

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: August 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: September 10, 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:

August continued with cooler temperatures and little bouts of precipitation across our Hydrologic Service Area (HSA). We have had one major wildfire, the Elevenmile Fire, in Custer county near Bayhorse. This wildfire is about 50% contained and has burned over 10,300 acres thus far. Dry conditions persist and many smaller range wildfires have occurred within the HSA. Overall, mostly one-half to three inches of precipitation fell across the HSA during the past month, most of the rainfall fell near the Continental Divide and in Bonneville, Caribou and Bannock counties. Temperature departures from normal for August show that across the HSA, we ranged from near normal to about three degrees F above normal with near normal temperatures along the Snake River Plain. Mean average temperatures ranged from 53 to 74 degrees F for monthly mean temperatures across the area. Pocatello City COOP and Blackfoot COOP stations each had 3 days of average temperatures over 80 degrees F during August.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast is for a 33 to 40% chance of below normal temperatures in eastern Idaho with the Continental Divide region being the coolest. Eastern Idaho continues with the wetter than normal pattern with a 33 to 40 percent chance of above normal precipitation with the Idaho-Wyoming border forecast as the wettest. The one-month forecast graphics are found below. For the three-month outlook, the temperatures are forecast to warm up again in eastern Idaho; ranging mostly in the 40 percent chance of warmer than normal temperatures (getting warmer as you head west) and for precipitation, the outlook is for a normal to slightly wetter than normal Fall with a 33 percent chance of above normal precipitation; 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 Massacre Rocks State Park COOP stations reaching 101°F on the 2nd and 3rd respectively. The station (non-SNOTEL) with the lowest recorded temperature was the Stanley COOP and Copper Basin RAWS stations at 25°F on August 23rd and 31st respectively. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Island Park COOP station where 1.75 inches fell on the 8th. The highest recorded precipitation total (non-SNOTEL) occurred at the Swan Valley COOP where 2.35 total inches was recorded for the month. The Bear Canyon and Mill Creek Summit SNOTELs recorded 4.00 and 3.40 inches of total precipitation respectively for the month.

Reservoirs last month increased capacity overall by around 19% in the upper Snake River basin system (an increase of about 771 KAF occurred over the month and is currently sitting at 37% of capacity overall). Compared to last year at this time, it was about 49% of capacity. According to Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable increase in storage capacity were Palisades, Mackay and American Falls reservoirs increasing percent capacity by 33, 25 and 23% respectively. Magic reservoir gained 2% of capacity from rains this month, but is only at 17% of average. Little Wood is the lowest; at 10% of average. Again, the upper Snake reservoirs are nearly full and are all doing well as far as storage goes for this time of year.

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 Teton Rivers (see graphic below).

Drought conditions across eastern Idaho have both degraded and improved slightly from the longer term drought effects. Moderate drought has increased in the majority of the northeastern counties of Fremont, Madison, Teton, and Bonneville. Drought conditions have improved slightly in Butte county going from severe to moderate. Currently, about 30 percent and 48 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, but excludes the upper Snake River, Henrys Fork, extreme southern ID and the Bear Basin. Temporary relief comes from the recent precipitation, but longer term dry conditions still persist as soils and vegetation are very dry especially in the higher elevations.

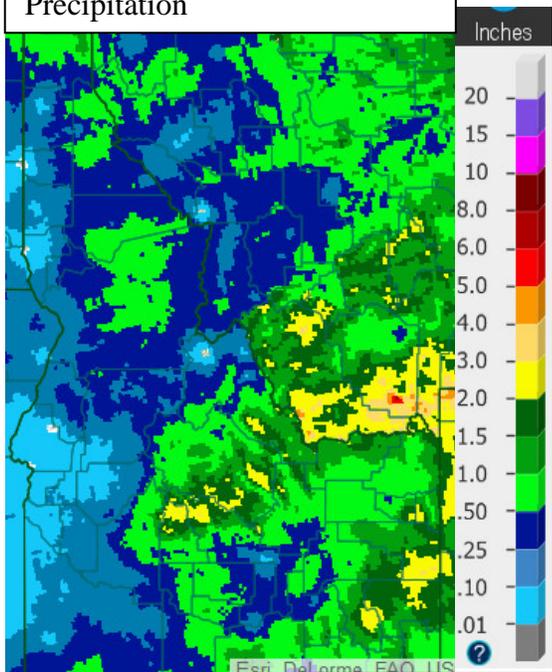
According to the Idaho NRCS Snow Survey September 1st Idaho Surface Water Supply Index (SWSI); combining streamflow volume forecasts and reservoir storage (where appropriate), rates the greatest valued basin for water supply within the HSA as being the Big Lost basin. This basin was given a SWSI rating of 0.2 (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 Teton and Little Wood basins at -3.8 and -3.1 respectively, which are much below normal.

Idaho Surface Water Supply Index (SWSI):

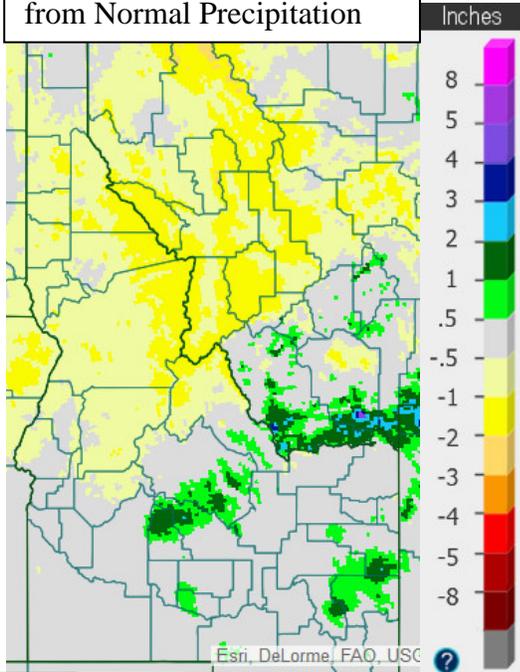
<ftp://ftp.wcc.nrcs.usda.gov/states/id/webftp/swsi/tables/Sep/SWSI09.pdf>

Precipitation:

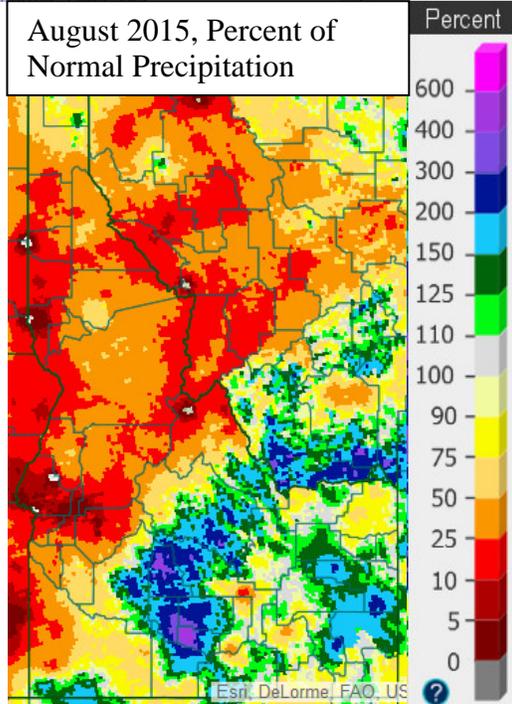
August 2015, Observed Precipitation



August 2015, Departure from Normal Precipitation

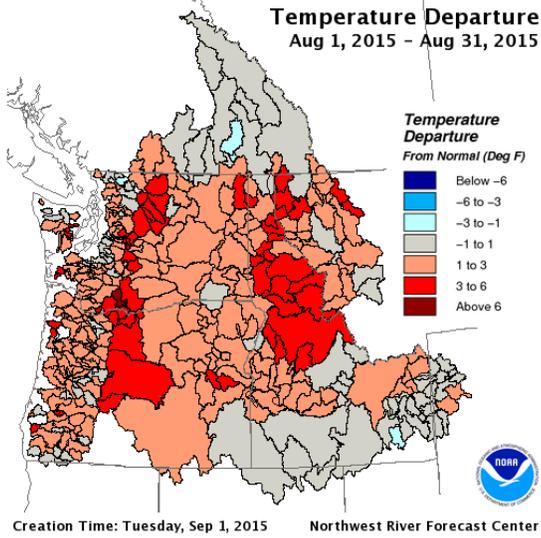


August 2015, Percent of Normal Precipitation

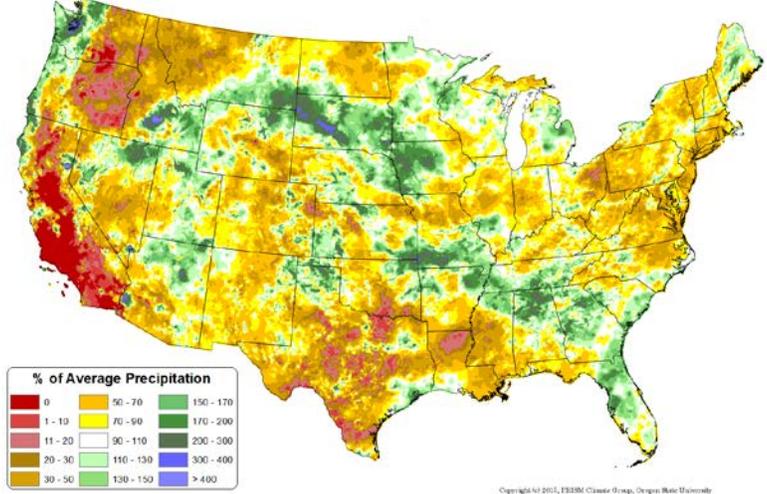


water.weather.gov/precip/#

Temperature Departure
Aug 1, 2015 - Aug 31, 2015



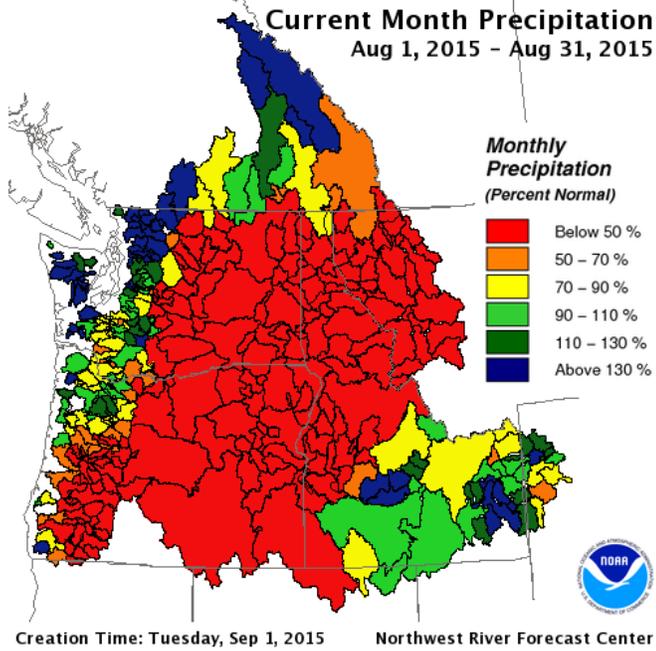
Total Precipitation Anomaly: August 2015
Period ending 31 Aug 2015
Base period: 1951-2010
(Map created 02 Sep 2015)



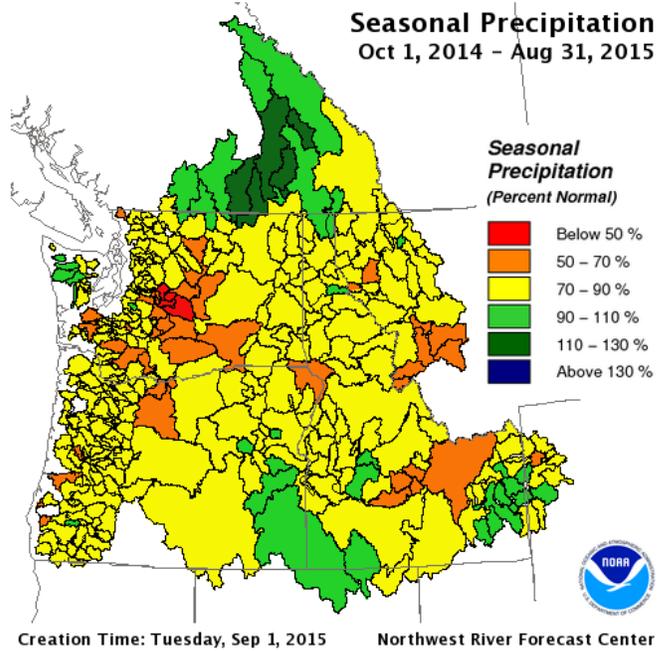
nwrfc.noaa.gov/WAT_RES_wy_summary/20150901/CurMonMAT_2015Aug31_2015090116.png

prism.oregonstate.edu/

Current Month Precipitation
Aug 1, 2015 - Aug 31, 2015



Seasonal Precipitation
Oct 1, 2014 - Aug 31, 2015



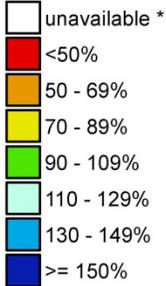
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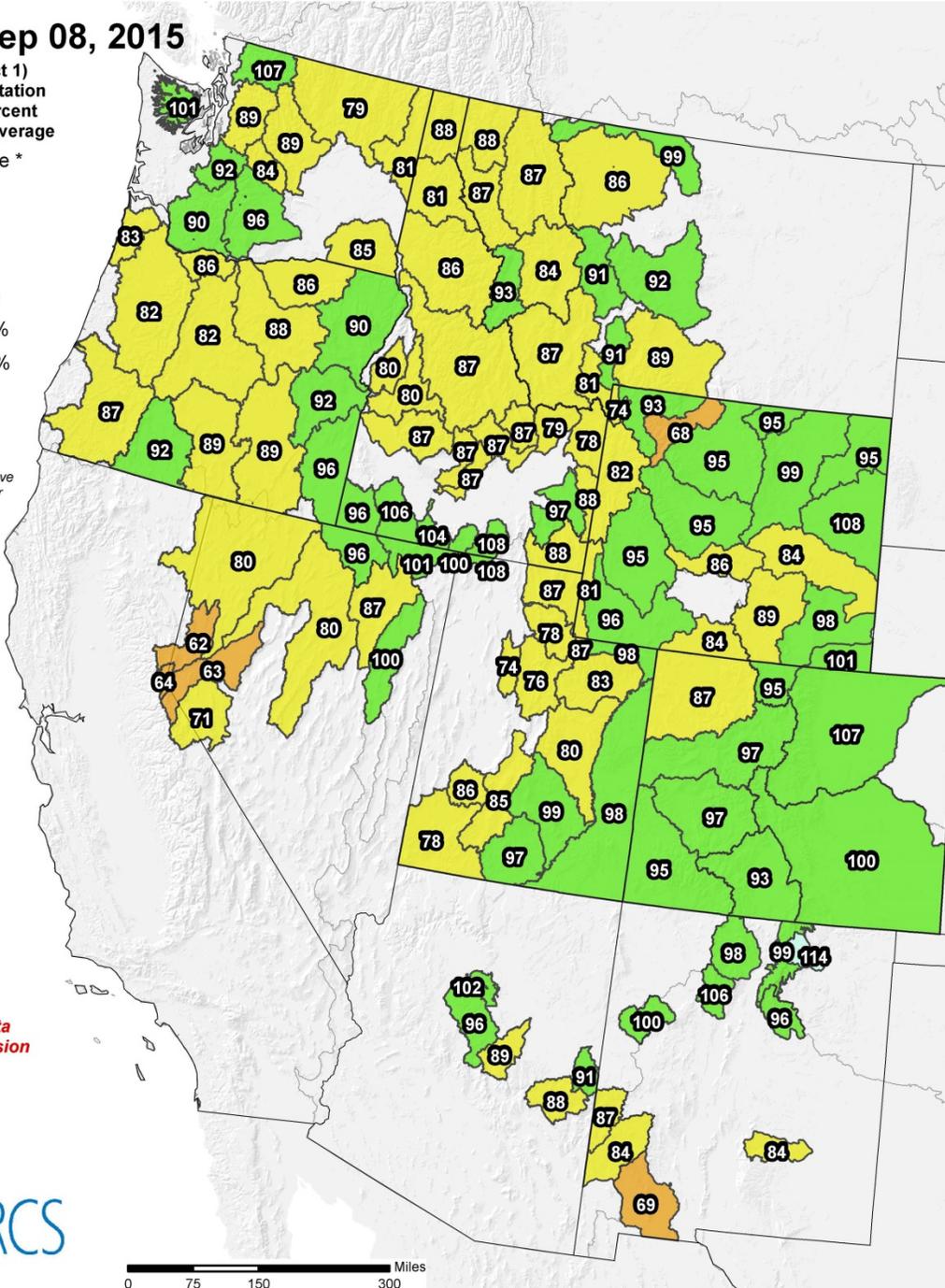
Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Sep 08, 2015

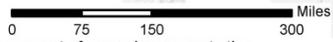
Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average



* Data unavailable at time of posting or measurement is not representative at this time of year



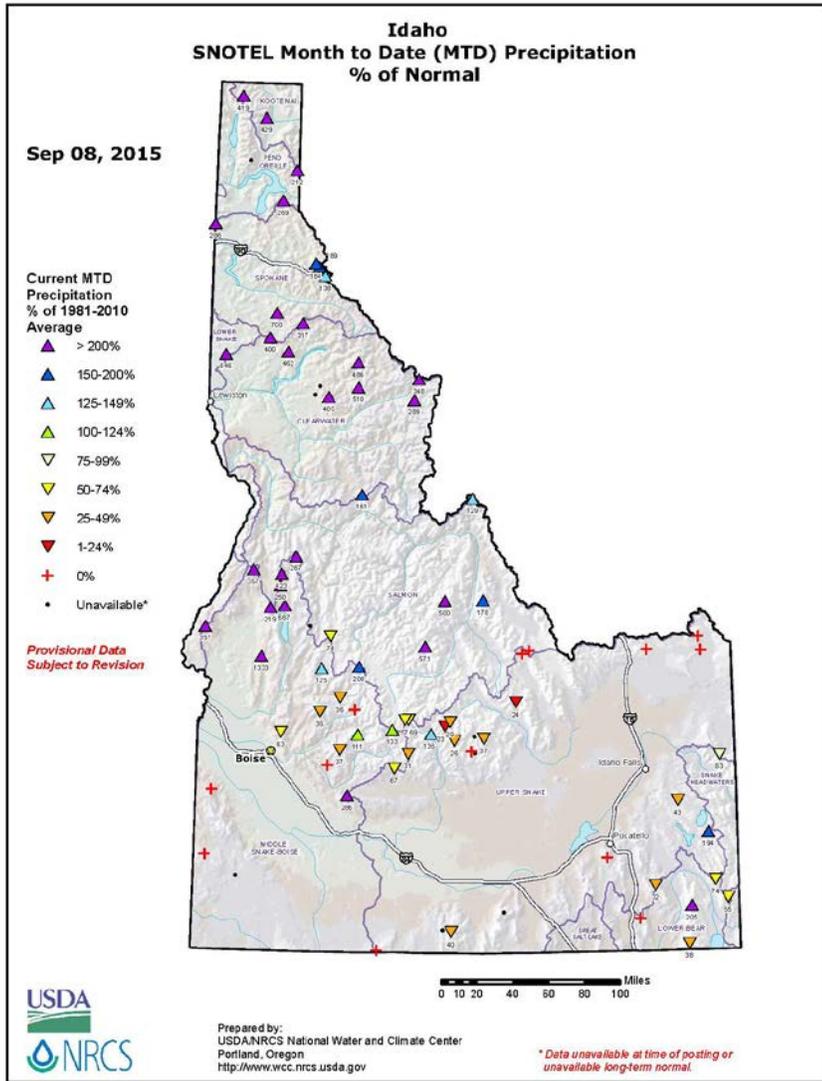
Provisional data subject to revision



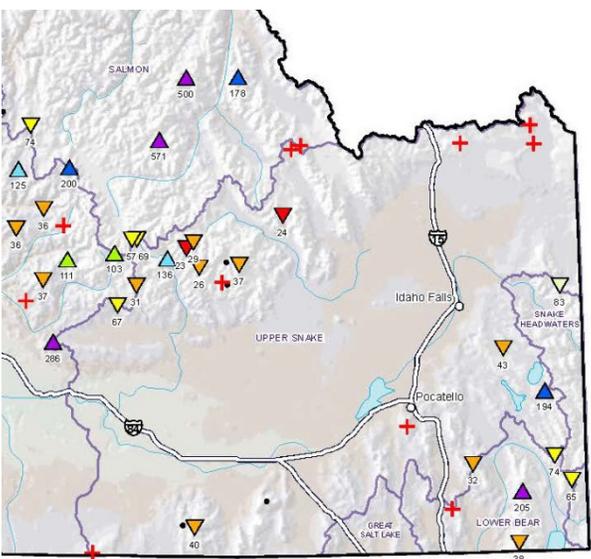
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



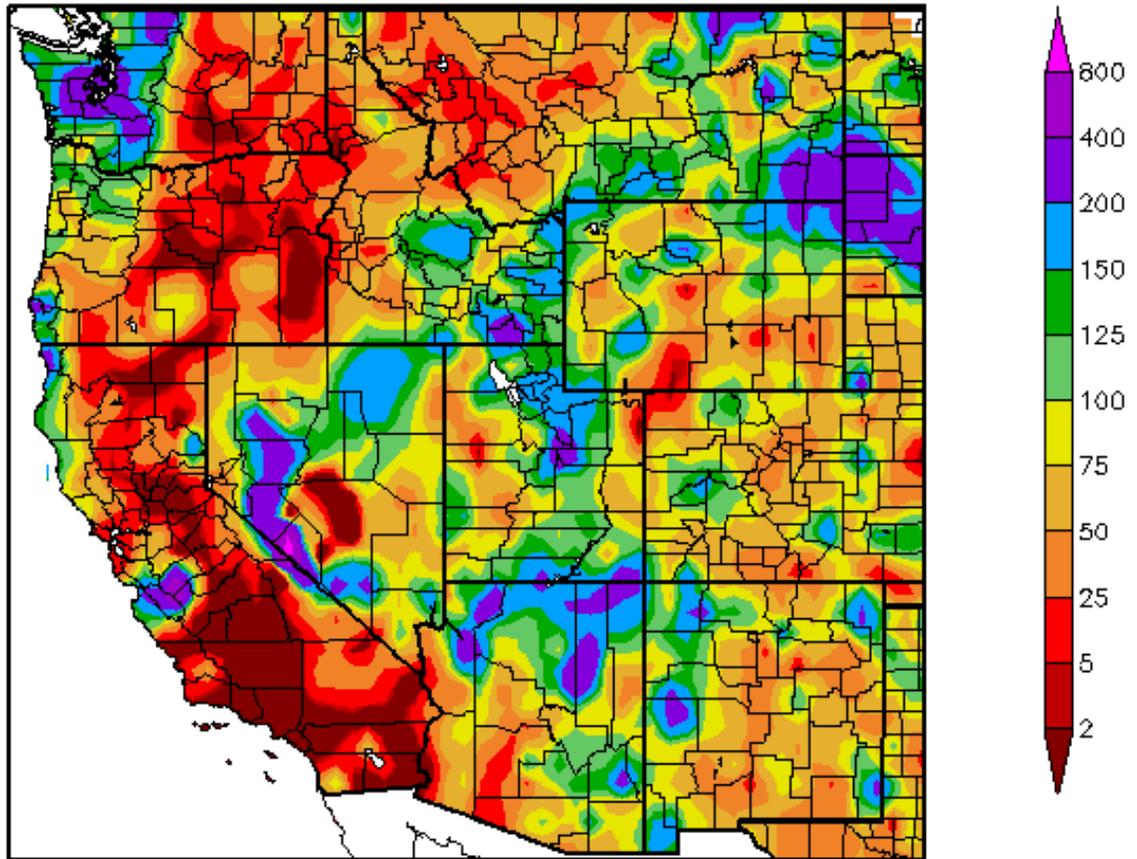
wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecptnormal.pdf



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

August seemed to follow the general cooler than normal and greater than normal precipitation pattern across the HSA (that occurred in July). Across the HSA, the majority of the area received over 125% of normal last month with some areas getting well over 150%. Oneida county was the flagship area where over 200% of normal fell over the majority of the county. The 2015 summer was definitely cooler and a little wetter than normal across the HSA. It was a different case with northern and western ID, western MT, eastern OR and WA and CA, as they were very dry for the month. In Idaho: Clark, Butte, Lincoln and Minidoka counties were the driest over the month.

Percent of Normal Precipitation (%) 8/1/2015 – 8/31/2015



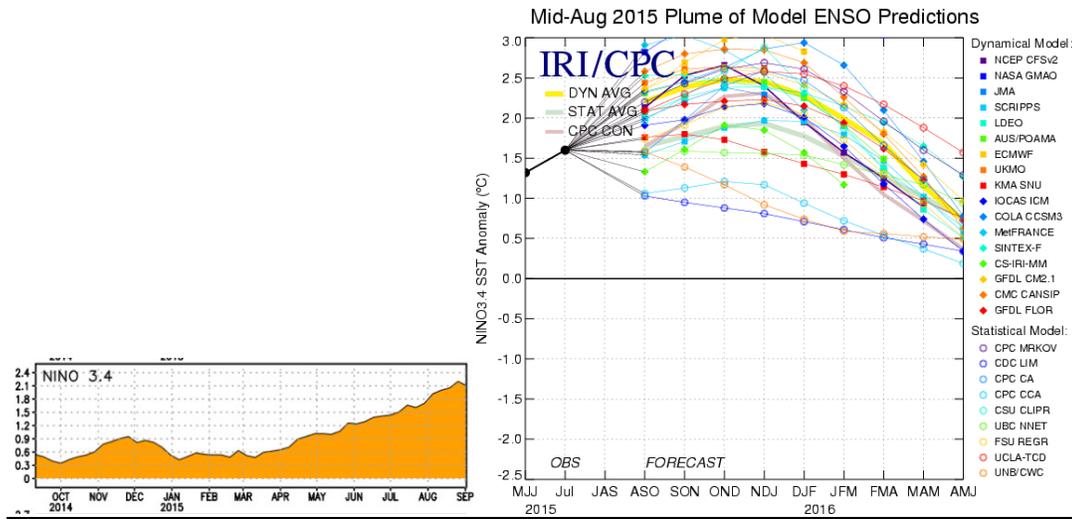
Generated 9/5/2015 at HPRCC using provisional data.

Regional Climate Centers

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

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 2.1 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 90% chance that El Niño conditions continue in the Northern Hemisphere for winter 2015-16 and an 85% chance it will last into spring 2016.

Note: Positive equatorial sea surface temperature (SSTs) anomalies continue across most of the Pacific Ocean. MJO is weak and not likely to impact tropical variability in the near term.

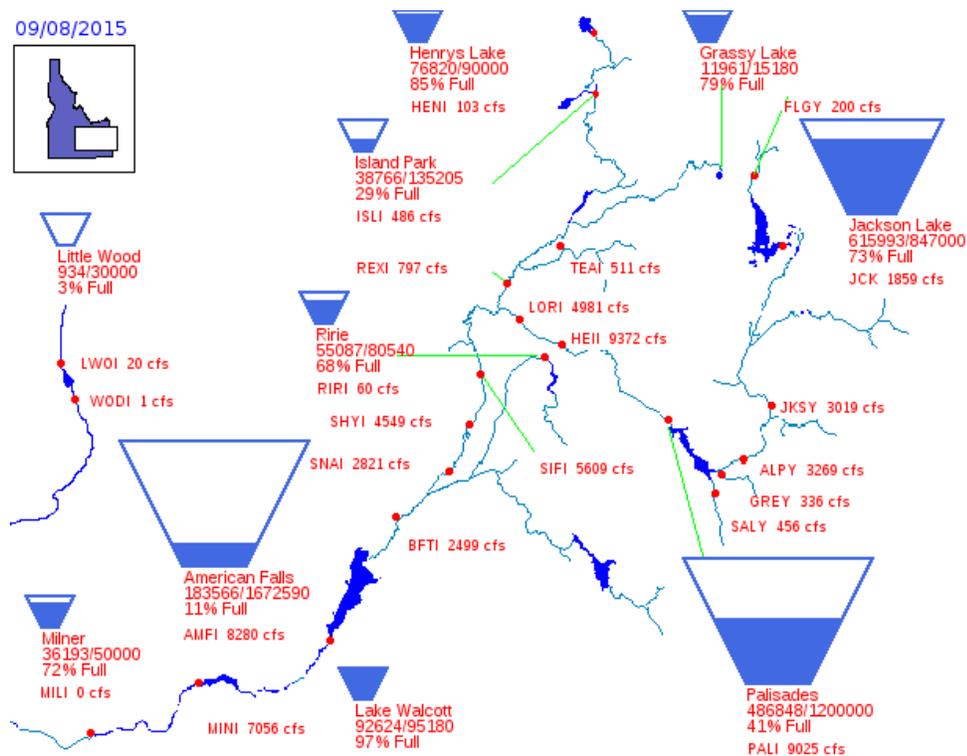
Reservoirs:

Reservoir	% Capacity July 31 ¹	% Capacity August 31 ²	Percent Change	% of Average ²	% of Average Last Year ²
Jackson Lake	86	76	-10	121	134
Palisades	73	40	-33	66	95
Henrys Lake	92	87	-5	102	90
Island Park	43	30	-13	63	107
Grassy Lake	81	80	-1	101	123
Ririe	75	70	-5	96	104
Blackfoot	55	NA	NA	NA	91
American Falls	39	16	-23	46	78
Mackay	50	25	-25	107	96
Little Wood	23	3	-20	10	26
Magic	4	6	2	17	20
Oakley	19	14	-5	57	67
Bear Lake	44	40	-4	82	83
Lake Walcott	95 ³	97 ⁴	2	n/a	n/a
Milner	75 ³	72 ⁴	-3	n/a	n/a

Source: (1) NRCS July 31, 2015; (2) NRCS August 31, 2015.
 (3) US Bureau of Reclamation (BOR) August 6, 2015 (4) BOR September 8, 2015

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_9_2015.pdf

09/08/2015

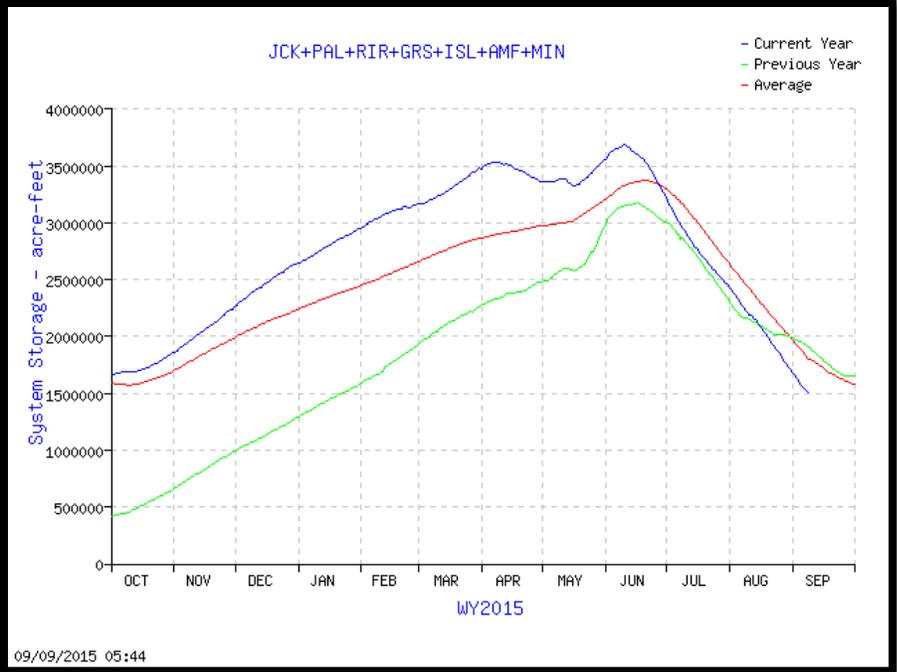


37% of Capacity in Upper Snake River System
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
 Total Space Available: 2,560,851 AF
 Total Storage Capacity: 4,045,695 AF

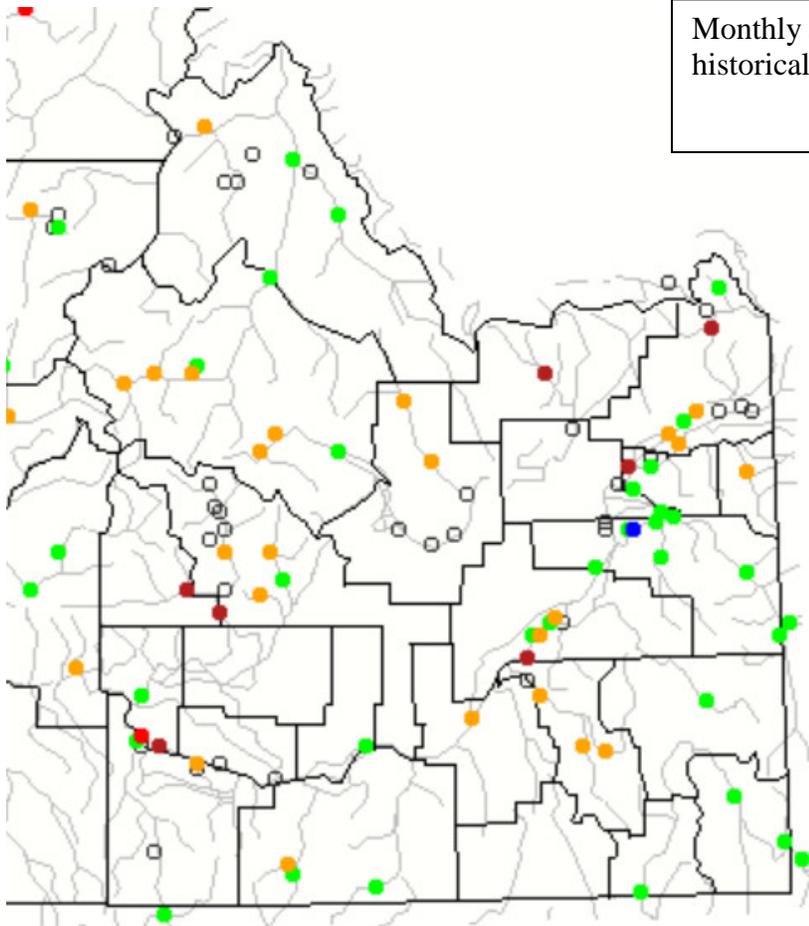
Graph of Upper Snake River Current Total System Reservoir Storage



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

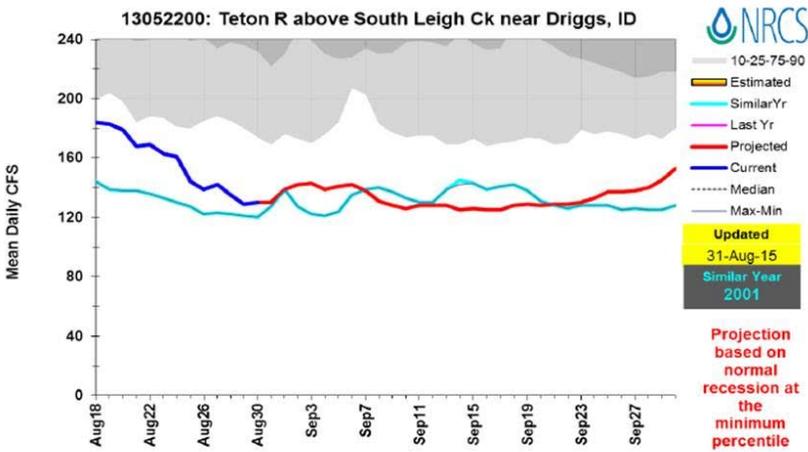
Streamflow:

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



Explanation - Percentile classes							
● (Red)	● (Dark Red)	● (Orange)	● (Green)	● (Light Blue)	● (Dark Blue)	● (Black)	○ (White)
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

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

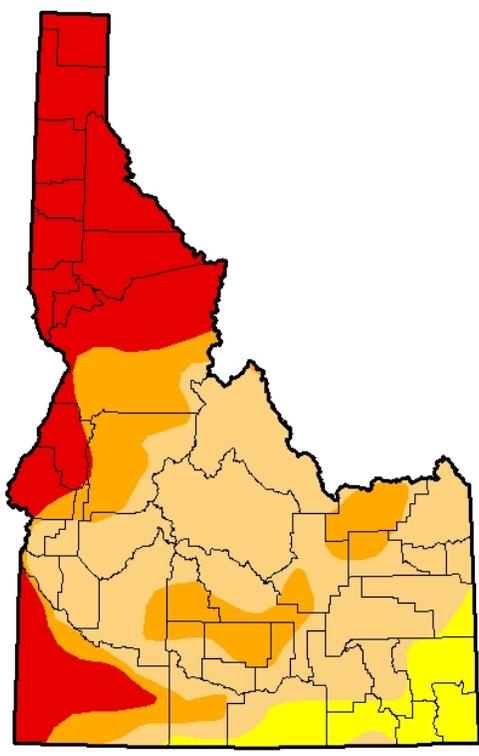


Low Flows on the Teton River

Drought Information:

**U.S. Drought Monitor
Idaho**

September 1, 2015
(Released Thursday, Sep. 3, 2015)
Valid 8 a.m. EDT



Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.00	100.00	91.93	48.09	29.26	0.00
Last Week 8/25/2015	0.00	100.00	91.93	48.09	29.18	0.00
3 Months Ago 6/2/2015	0.00	100.00	65.15	26.19	9.19	0.00
Start of Calendar Year 12/31/2014	23.76	76.24	41.73	18.49	3.40	0.00
Start of Water Year 9/30/2014	13.19	86.81	52.39	26.35	3.53	0.00
One Year Ago 9/2/2014	16.04	83.96	46.30	25.27	2.09	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.

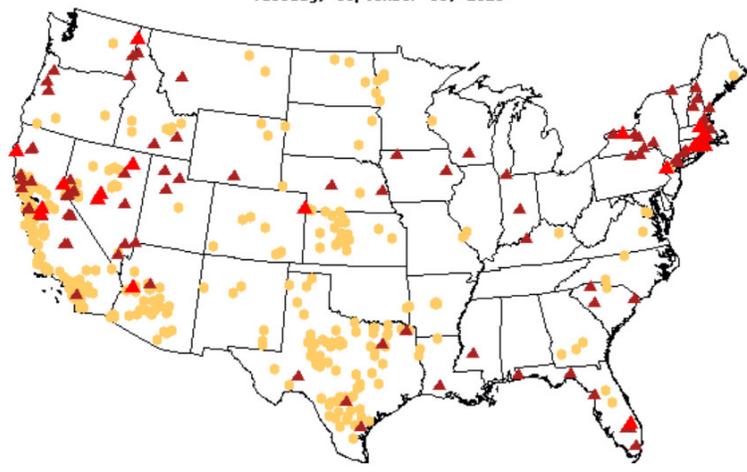
Author:
Anthony Artusa
NOAA/NWS/NCEP/CPC



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

Map of Record Low 7-day Streamflow

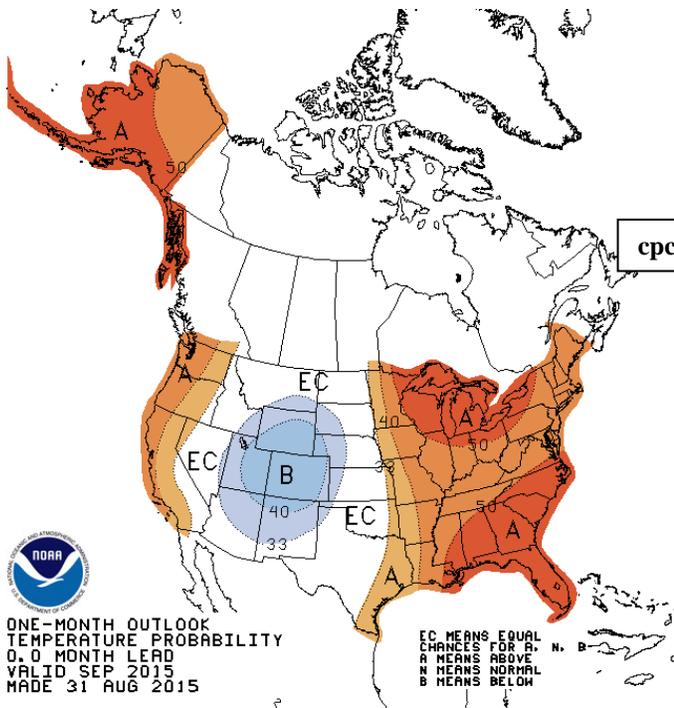
Tuesday, September 08, 2015



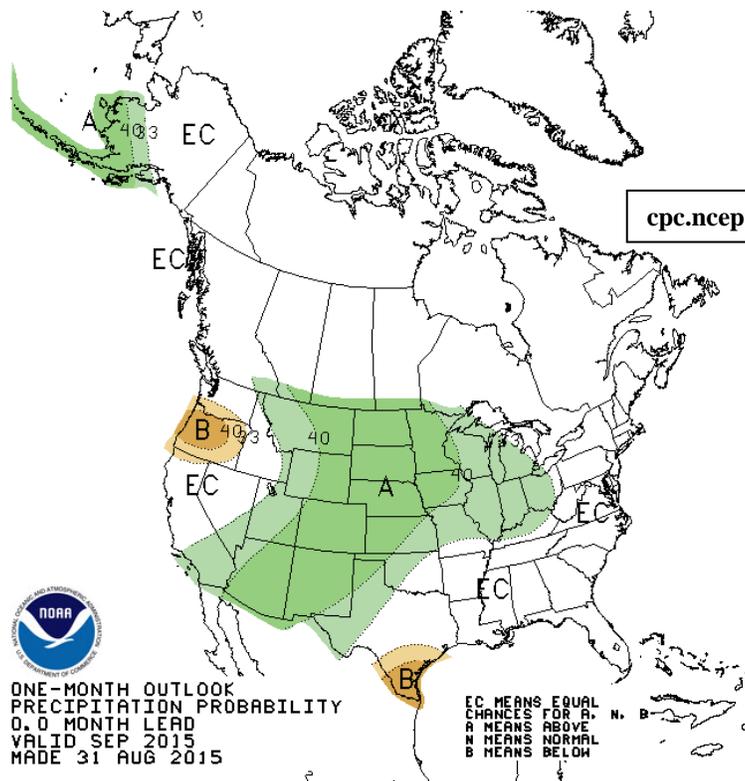
Explanation

- ▲ Record low flow with more than 30 years data
- ▲ Record low flow with less than 30 years data
- Zero flow sites

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

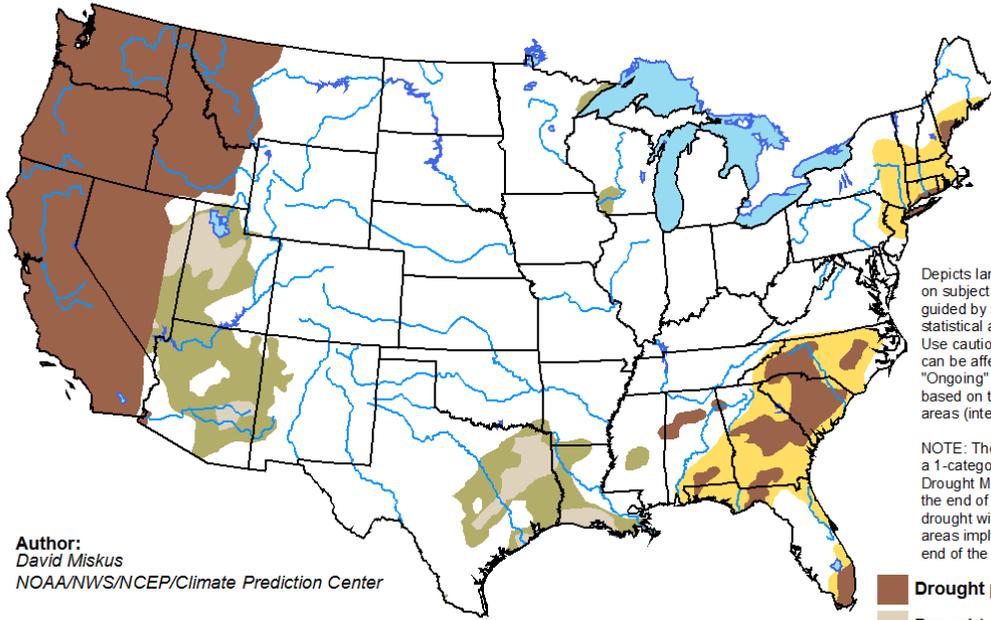


cpc.ncep.noaa.gov/products/predictions/30day/off15_temp.gif



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

U.S. Seasonal Drought Outlook Valid for August 20 - November 30, 2015
 Drought Tendency During the Valid Period Released August 20, 2015



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).

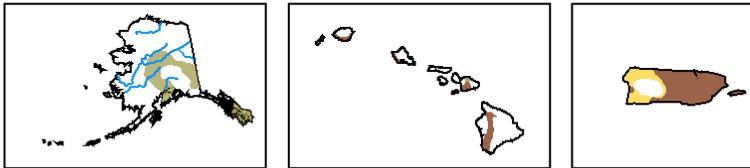
NOTE: The tan areas imply at least a 1-category improvement in the Drought Monitor intensity levels by the end of the period, although drought will remain. The green areas imply drought removal by the end of the period (D0 or none).

Author:
 David Miskus
 NOAA/NWS/NCEP/Climate Prediction Center

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



<http://go.usa.gov/hHTe>



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

- cc:
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 - Joe Intermill, Hydrologist-in-Charge, Northwest River Forecast Center
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 - 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

End
 cbl