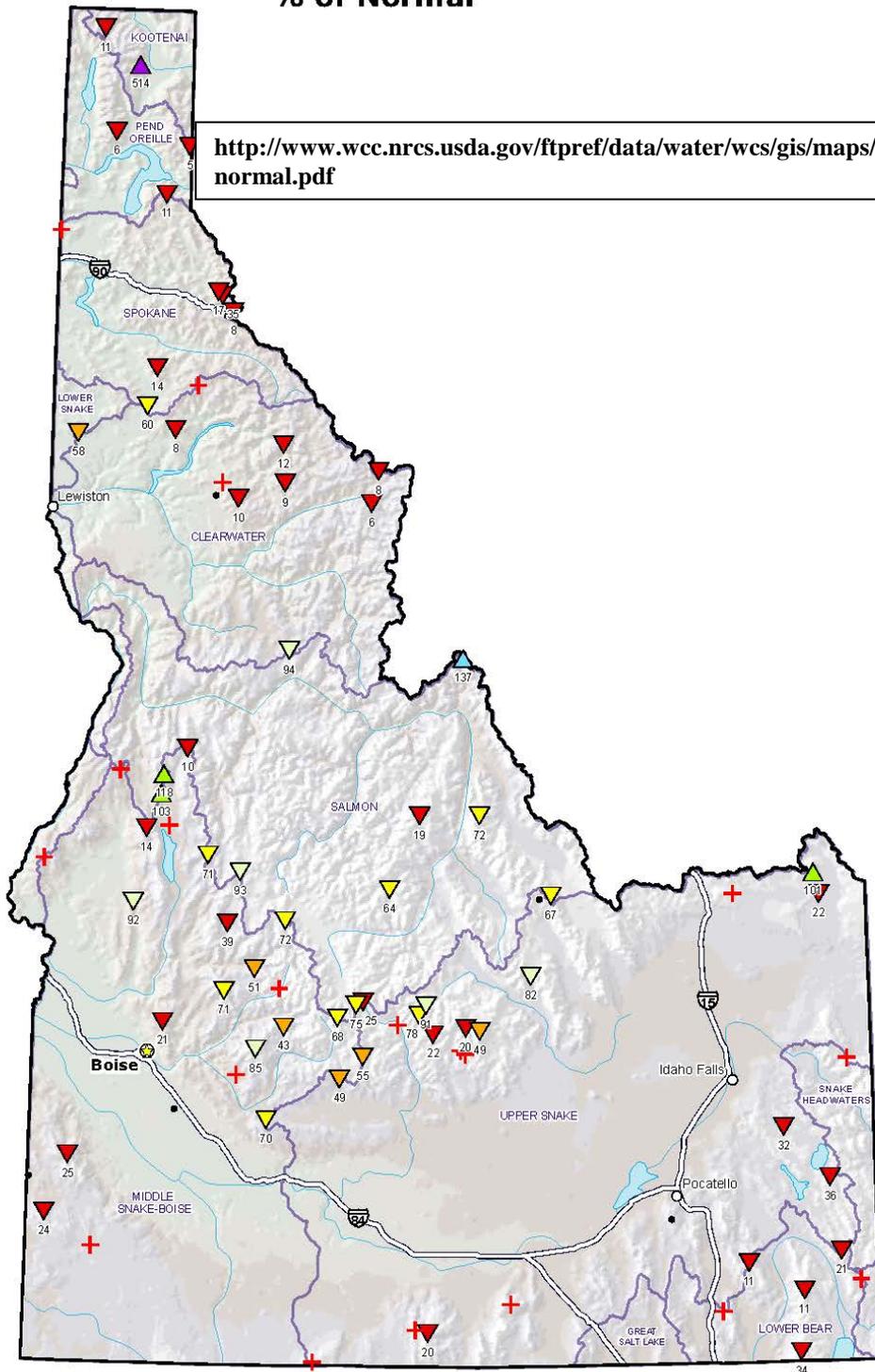
Nov 05, 2012

http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepct_normal.pdf

**Current SWE
% of Normal**

- ▲ > 160%
- ▲ 140-160%
- ▲ 120-139%
- ▲ 100-119%
- ▼ 80-99%
- ▼ 60-79%
- ▼ 40-59%
- ▼ 1-39%
- + 0%
- Unavailable*

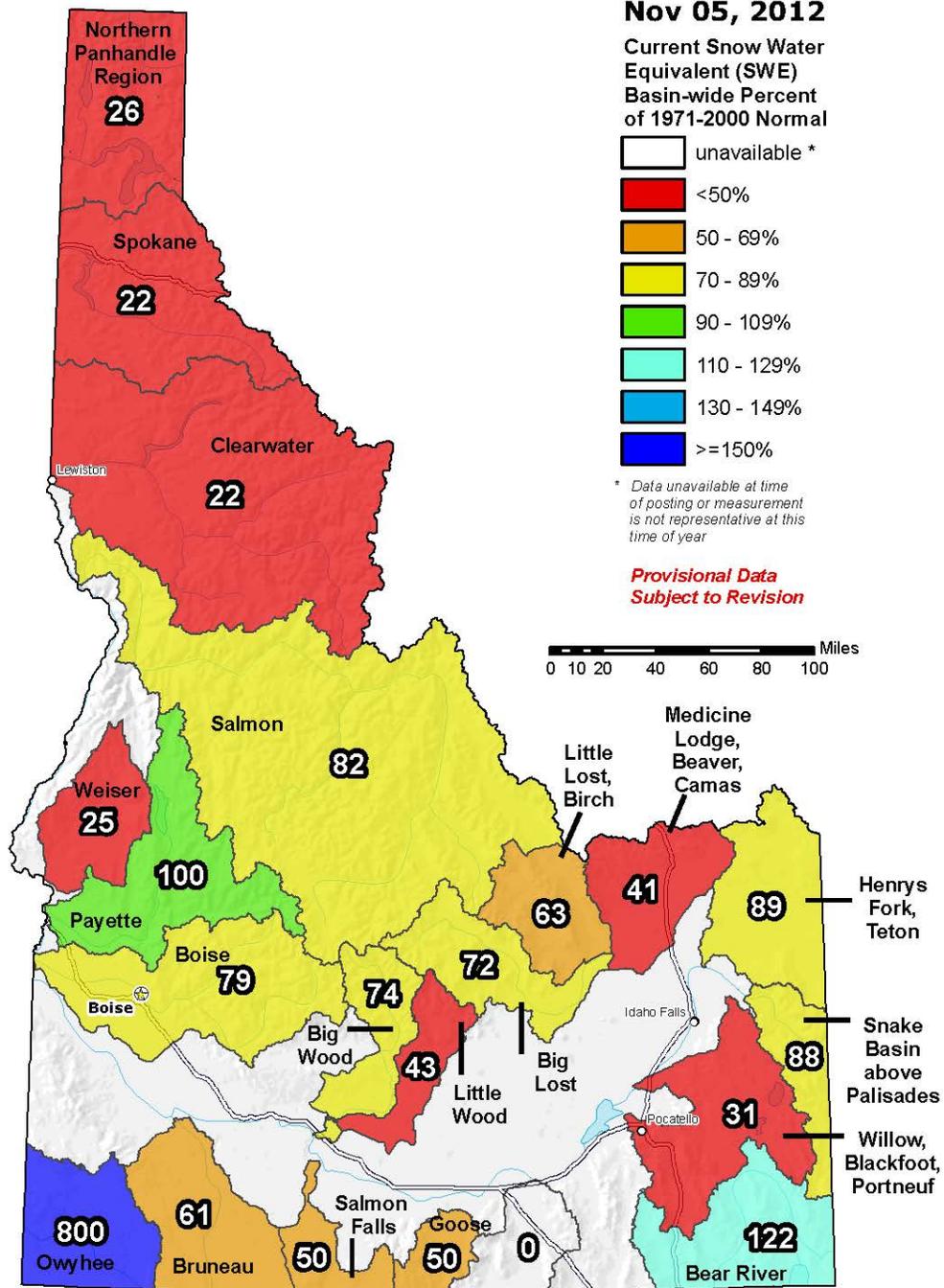
*Provisional Data
Subject to Revision*



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

** Data unavailable at time of posting or
unavailable long-term normal.*

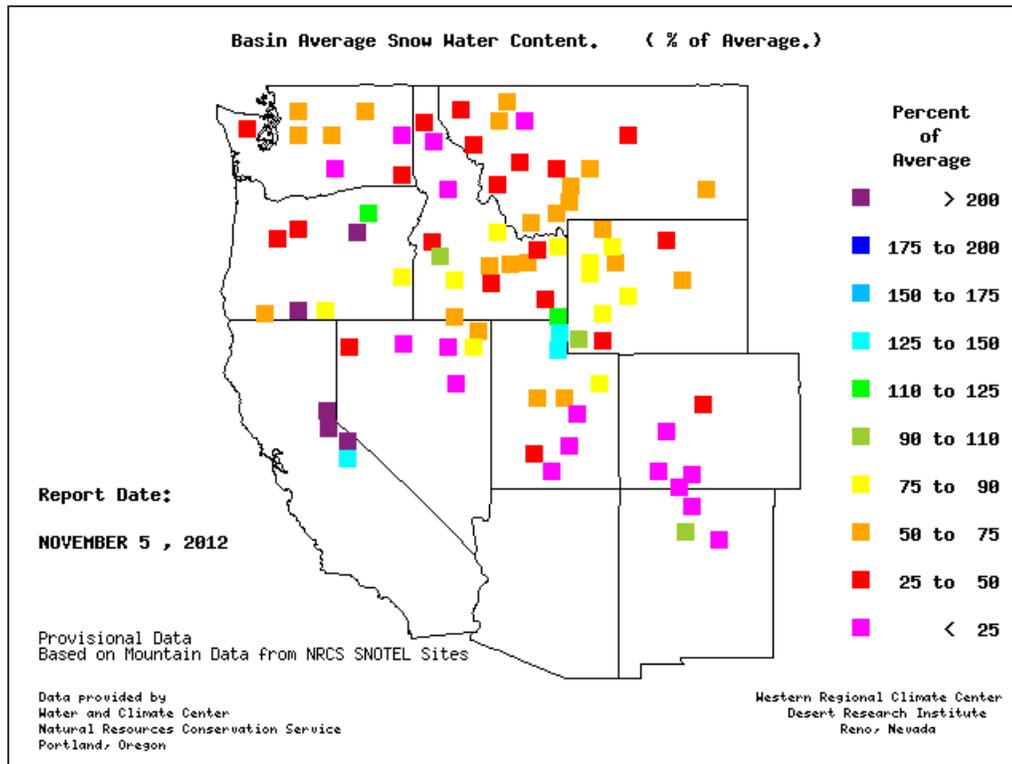
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal



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 the USDA/NRCS National Water and Climate Center Portland, Oregon <http://www.wcc.nrcs.usda.gov/gis/>
 Based on data from <http://www.wcc.nrcs.usda.gov/reports/>
 Science contact: Jim.Marron@por.usda.gov 503 414 3047

http://www.wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepctnormal_update.pdf



<http://www.wrcc.dri.edu/snotelanom/basinswe.html>

Reservoirs:

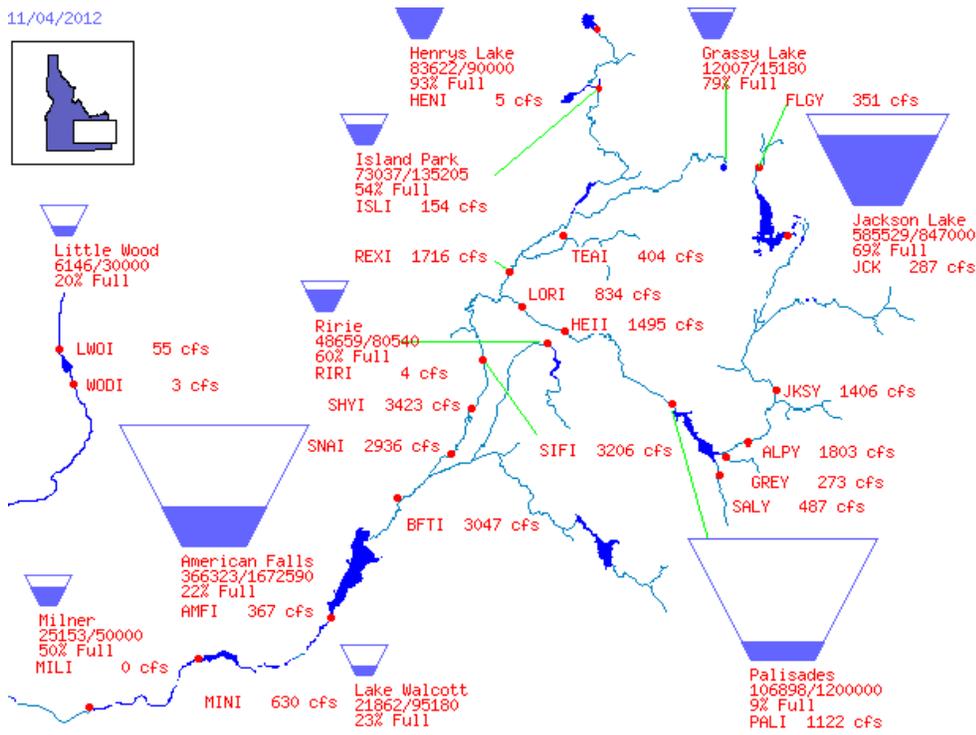
Reservoir	% Capacity Sep 30¹	% Capacity Oct 31²	Percent Change	% of Average²	% of Last Year²
Henry's Lake	91	92	1	106	96
Island Park	43	52	9	90	63
Jackson Lake	68	69	1	125	93
Palisades	25	3	-22	5	4
Ririe	63	60	-3	144	113
Blackfoot	59	58	-1	101	78
American Falls	9	19	10	52	46
Bear Lake	62	60	-2	92	76
Magic	28	28	0	80	54
Little Wood	13	19	6	70	34
Mackay	36	41	5	156	62
Oakley	18	19	1	66	50
Lake Walcott	48 ³	23 ⁴	-25	n/a	n/a
Milner	72 ³	50 ⁴	-22	n/a	n/a

Source: (1) NRCS September 30, 2012; (2) NRCS October 31, 2012.

(3) US Bureau of Reclamation (BOR) October 8, 2012 (4) BOR November 4, 2012

http://www.wcc.nrcs.usda.gov/ftpref/data/water/basin_reports/idaho/wy2013/bareid10.txt

11/04/2012

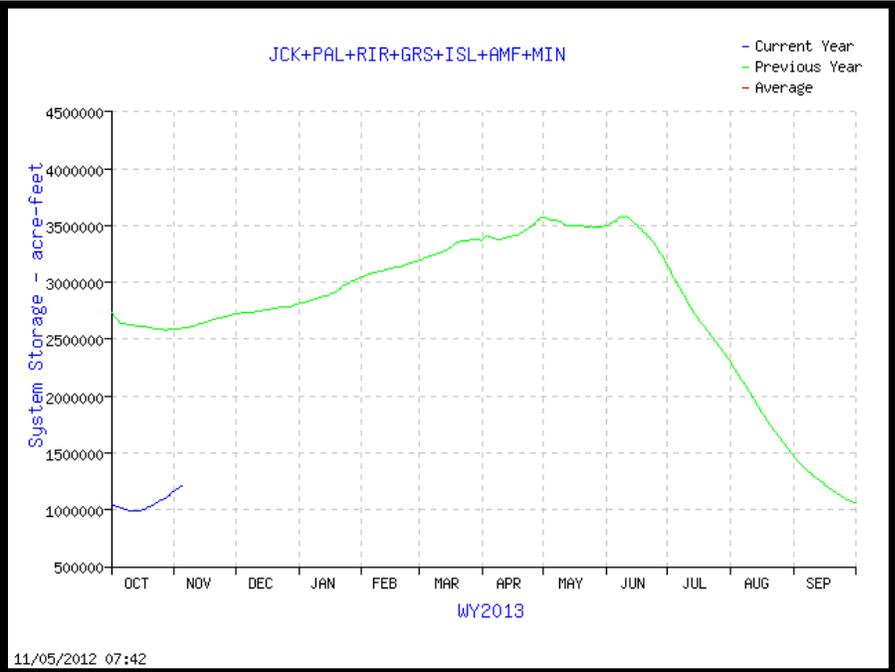


30% of Capacity in Upper Snake River System
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

<http://www.usbr.gov/pn/hydromet/burtea.cfm>

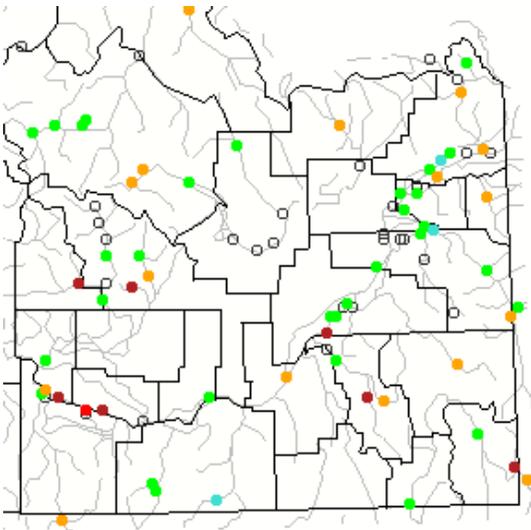
Upper Snake River:
 Total Space Available: 2,831,378 AF
 Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



http://www.usbr.gov/pn-bin/graphwy2.pl?snasys_af

Streamflow:



Monthly average streamflow compared to historical average streamflow for October 2012.



Explanation - Percentile classes							
							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

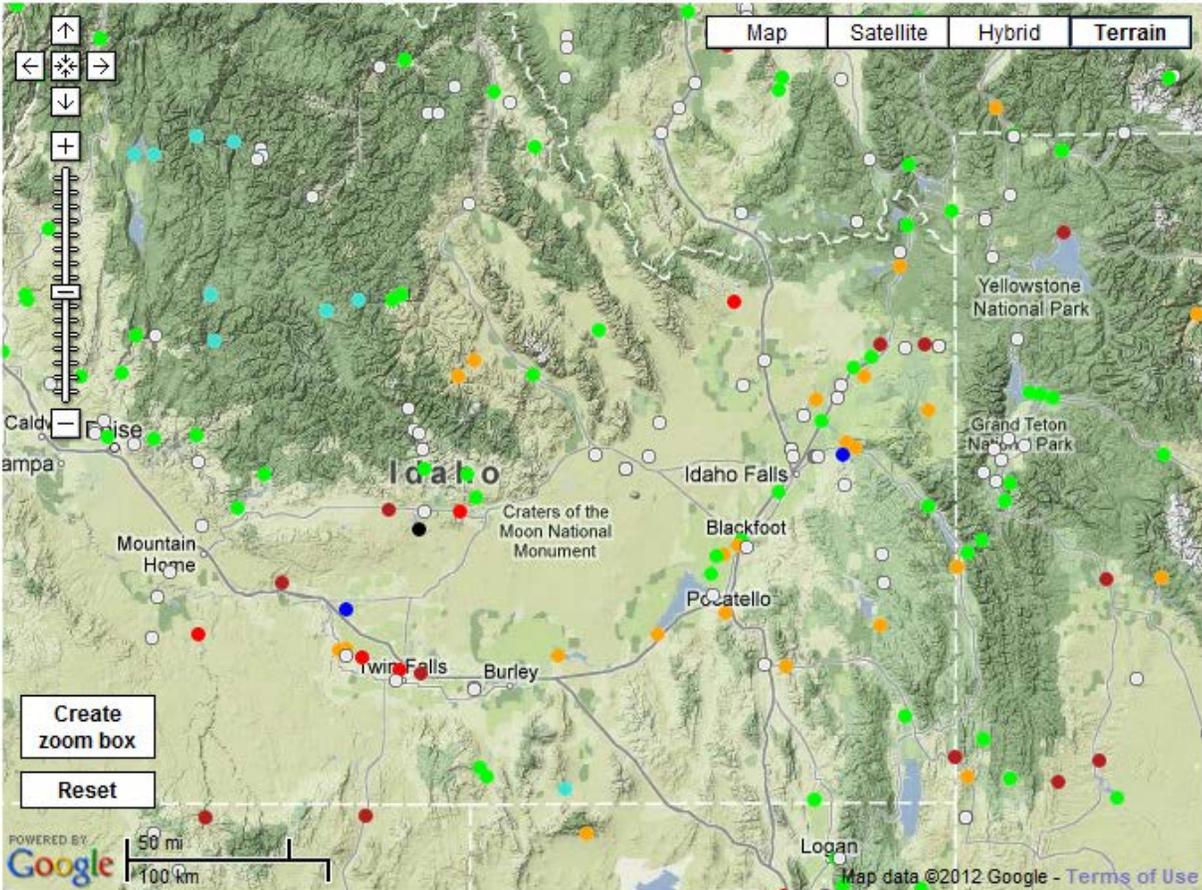
<http://waterwatch.usgs.gov/?m=mv01d&r=id&w=map>

Monthly Below Normal Streamflow for Nov 6, 2012:

Map | HUC Map | Google Map

Map of real-time streamflow compared to historical streamflow for the day of the year (Idaho)

Idaho or Water-Resources Regions



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

References to non-U.S. Department of the Interior (DOI) products do not constitute an endorsement by the DOI. By viewing the Google Maps API on this web site the user agrees to these [TERMS](#) of Service set forth by Google.

http://waterwatch.usgs.gov/index.php?id=mv01d_dry&sid=w_gmap|m_mvd_dry&r=id

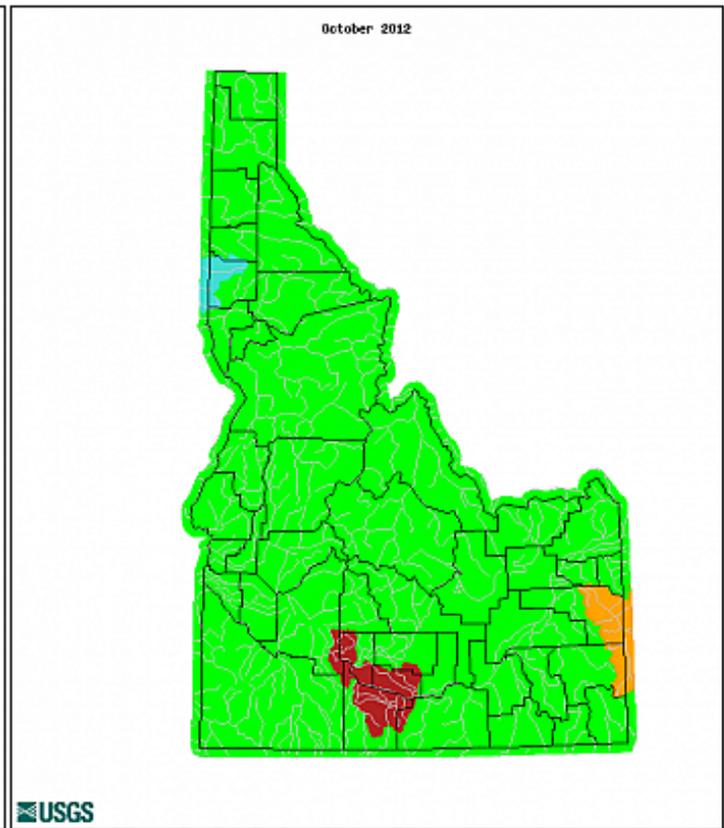
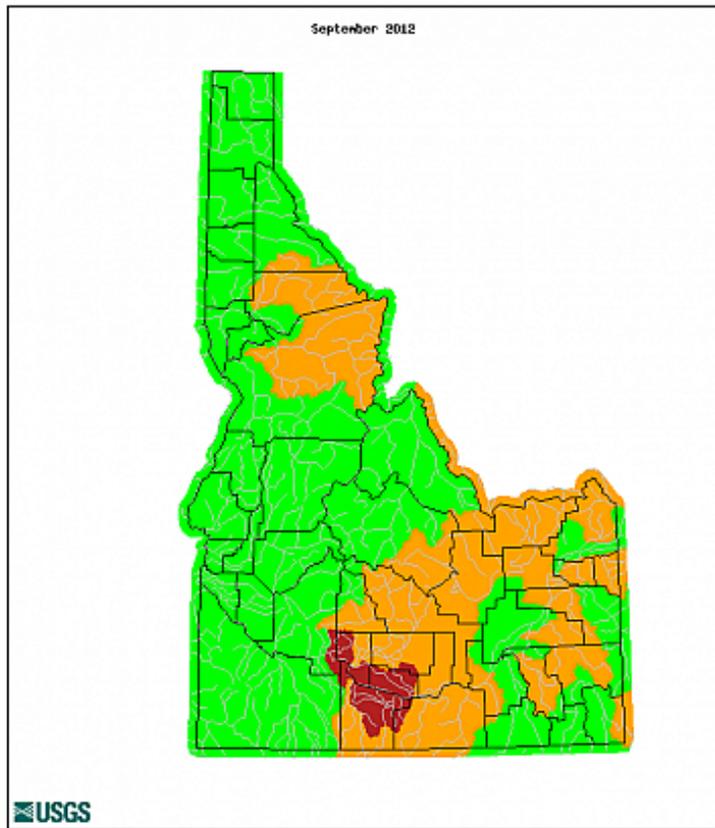
Historic Streamflow Comparisons (Sept '12 to Oct '12 and Oct '11 to Oct '12):

Comparison of Monthly Streamflow Maps

Geographic Area: Water Resource Region: Map Type:

Date (YYYYMM):

Date (YYYYMM):



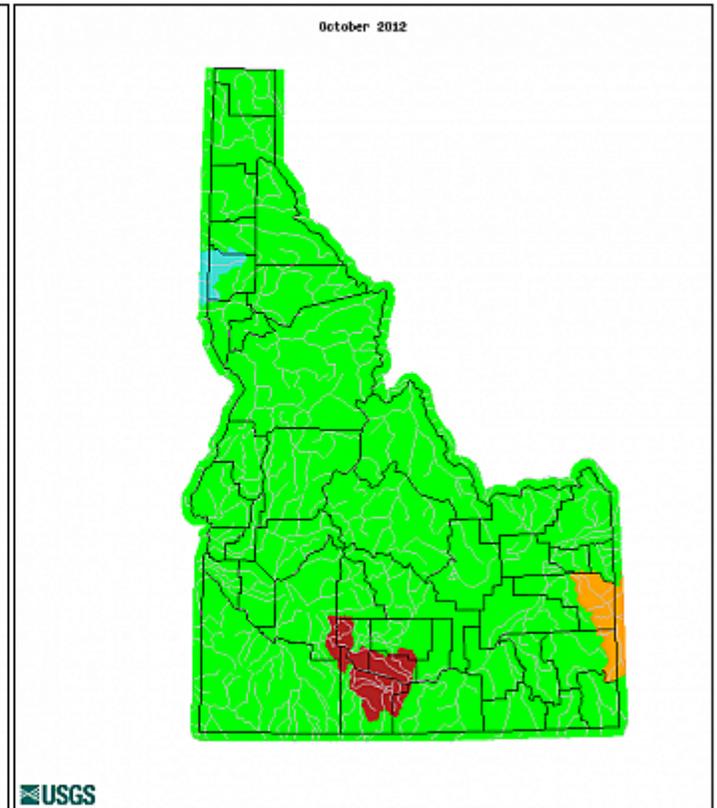
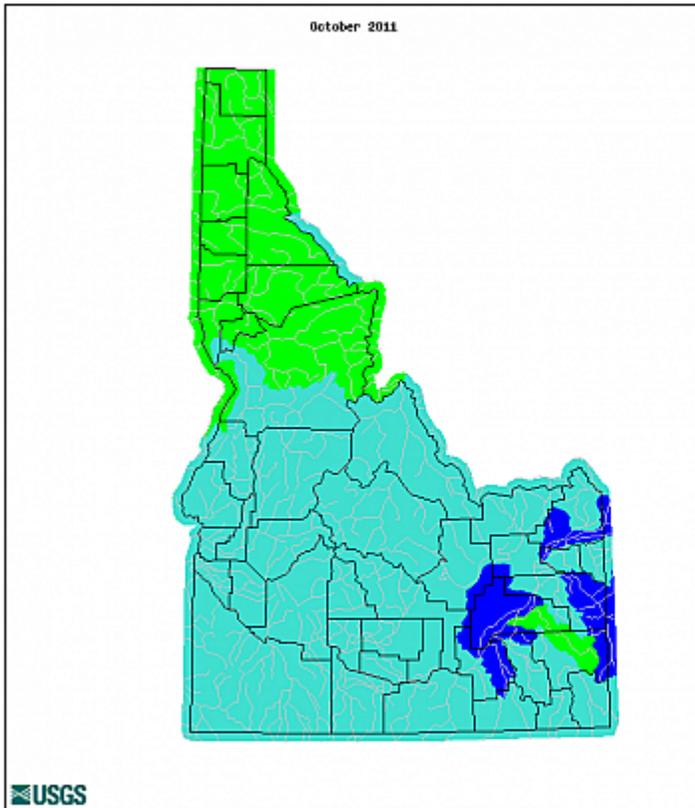
Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

Comparison of Monthly Streamflow Maps

Geographic Area:
 Water Resource Region:
 Map Type:

Date (YYYYMM):

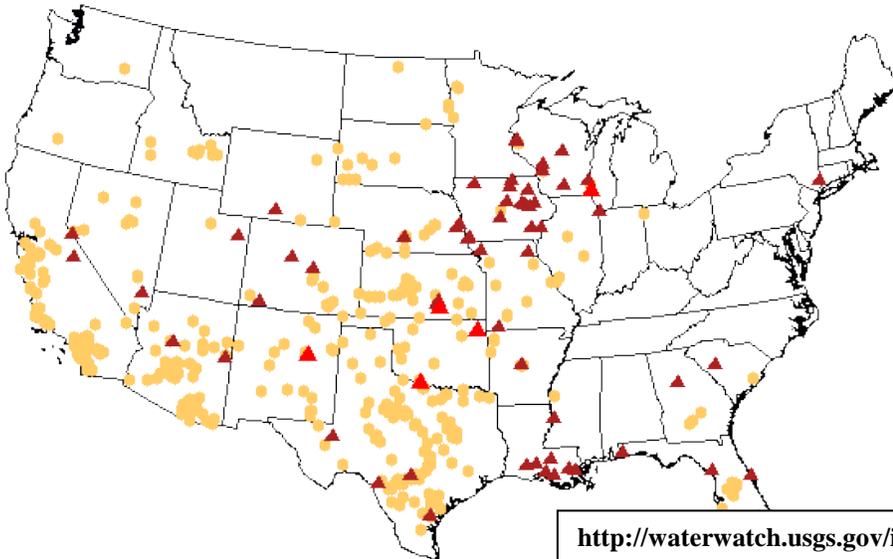
Date (YYYYMM):



Explanation - Percentile classes						
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	

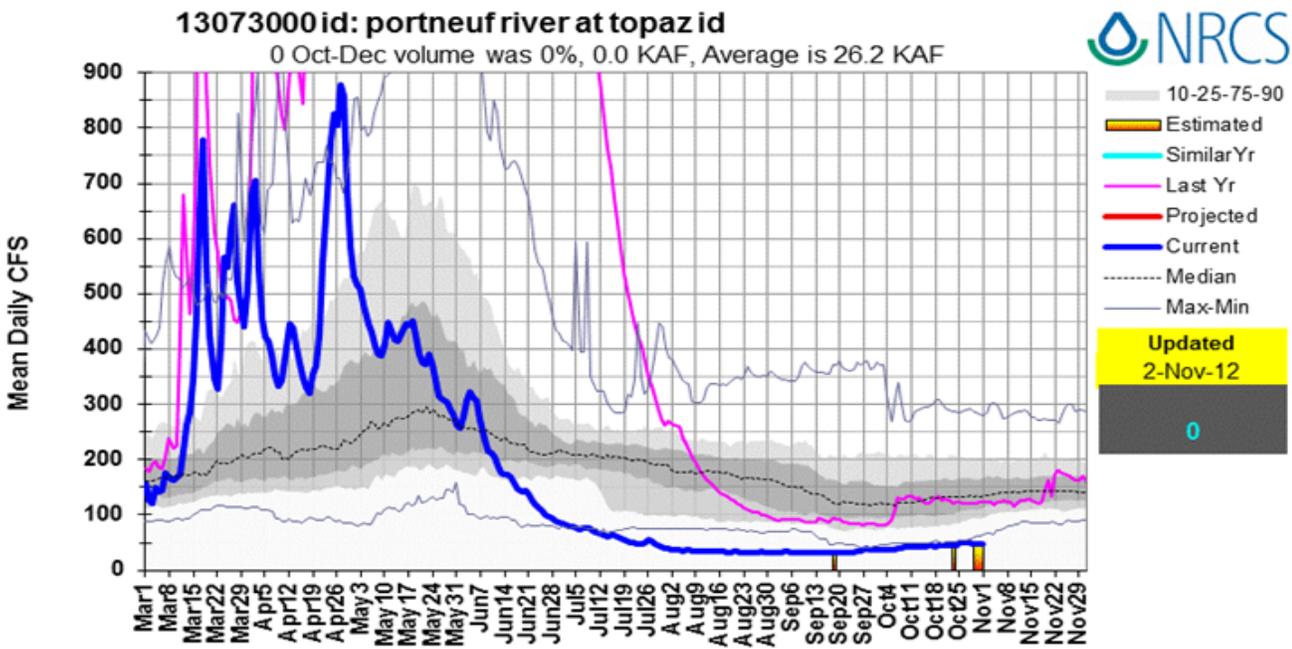
<http://waterwatch.usgs.gov/index.php>

Sunday, November 04, 2012



http://waterwatch.usgs.gov/index.php?id=wwdrought_us

Portneuf Basin: the NRCS streamflow graph below still reflects the extended dry spell with flows at / near record low flows like those of experienced in 2001 (notice current KAF vs. avg volumes).



Drought Information:

U.S. Drought Monitor

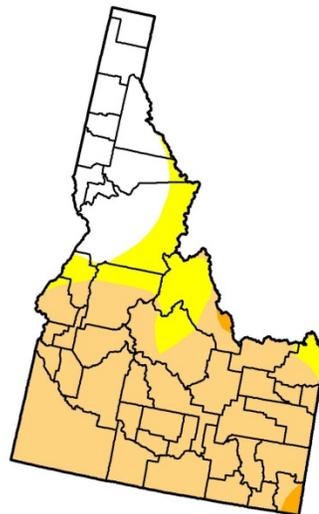
Idaho

October 30, 2012
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	21.01	78.99	65.64	0.91	0.00	0.00
Last Week (10/23/2012 map)	20.99	79.01	65.64	0.91	0.00	0.00
3 Months Ago (07/31/2012 map)	38.72	61.28	13.91	0.18	0.00	0.00
Start of Calendar Year (12/27/2011 map)	48.90	51.10	0.00	0.00	0.00	0.00
Start of Water Year (09/25/2012 map)	15.61	84.39	66.47	1.27	0.00	0.00
One Year Ago (10/25/2011 map)	100.00	0.00	0.00	0.00	0.00	0.00

Intensity:

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



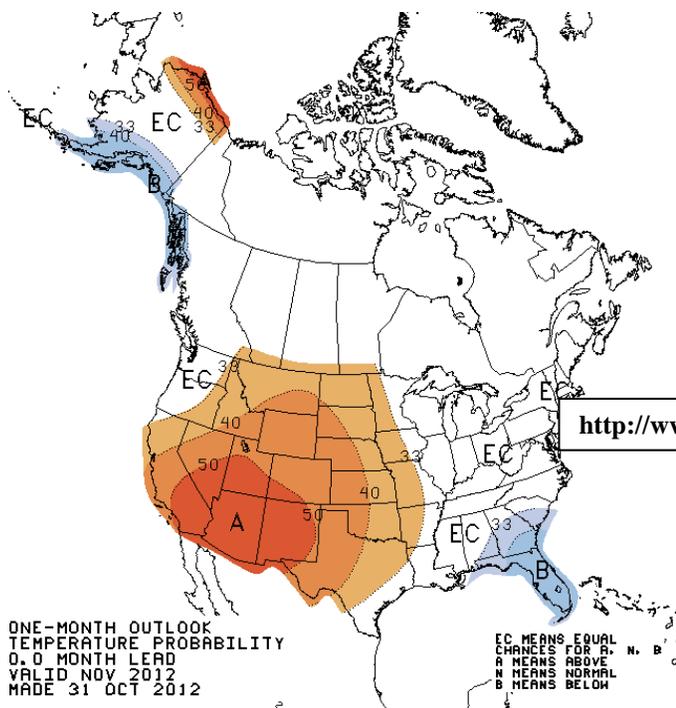
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

<http://droughtmonitor.unl.edu>



Released Thursday, November 1, 2012
Michael Brewer, National Climatic Data Center/NOAA

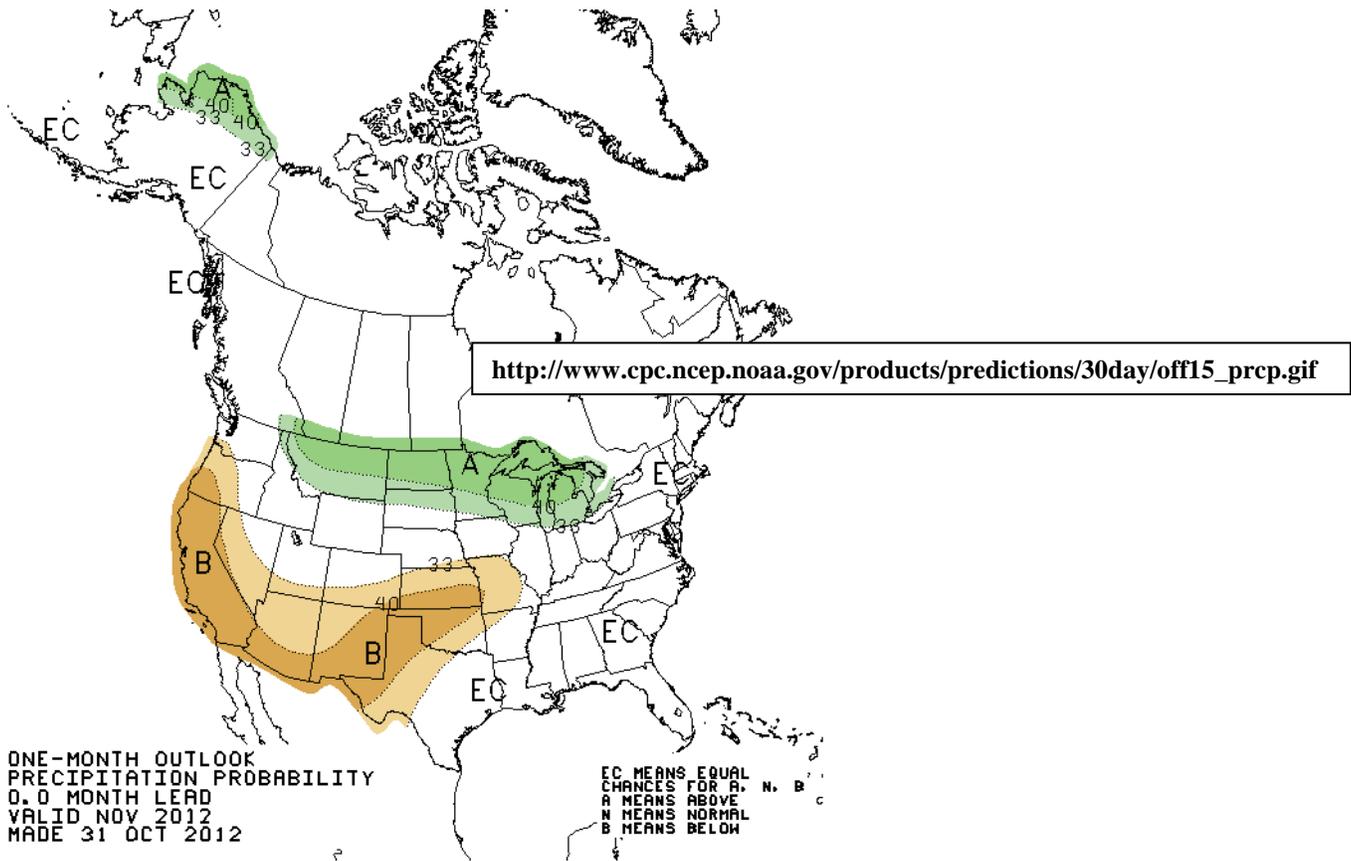
****Again, no additional Idaho Department of Water Resources Drought Emergency Declarations for Counties since last month's E-5 report****



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

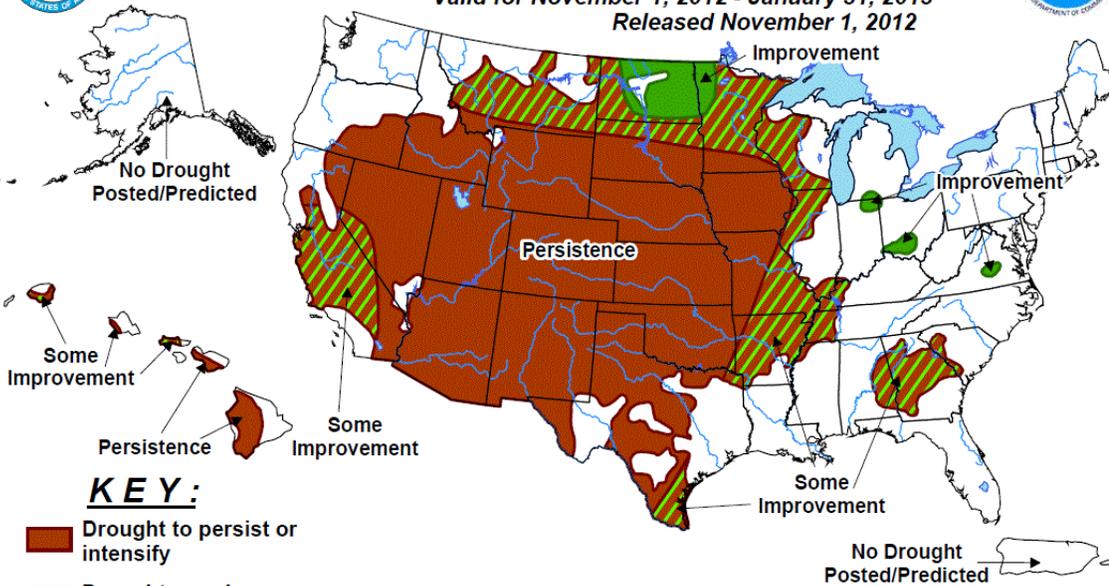
ONE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.0 MONTH LEAD
VALID NOV 2012
MADE 31 OCT 2012

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



U.S. Seasonal Drought Outlook Drought Tendency During the Valid Period

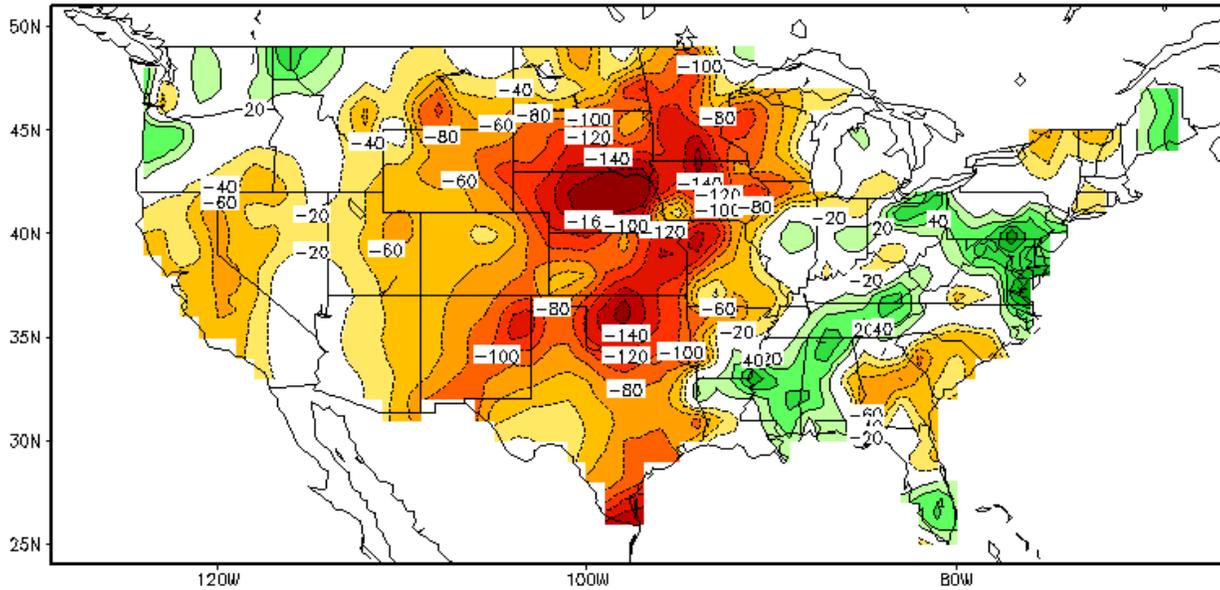
Valid for November 1, 2012 - January 31, 2013
Released November 1, 2012



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 green improvement areas imply at least a 1-category improvement in the Drought Monitor intensity levels, but do not necessarily imply drought elimination.

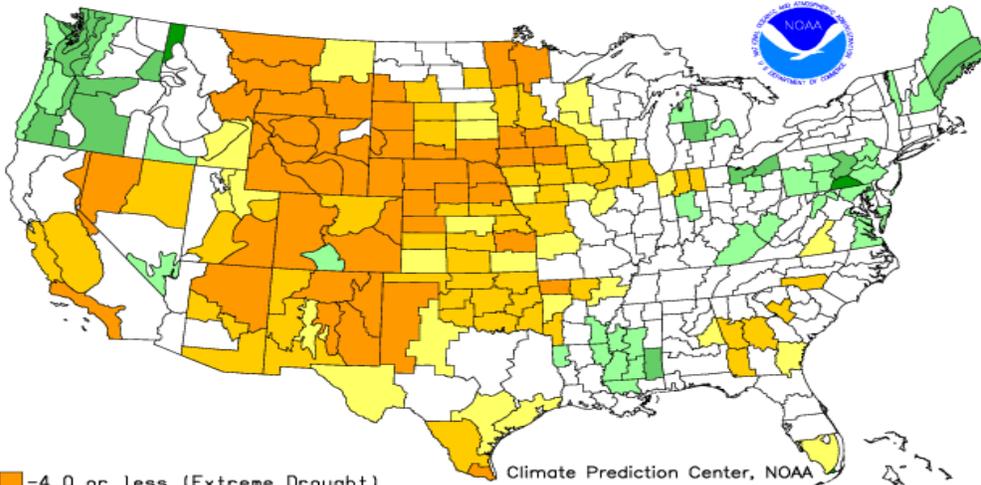
http://www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif

Soil Moisture Anomaly (mm) Last day of OCT, 2012



http://www.cpc.ncep.noaa.gov/products/Soilmst_Monitoring/US/Soilmst/Soilmst.shtml#

Drought Severity Index by Division Weekly Value for Period Ending NOV 3, 2012 Long Term Palmer



- | | |
|---|---|
| <ul style="list-style-type: none"> -4.0 or less (Extreme Drought) -3.0 to -3.9 (Severe Drought) -2.0 to -2.9 (Moderate Drought) -1.9 to +1.9 (Near Normal) | <ul style="list-style-type: none"> +2.0 to +2.9 (Unusual Moist Spell) +3.0 to +3.9 (Very Moist Spell) +4.0 and above (Extremely Moist) |
|---|---|

http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/regional_monitoring/palmer.gif

Fire Information:

With recent moisture and lower temperatures the fire season has ceased for the season, therefore there are no wildfires within the HSA.

cc:
Mike Schaffner, Western Region HCSD
Harold Opitz, Hydrologist-in-Charge, Northwest River Forecast Center
Joe Intermill, Service Coordination Hydrologist, Northwest River Forecast Center
Andy Wood, Development and Operations Hydrologist, Northwest River Forecast Center
Michelle Stokes, Hydrologist-in-Charge, Colorado Basin River Forecast Center
Kevin Werner, Service Coordination Hydrologist, Colorado Basin River Forecast Center
John Lhotak, Development and Operations Hydrologist, Colorado Basin River Forecast Center
Hydrometeorological Information Center
Rick Dittmann, Meteorologist-in-Charge, Pocatello, Idaho
Troy Lindquist, Senior Service Hydrologist, Boise, Idaho
Brad Gillies, Hydrologist, Northwest River Forecast Center
Taylor Dixon, Hydrologist, Northwest River Forecast Center
Brent Bernard, Hydrologist, Colorado Basin River Forecast Center