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:** September **YEAR:** 2015
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Corey Loveland Service Hydrologist **DATE:** October 13, 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).	

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

Overview:

September brought some cool days, but overall was warmer than normal. The above normal precipitation continued throughout the month across our Hydrologic Service Area (HSA). Overall, mostly one to four inches of precipitation fell across the HSA during the past month, most of the rainfall fell in the central mountains and southeast Idaho including Bonneville, Caribou, Bannock, Oneida and Franklin counties. Temperature departures from normal for September show that across the HSA, we ranged about one to six degrees F above normal with warmer temperatures in the Henrys Fork basin. Mean average temperatures ranged from 46 to 66 degrees F for monthly mean temperatures across the area. Pocatello City and 2NE COOP stations each had 2 days of average temperatures over 75 degrees F during September.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast is for a 40 percent chance of above normal temperatures across Idaho. Eastern Idaho continues with the wetter than normal pattern with a 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 continue to be warm in eastern Idaho; ranging mostly from normal to a 33 percent chance with normal temperatures forecast for southeastern Idaho. As for precipitation, the outlook is for mostly below normal (33 percent) chance of having drier conditions with normal conditions forecast for the extreme corner of southeast Idaho; just in the Bear River basin.

Of the data available for the month, the stations within the HSA reaching the highest 24-hour temperature were both the Little Creek RAWS and Minidoka Dam COOP stations reaching 95°F on the 12thand 25th respectively. The station (non-SNOTEL) with the lowest recorded temperature was the Copper Basin RAWS stations at 10°F on September 6th. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Grace WBAN station where 2.0 inches fell on the 16th. The highest recorded precipitation total (non-SNOTEL) occurred also at the Grace WBAN where 3.14 total inches was recorded for the month. The Somsen Ranch and Franklin Basin SNOTELs recorded 4.6 and 3.8 inches of total precipitation respectively for the month.

Reservoirs last month increased capacity overall by around 9% in the upper Snake River basin system (an increase of about 342 KAF occurred over the month and is currently sitting at 28% of capacity overall). Compared to last year at this time, it was about 42% of capacity. According to Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable decrease in storage capacity was Blackfoot Reservoir currently at 91% of capacity, which is 303% of average. The most notable increase in

storage capacity is the Ririe and Mackay Reservoirs increasing percent capacity by 18 and 11% respectively. Island Park, Little Wood and Magic Reservoirs all gained a slight increase in storage. American Falls has the lowest storage; at 29% of average. Jackson Lake is the fullest at 132% 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, upper Henrys Fork and Teton Rivers (see graphic below).

Drought conditions across eastern Idaho have improved from the longer-term drought effects-especially in the southeastern Idaho counties of Teton, Bonneville, Bingham, Caribou, Bear Lake, Franklin, Bannock, Oneida, Power and Cassia counties where drought declaration has been eliminated or scaled back to Abnormally Dry. Currently, about 29 percent and 49 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, especially the Bear River basin.

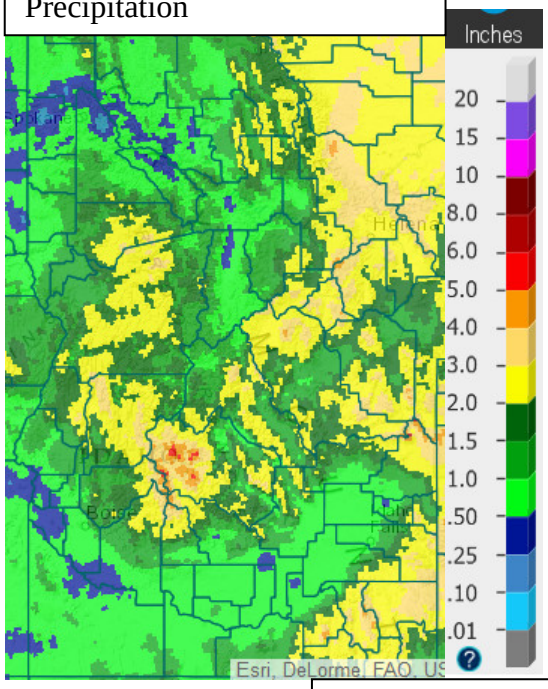
According to the Idaho NRCS Snow Survey October 1st Idaho Surface Water Supply Index (SWSI); combining streamflow volume forecasts and reservoir storage (where appropriate), rates the greatest valued basin for water supply within the HSA as being the Snake (Heise) basin. This basin was given a SWSI rating of 1.3 (near normal). This rating reflects overall water availability in the basins and are mostly used for irrigational planning purposes. The two lowest ranked basins within the HSA are the Little Wood and Big Lost River basins at -3.7 and -3.0 respectively, which are much below normal.

Idaho Surface Water Supply Index (SWSI):

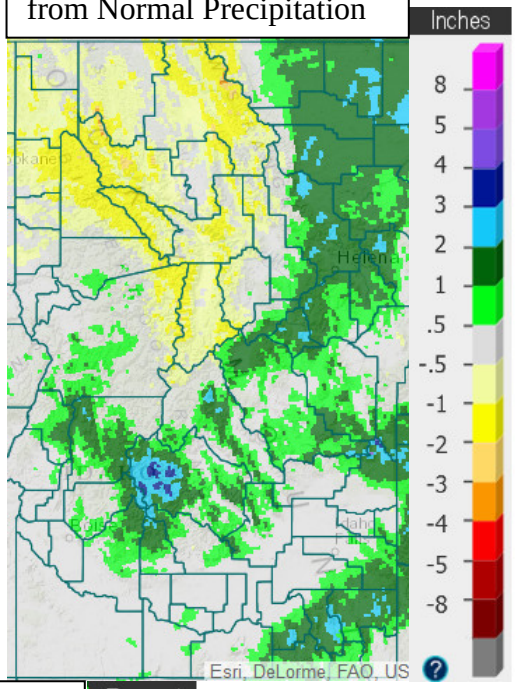
ftp://ftp.wcc.nrcs.usda.gov/states/id/webftp/swsi/tables/Oct/SWSI10.pdf

Precipitation:

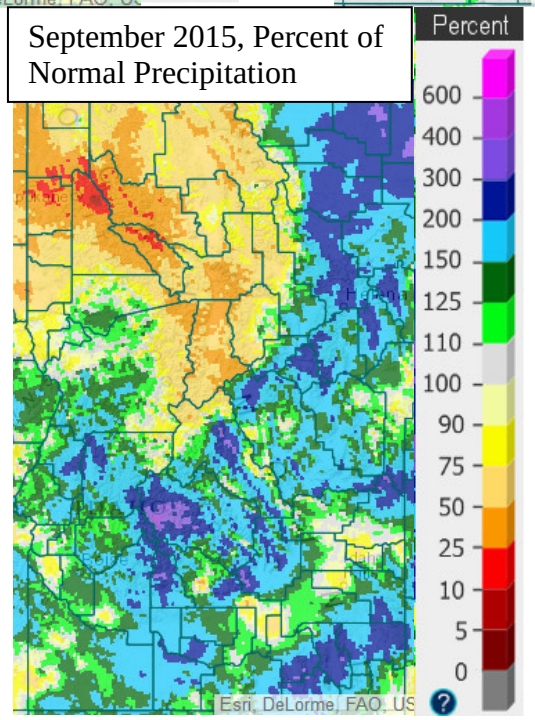
September 2015, Observed Precipitation



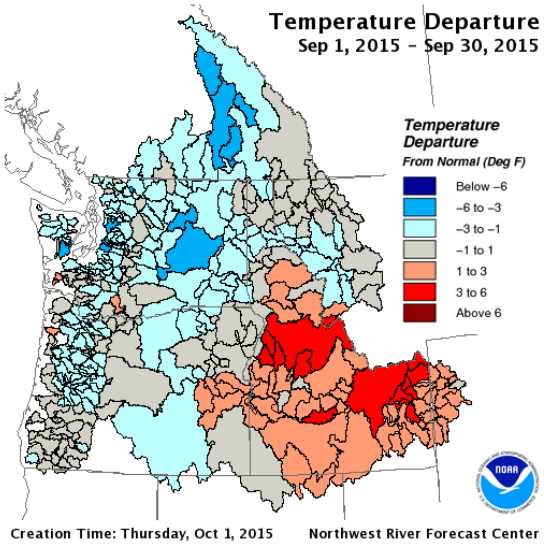
September 2015, Departure from Normal Precipitation



September 2015, Percent of Normal Precipitation



water.weather.gov/precip/#



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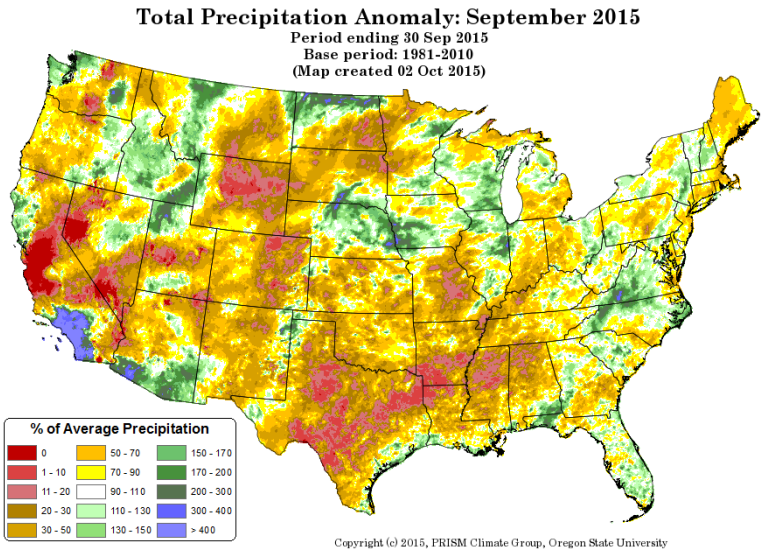
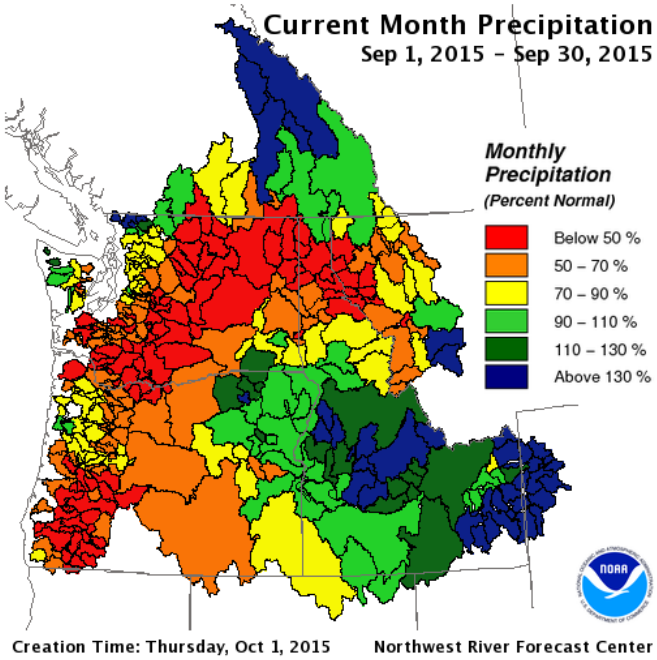


prism.oregonstate.edu/



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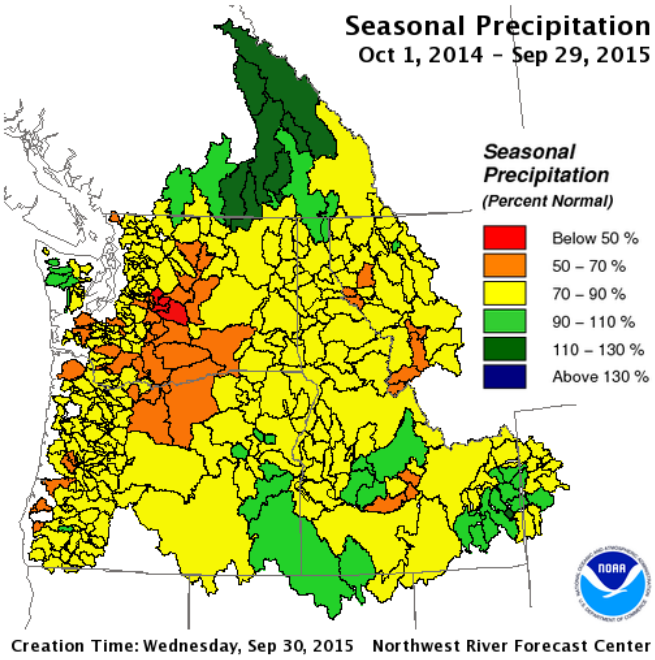
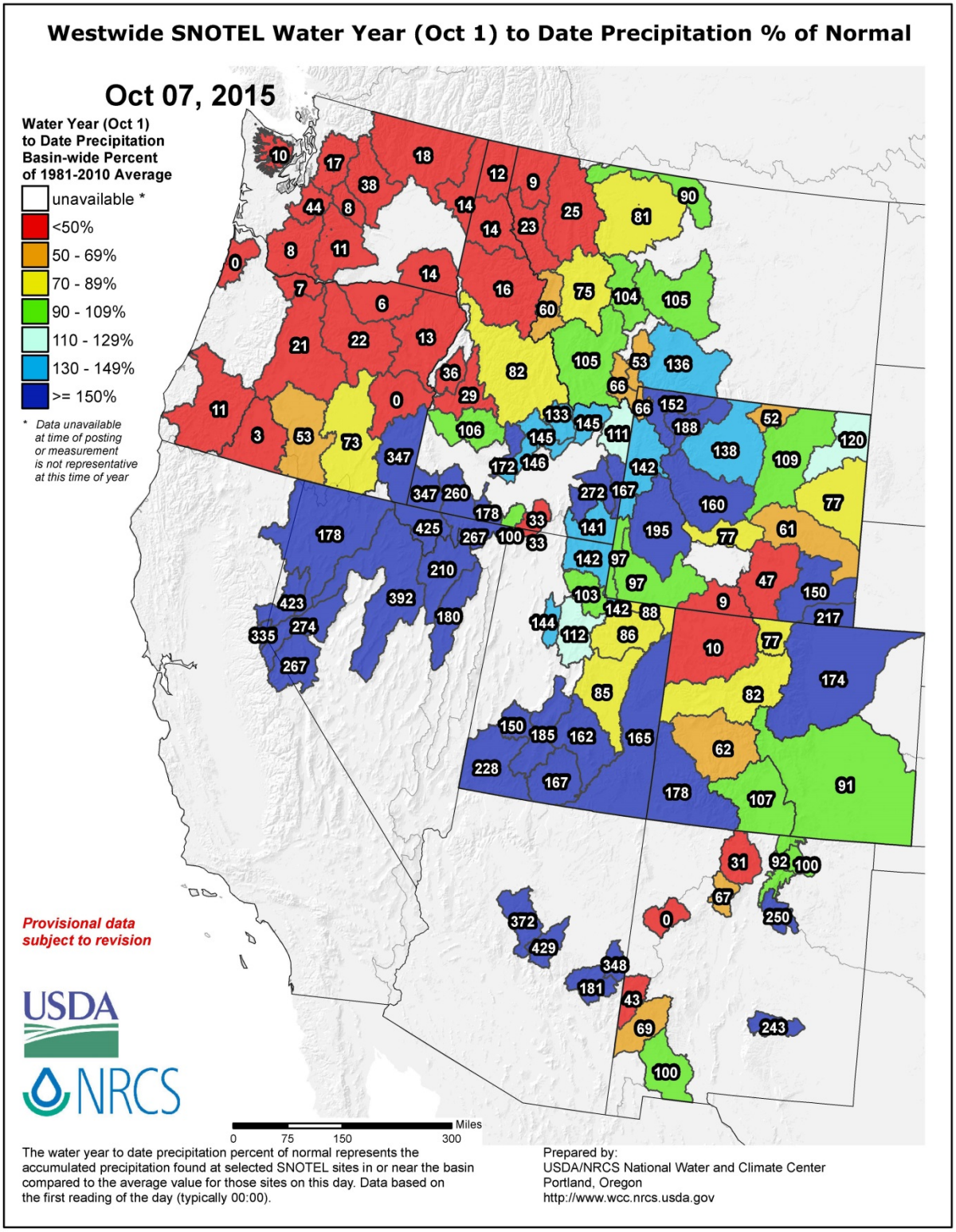


nwrfc.noaa.gov/WAT_RES_wy_summary/20151001/SeasonalMAP_2015Sep30_2015100116.png

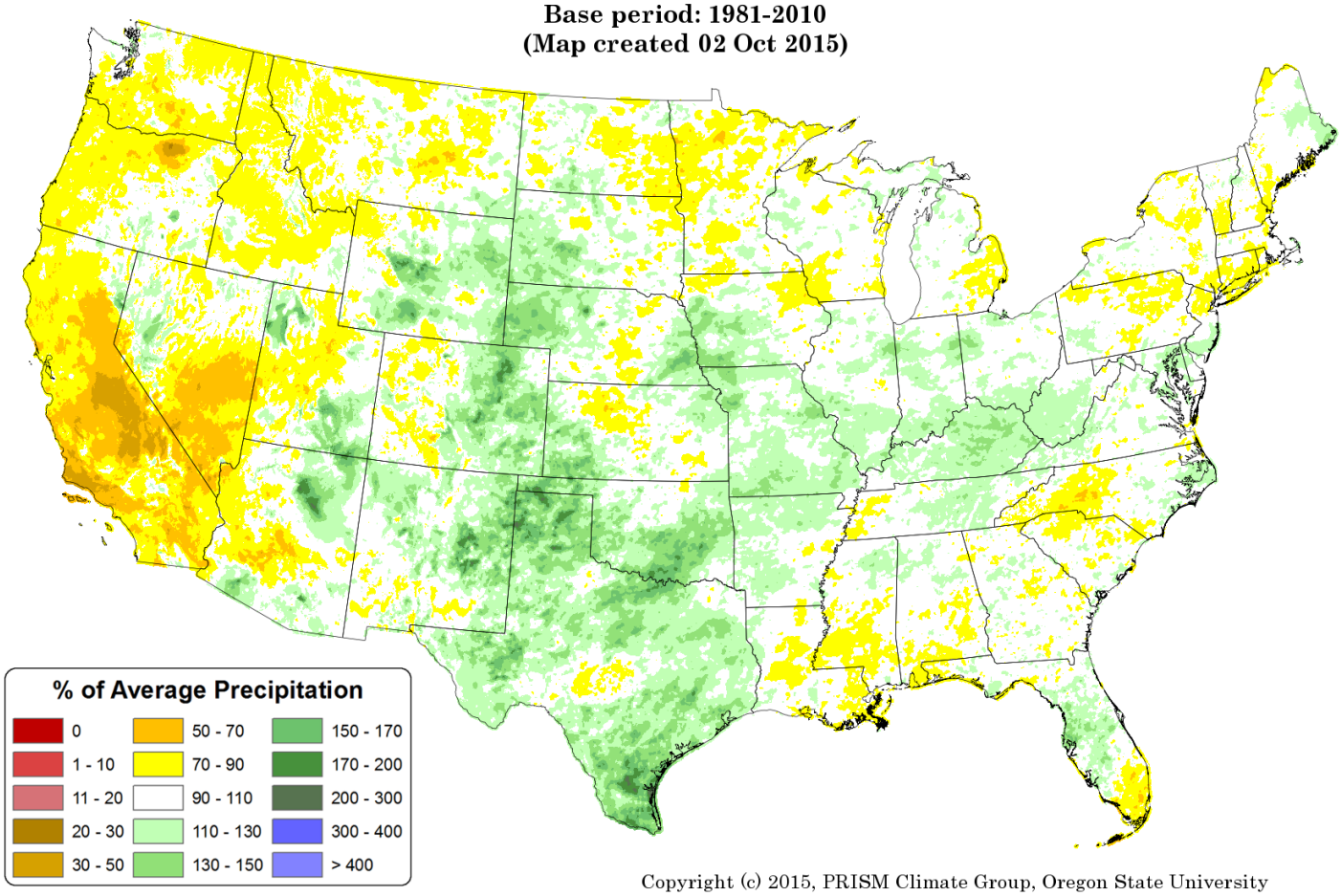
New Water Year:



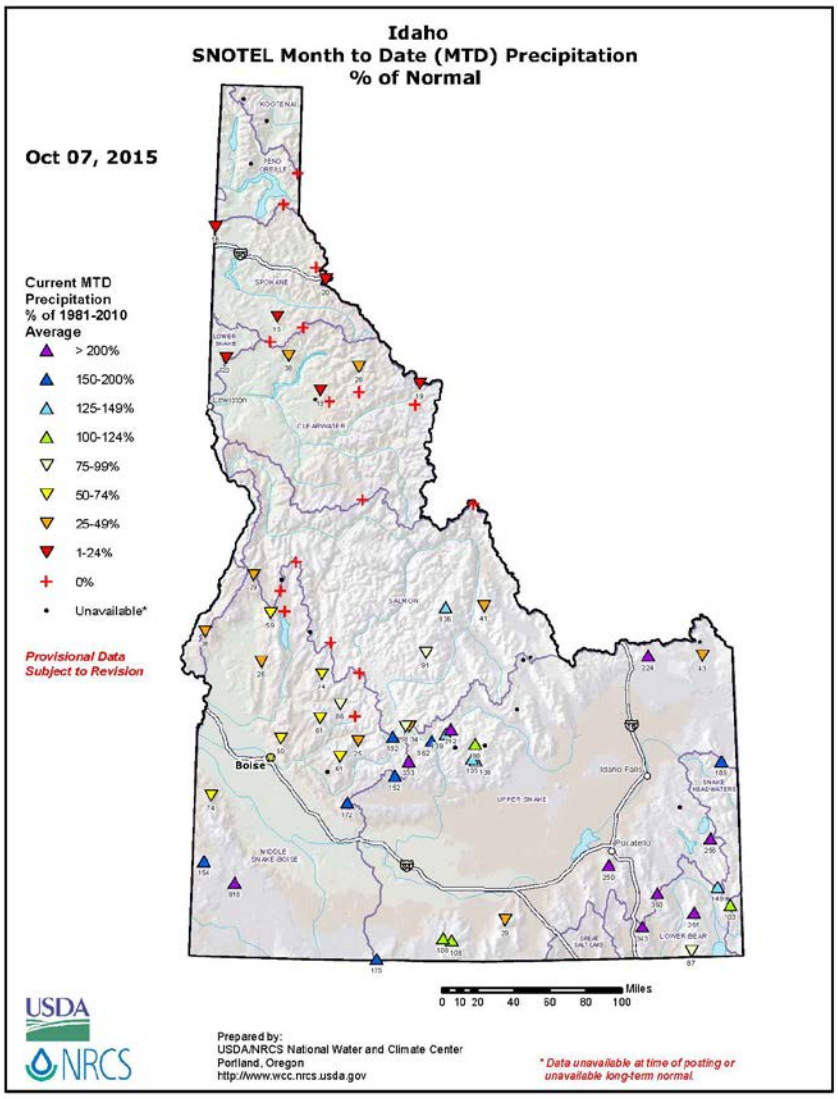
wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

Total Precipitation Anomaly: October 2014 - September 2015

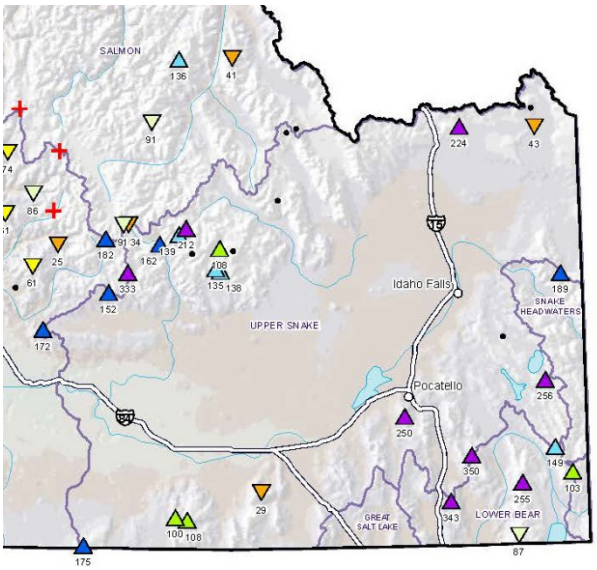
Period ending 7 AM EST 30 Sep 2015
Base period: 1981-2010
(Map created 02 Oct 2015)



prism.oregonstate.edu/comparisons/drought.php

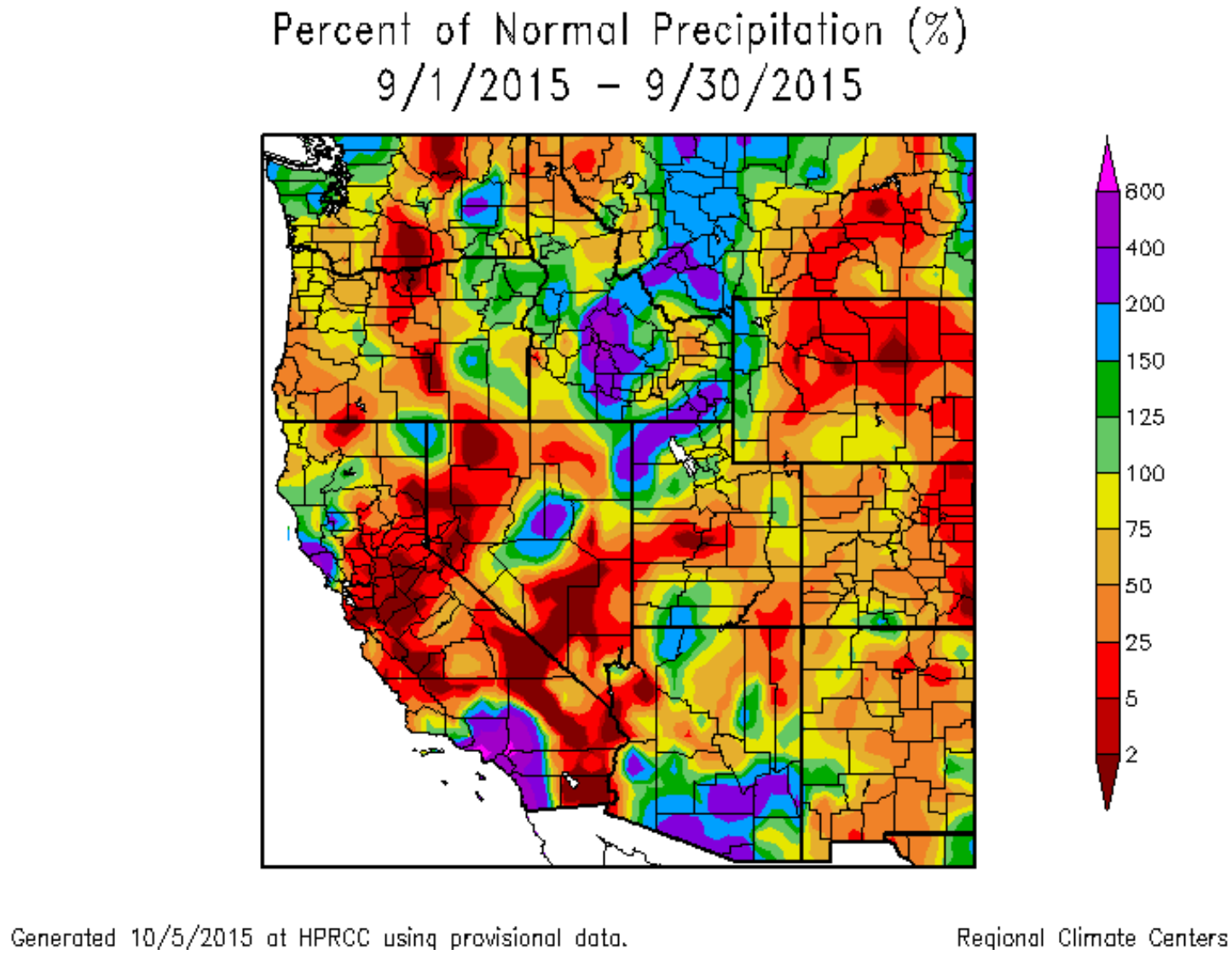


wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



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

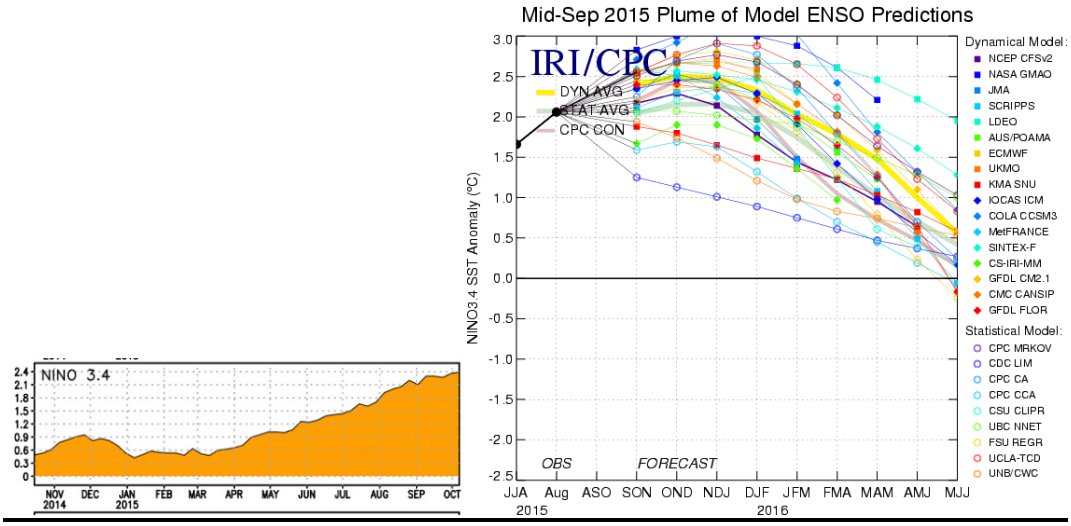
September was generally warmer than normal, but we got a fair amount of rainstorms, especially the central mountains and southeastern Idaho. Across the HSA, the majority of the area received over 75% of normal last month with some areas getting well over 200%. Where west Custer, north Camas and northwest Blaine counties meet, the area received over 400% of normal! The mid to upper Snake River plain was dry, but much needed precipitation fell in the surrounding mountainous areas. The majority of the west was dry last month, especially CA, NV, OR, WY and CO. In Idaho: Clark, Jefferson, Bonneville, Bingham and Power counties were the driest over the month.



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

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 2.4 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: 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.

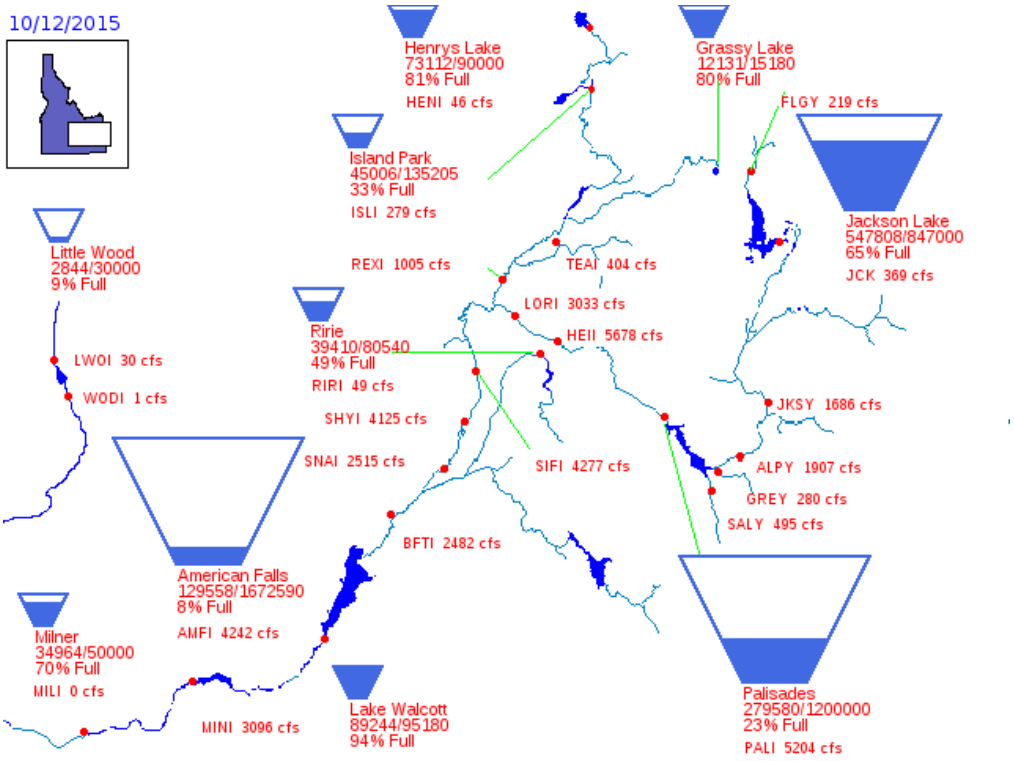
Note: Positive equatorial sea surface temperature (SSTs) anomalies continue across most of the Pacific Ocean. MJO remains weak and not likely to influence tropical convection in the near term. The Pacific Decadal Oscillation (PDO) is currently positive.

Reservoirs:

Reservoir	% Capacity August 31[1]	% Capacity September 30[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	76	66	-10	132	152
Palisades	40	39	-1	72	97
Henrys Lake	87	82	-5	98	113
Island Park	30	32	2	71	115
Grassy Lake	80	79	-1	108	105
Ririe	70	52	-18	93	115
Blackfoot	49	140	91	303	90
American Falls	16	7	-9	29	65
Mackay	25	14	-11	90	141
Little Wood	3	7	4	35	25
Magic	6	8	2	31	35
Oakley	14	10	-4	50	69
Bear Lake	40	37	-3	80	86
Lake Walcott	97[3]	94[4]	-3	n/a	n/a
Milner	72[3]	70[4]	-2	n/a	n/a

Source: (1) NRCS August 31, 2015; (2) NRCS September 30, 2015.
(3) US Bureau of Reclamation (BOR) September 8, 2015 (4) BOR October 12, 2015

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_10_2015.pdf

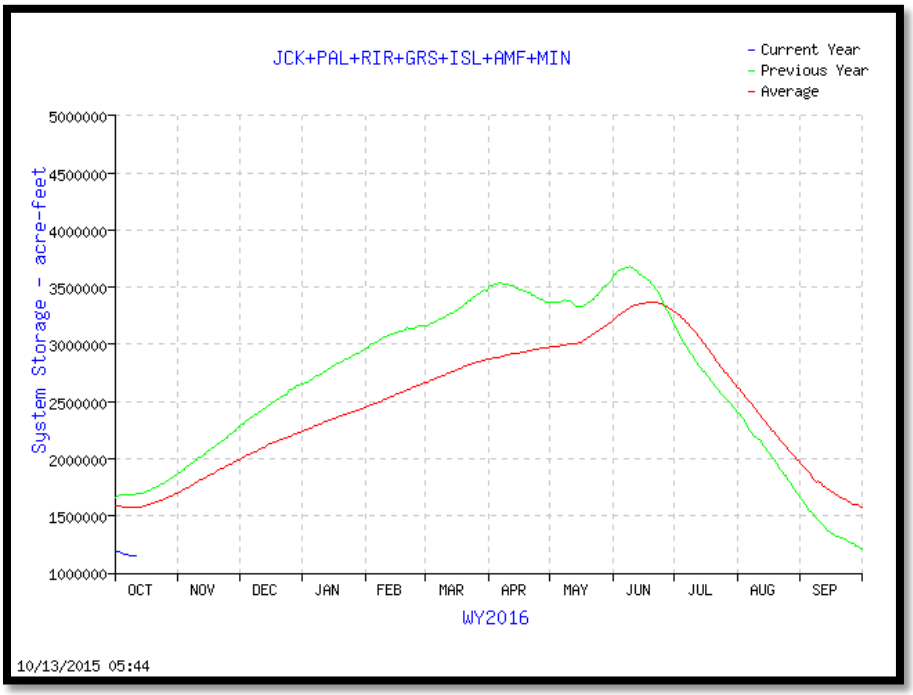


28% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
Total Space Available: 2,902,958 AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage

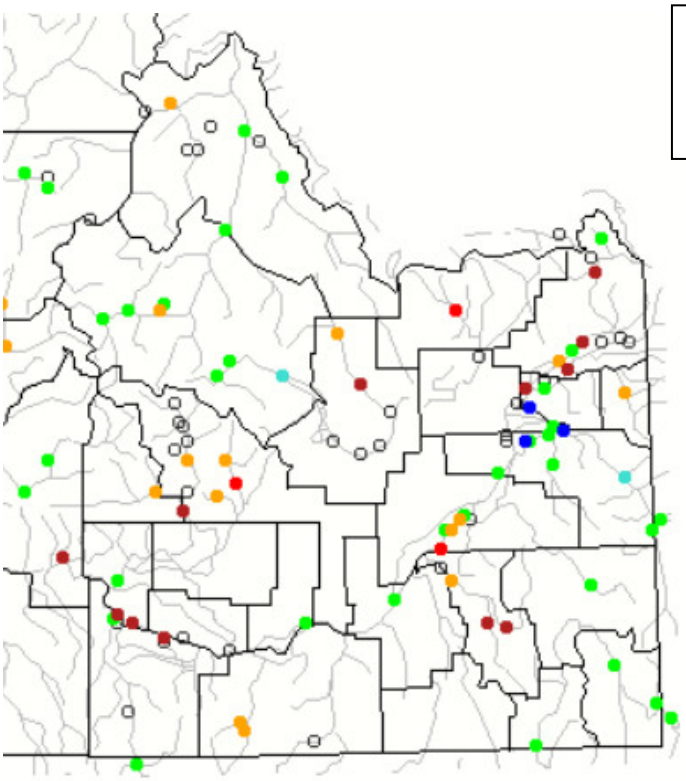


usbr.gov/pn-bin/graphwy2.pl?snasys_af

Streamflow:

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

USGS



waterwatch.usgs.gov/?m=mv01d&r=id&w=map

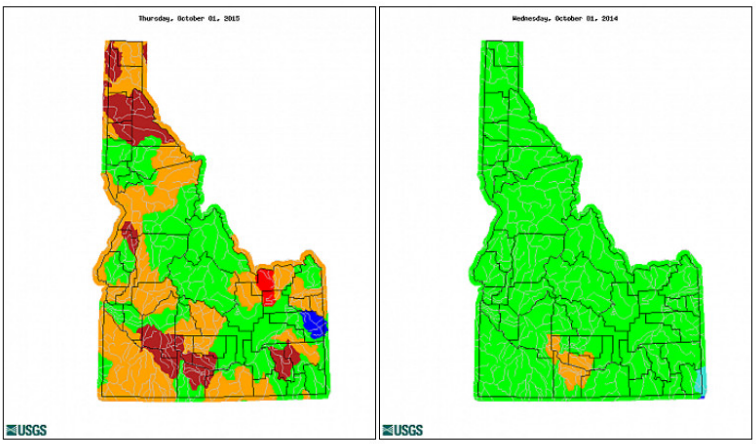
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

Comparison of Streamflow Maps

Geographic area: Idaho | Water resource region: | GO

Map type: Monthly Streamflow (month of year) | Sub type: HUC Streamflow Map

Date (YYYYMM): 201509 Date (YYYYMM): 201409

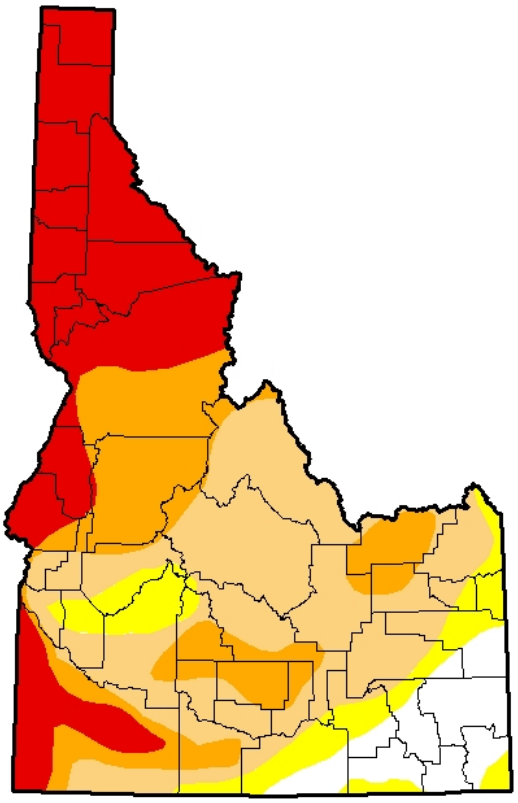


waterwatch.usgs.gov/index.php

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		

Drought Information:

U.S. Drought Monitor
Idaho



October 6, 2015
(Released Thursday, Oct. 8, 2015)
Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	8.51	91.49	82.14	49.19	28.49	0.00
Last Week 9/29/2015	0.00	100.00	85.59	47.55	29.26	0.00
3 Months Ago 7/7/2015	0.00	100.00	82.11	52.23	7.01	0.00
Start of Calendar Year 12/30/2014	23.76	76.24	41.73	18.49	3.40	0.00
Start of Water Year 9/29/2015	0.00	100.00	85.59	47.55	29.26	0.00
One Year Ago 10/7/2014	13.19	86.81	52.50	26.35	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:
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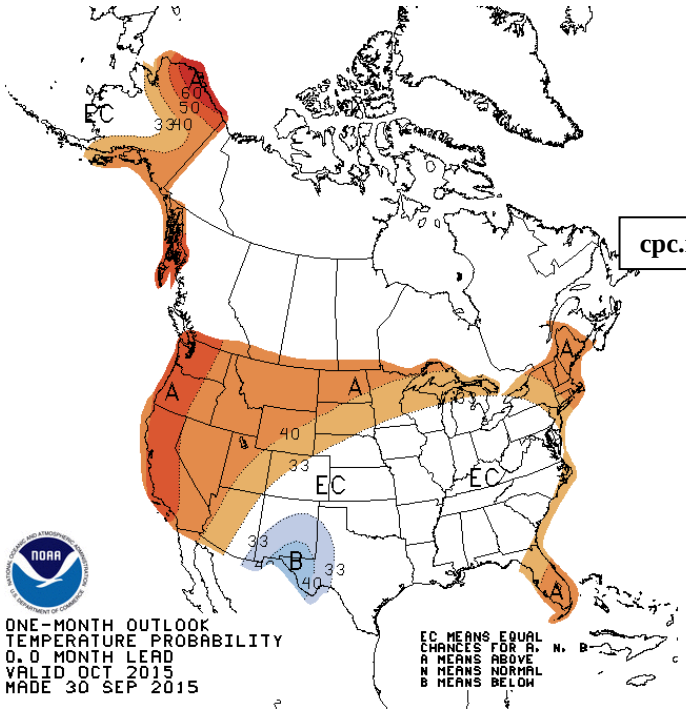
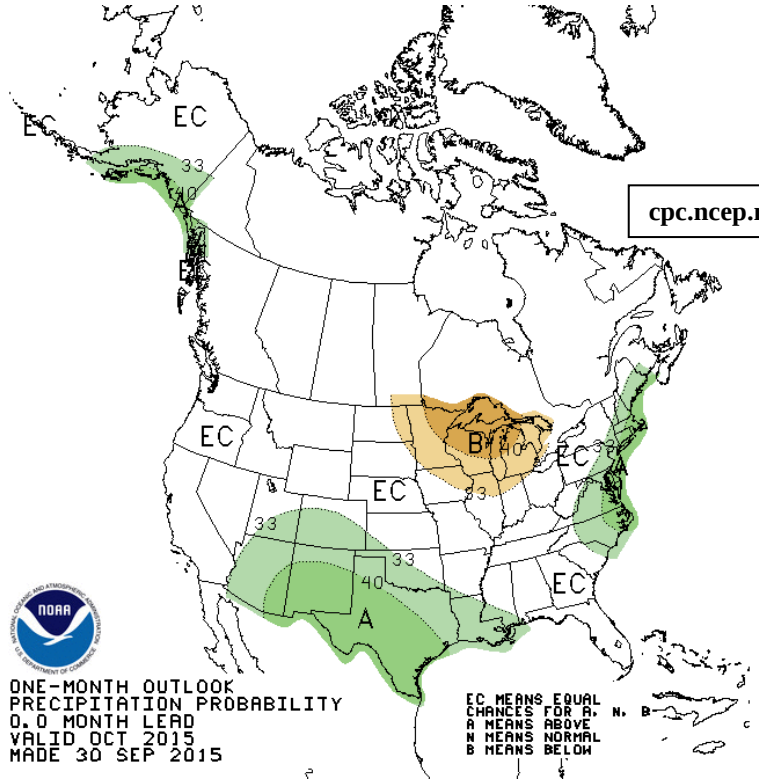
NOAA/NWS/NCEP/CPC

http://droughtmonitor.unl.edu/



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



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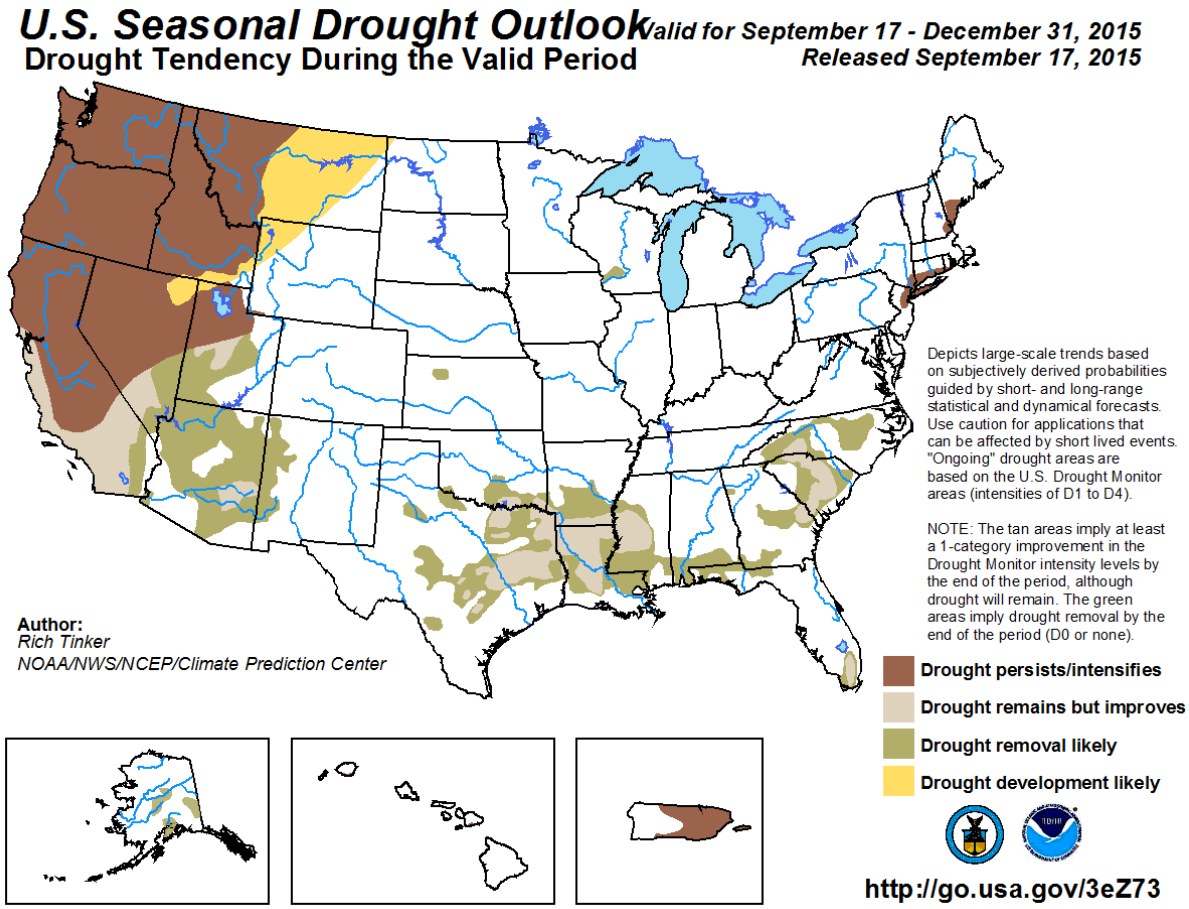

cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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PIH Mets/HMT's (pih.ops)

End

cbl