

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: July 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: August 7, 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:

July was a bit of a surprise; brought well below normal temperatures across our Hydrologic Service Area (HSA) and much needed precipitation as well. This combination has really pushed back any threats to potential wildland fires in our area. Overall, mostly one to three inches of precipitation fell across the HSA during the month, most of the rainfall covered the Caribou Highlands and the Portneuf Range. The cooler temperatures were a welcome relief for summer activities and from the very hot temperatures we had earlier. Temperature departures from normal for July show that across the HSA, we ranged from near normal to about six degrees F below normal with cool temperatures along the Snake Plain. Mean average temperatures ranged near -5 to -3 degrees F below normal during the month. This translates to 52 to 72 degrees F for the monthly mean temperatures across the area. Pocatello city COOP and Rock Lake RAWS stations had 4 days of average temperatures over 80 degrees F during July.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast is for mostly near normal temperatures to a possible 33 percent chance of above normal temperatures in the extreme southeast corner of the state with near normal chance of precipitation across southeastern Idaho. 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 from 33 to 40 percent chance of warmer than normal temperatures (getting warmer as you head west) and for precipitation, the outlook is for a wetter than normal summer with a 33 percent chance of above normal precipitation across all of southeastern Idaho, as most of the central U.S. is forecast to be wet as well.

Of the data available for the month, the stations within the HSA reaching the highest 24-hour temperature were the Shoshone 1 WNW COOP and the Rock Lake RAWS stations reaching 100°F on the 3rd. The station (non-SNOTEL) with the lowest recorded temperature was the copper Basin RAWS station at 23°F on July 28th. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Small 6N COOP station where 1.27 inches fell on the 27th. The highest recorded precipitation total (non-SNOTEL) occurred at the Swan Valley COOP where 3.00 total inches was recorded for the month. The Crab Creek and Smiley Mountain SNOTELs recorded 3.29 and 3.00 inches of total precipitation respectively for the month.

Reservoirs last month increased capacity overall by around 14% in the upper Snake River basin system (an increase of about 571 KAF occurred over the month and is currently sitting at 56% of capacity overall).

Compared to last year at this time, it was about 54% of capacity. The continuation of irrigation use and passing flows during July from the reservoirs has continued drawing pool levels down. According to NRCS and U.S. Bureau of Reclamation reservoir data, the most notable increase in storage capacity were Island Park, Mackay and Little Wood reservoirs increasing percent capacity by 36, 25 and 25% respectively. Magic reservoir is currently at 8% of average for storage capacity. All things considered, 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 (see graphic below).

Drought conditions across eastern Idaho have degraded slightly from the longer term drought effects. Moderate drought has increased in Bingham, Power and Bannock counties. Currently, about 22 percent and 52 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 western ID and a small portion of Bannock/Caribou Counties, but excludes the upper Snake River plain, southern ID, Bear Basin and western Wyoming. Temporary relief comes from the recent precipitation, but longer term dry conditions still persist.

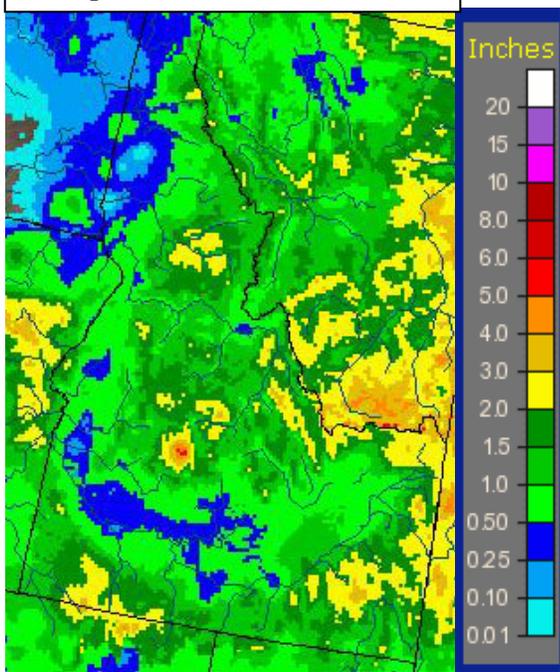
According to the Idaho NRCS Snow Survey August 1st Idaho Surface Water Supply Index (SWSI); combining streamflow volume forecasts and reservoir storage (where appropriate), rates the greatest valued basin for water supply within the HSA as being the Bear River Snake (Heise) basins. These basins were given a SWSI rating of -0.5 (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 Big Wood and Little Wood basins at -3.3 and -3.1 respectively, which are below normal.

Idaho Surface Water Supply Index (SWSI):

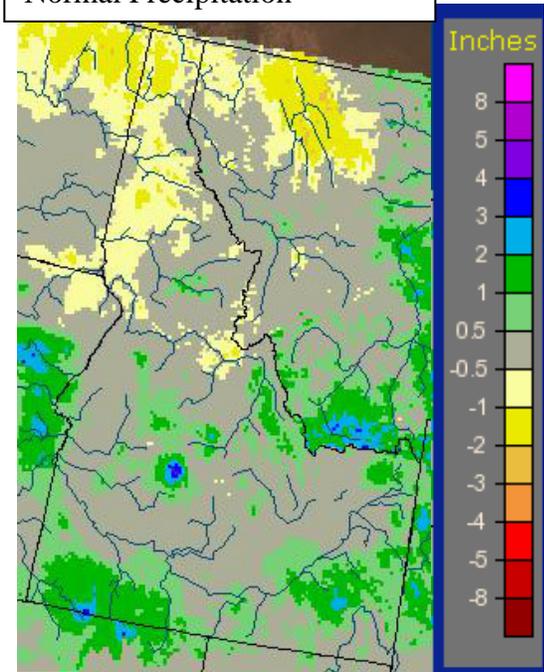
<ftp://ftp.wcc.nrcs.usda.gov/states/id/webftp/swsi/tables/Aug/SWSI08.pdf>

Precipitation:

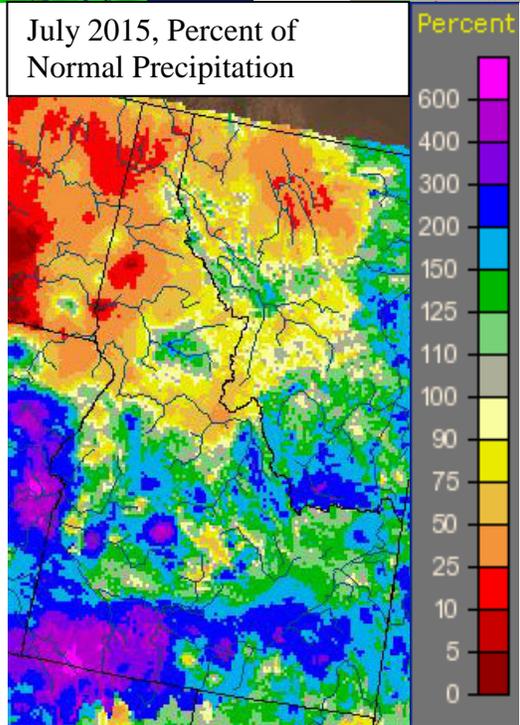
July 2015, Observed
Precipitation



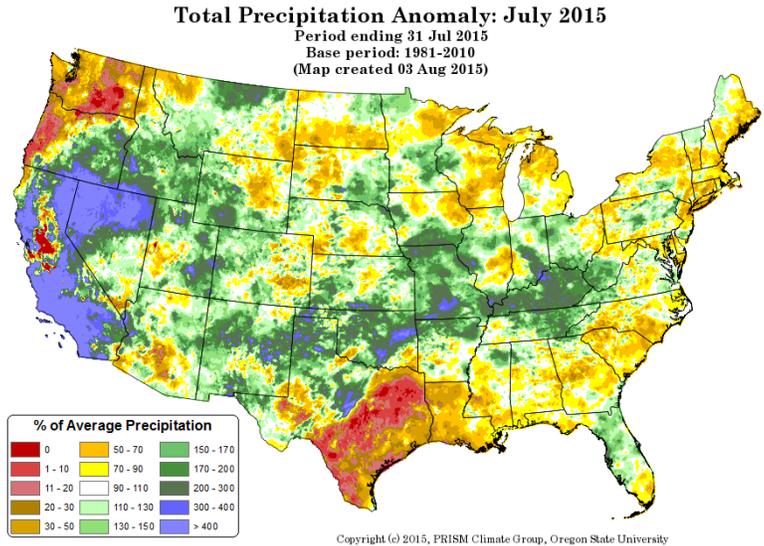
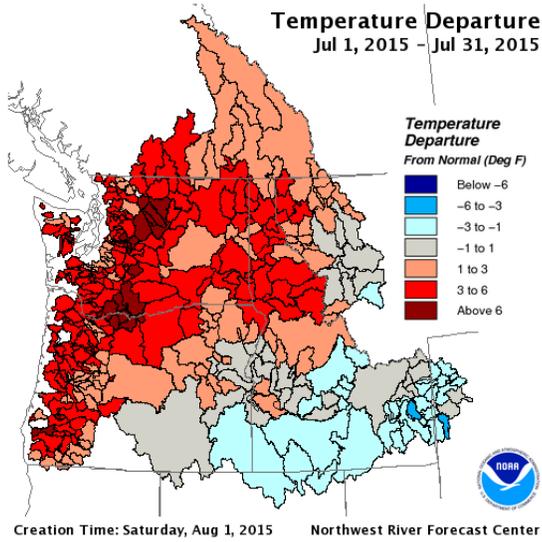
July 2015, Departure from
Normal Precipitation



July 2015, Percent of
Normal Precipitation

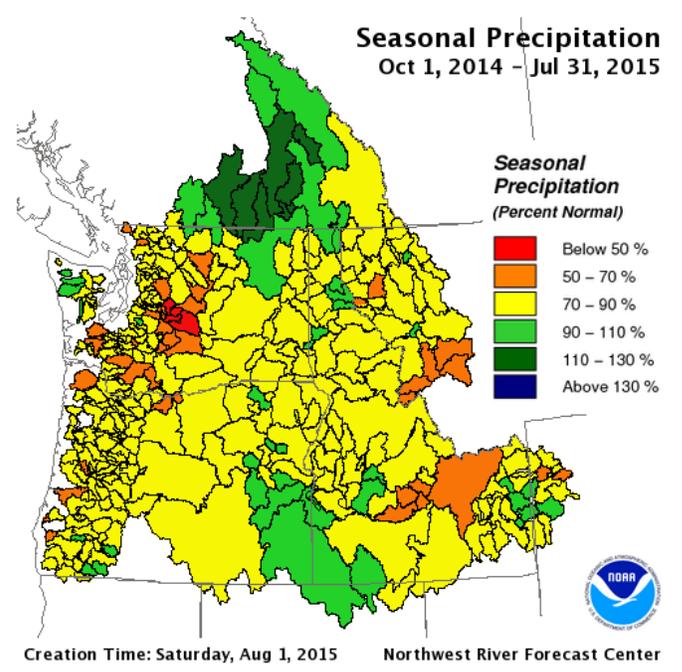
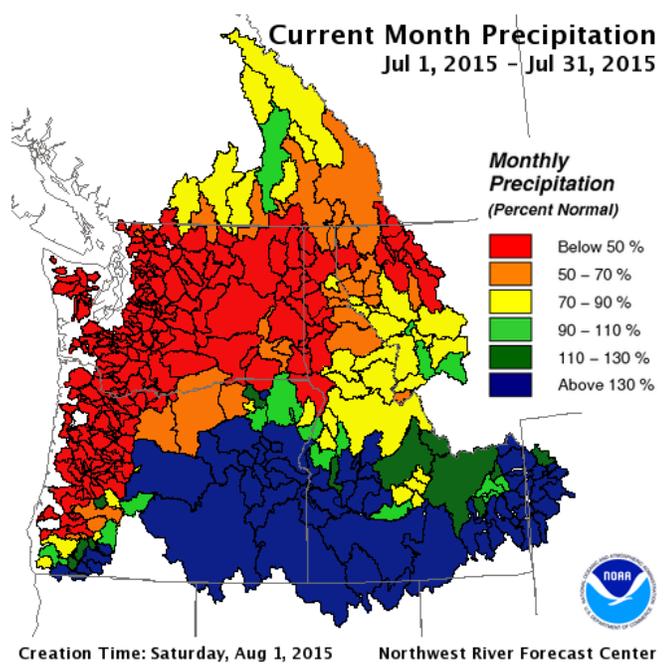


water.weather.gov/precip/index.php



nwrfc.noaa.gov/WAT_RES_wy_summary/20150801/CurMonMAT_2015Jul31_2015080116.png

prism.oregonstate.edu/



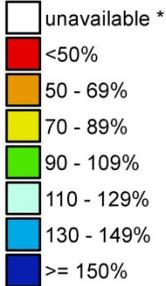
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nwrfc.noaa.gov/WAT_RES_wy_summary/20150801/SeasonalMAP_2015Jul31_2015080116.png

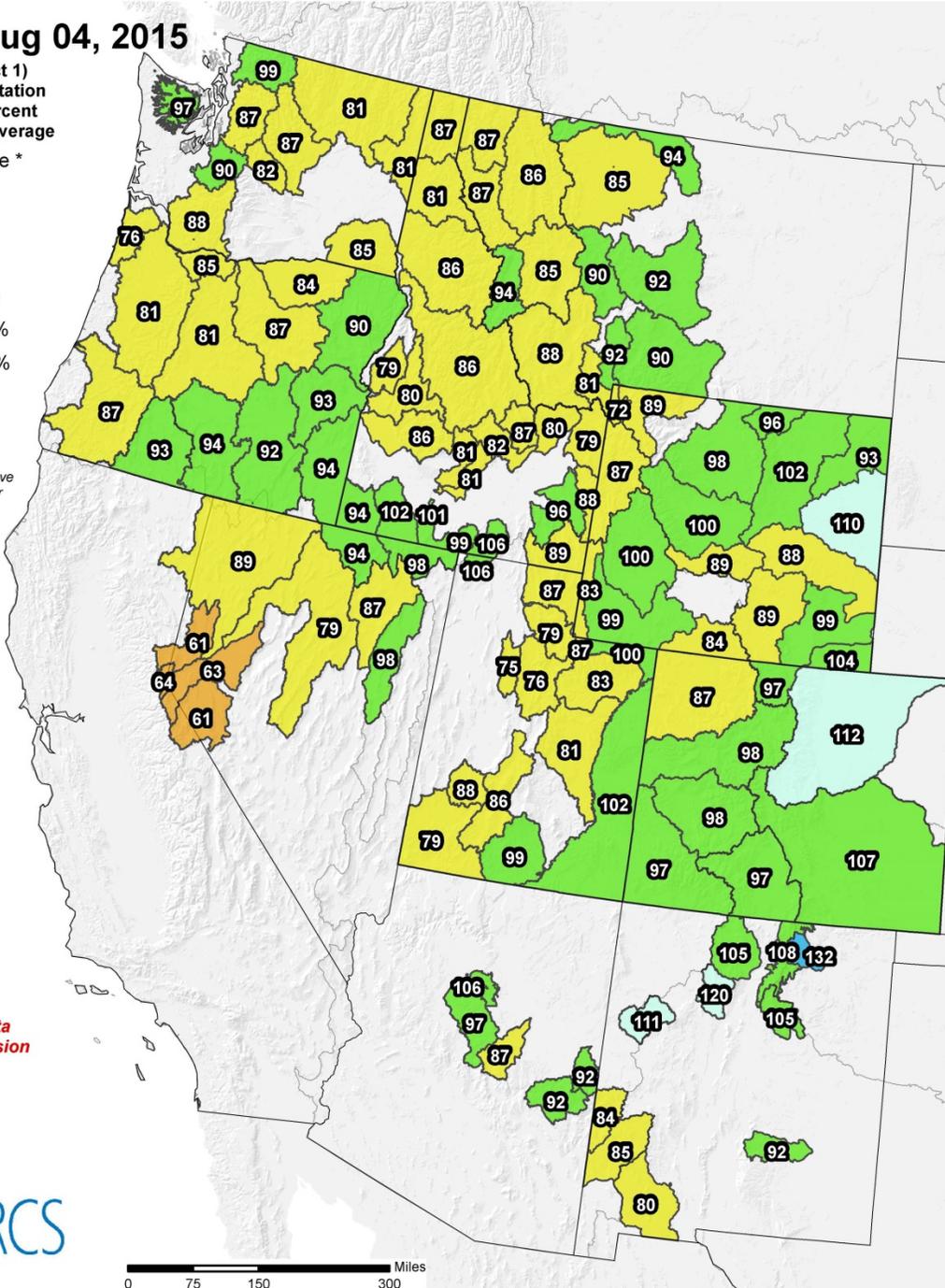
Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Aug 04, 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



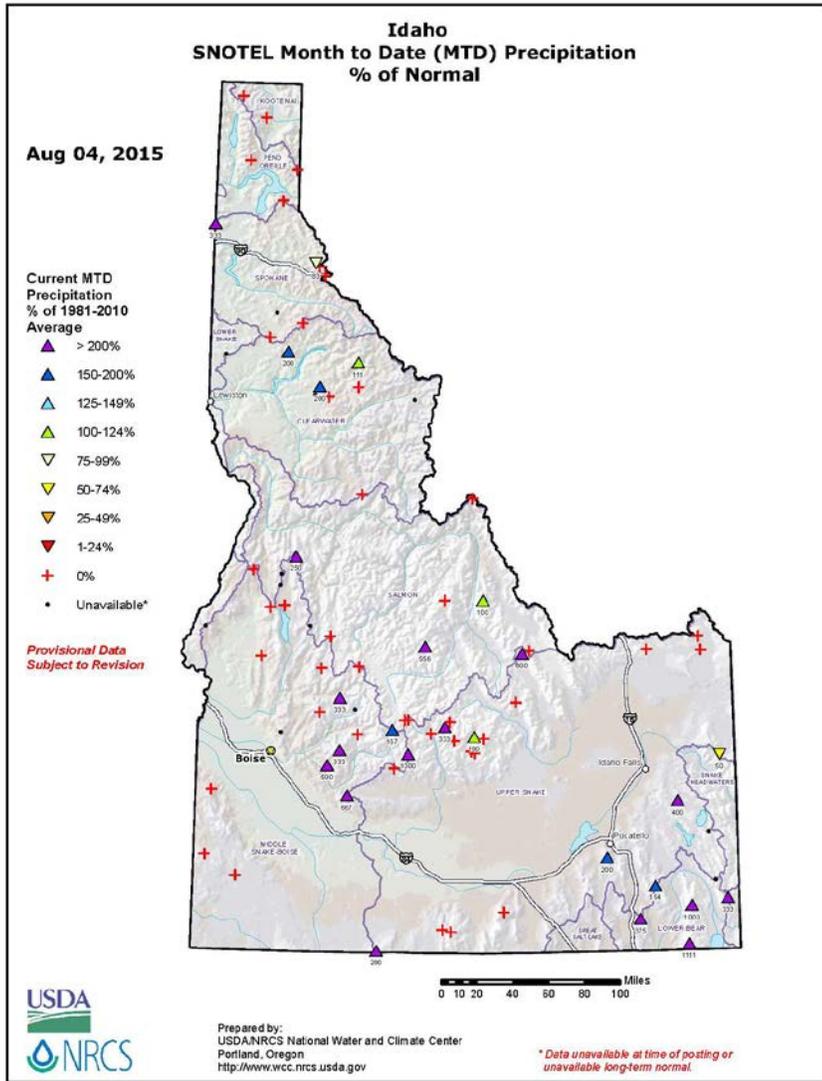
Provisional data subject to revision



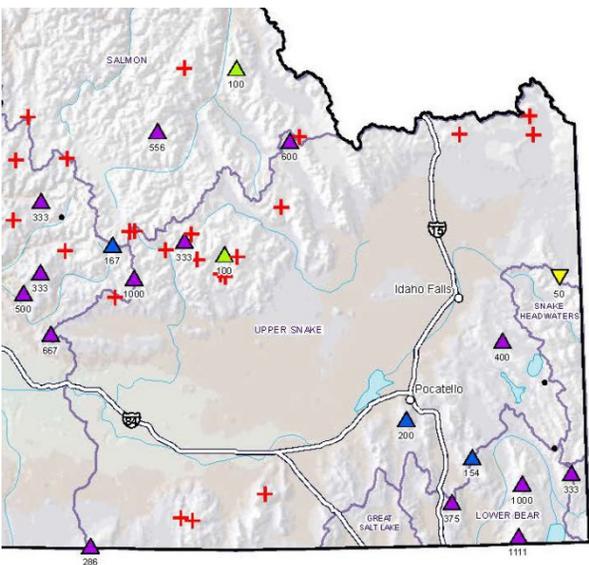
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

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



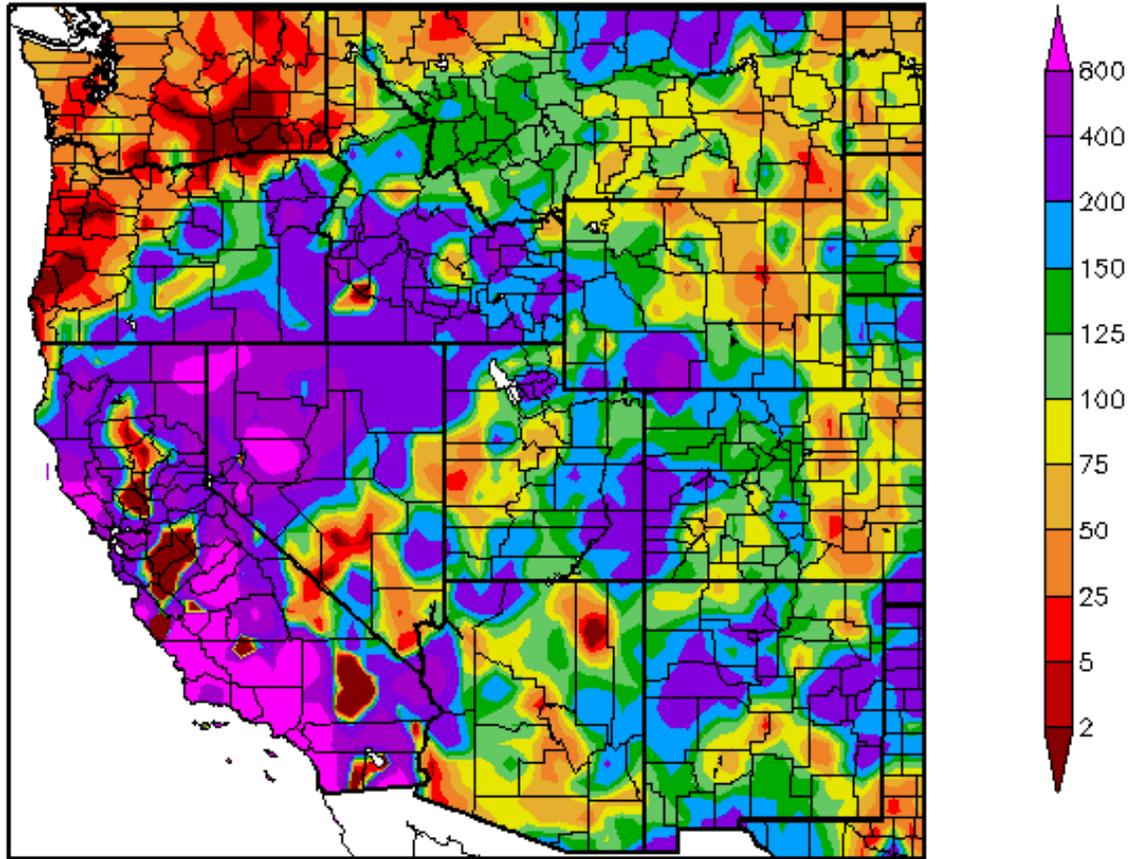
wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecptnormal.pdf



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

July gave us some cooler temperatures and well above normal precipitation across the HSA. July was very good to the west as far as precipitation goes, with exception to west of the Cascades in OR and WA and the remainder of WA state. In Idaho, Blaine and Custer counties and the upper Henrys Fork areas were notably drier last month. Most of Southern ID received over 200% of Normal precipitation.

Percent of Normal Precipitation (%) 7/1/2015 – 7/31/2015



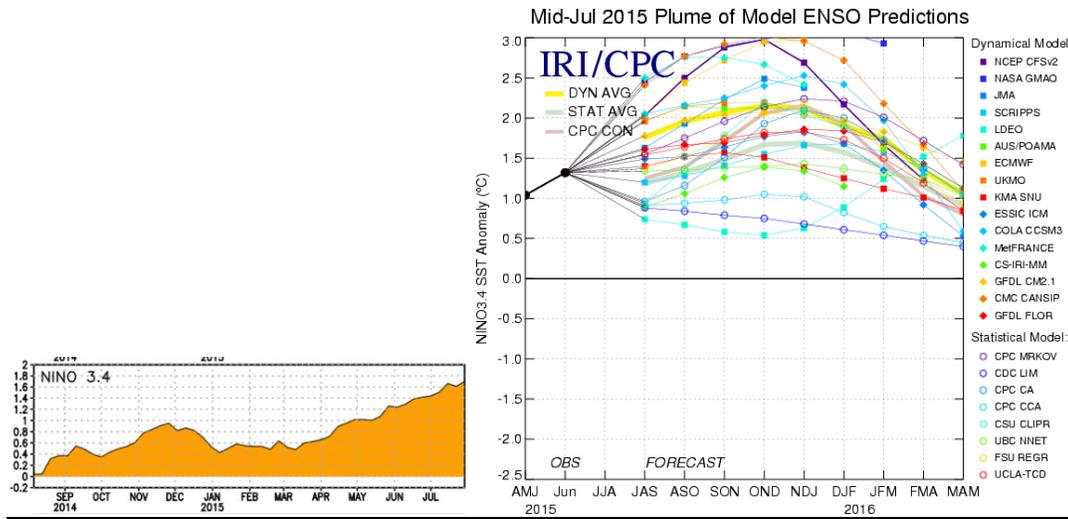
Generated 8/5/2015 at HPRCC using provisional data.

Regional Climate Centers

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

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 1.7 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.

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

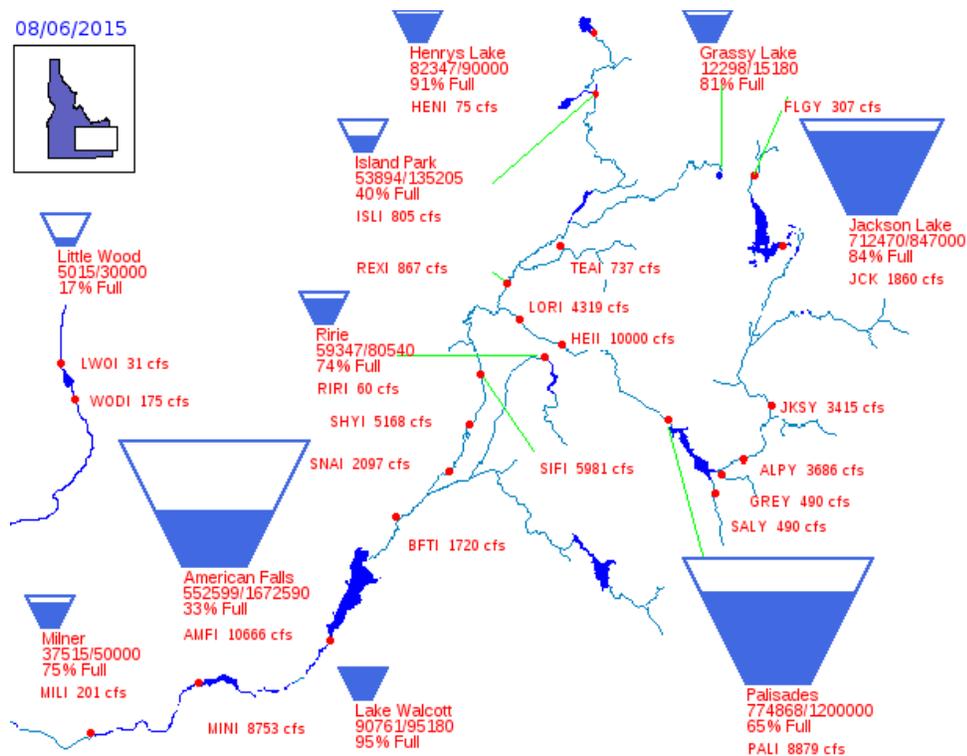
Reservoirs:

Reservoir	% Capacity June 30 ¹	% Capacity July 31 ²	Percent Change	% of Average ²	% of Average Last Year ²
Jackson Lake	95	86	-9	114	123
Palisades	94	73	-21	100	98
Henrys Lake	97	92	-5	103	107
Island Park	79	43	-36	62	98
Grassy Lake	95	81	-14	96	119
Ririe	79	75	-4	90	95
Blackfoot	60	55	-5	97	86
American Falls	60	39	-21	71	50
Mackay	75	50	-25	102	41
Little Wood	48	23	-25	43	26
Magic	27	4	-23	8	7
Oakley	26	19	-7	59	54
Bear Lake	50	44	-6	82	82
Lake Walcott	95 ³	95 ⁴	0	n/a	n/a
Milner	76 ³	75 ⁴	-1	n/a	n/a

Source: (1) NRCS June 30, 2015; (2) NRCS July 31, 2015.
 (3) US Bureau of Reclamation (BOR) July 12, 2015 (4) BOR August 6, 2015

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_8_2015.pdf

08/06/2015

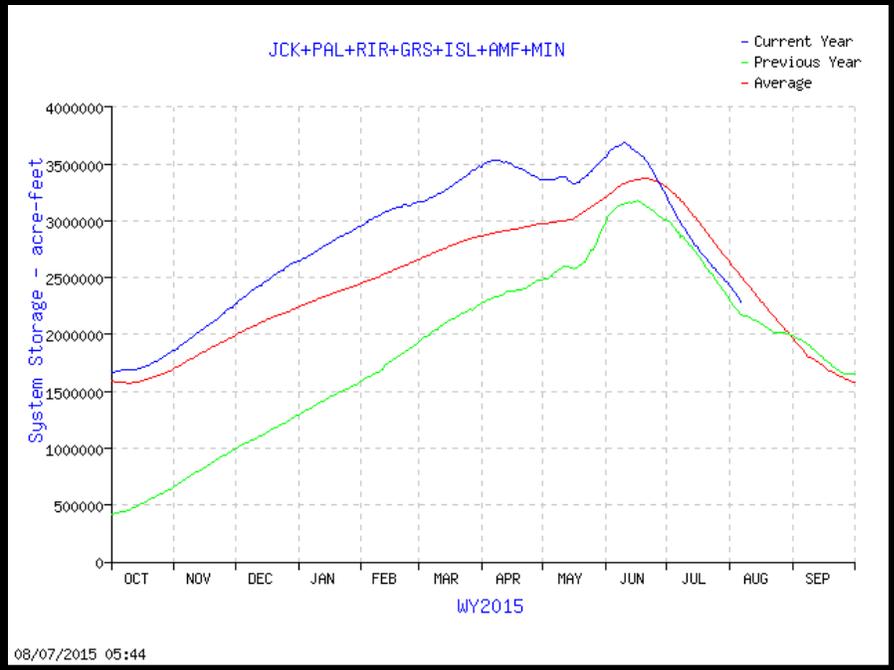


56% of Capacity in Upper Snake River System
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
 Total Space Available: 1,789,458 AF
 Total Storage Capacity: 4,045,695 AF

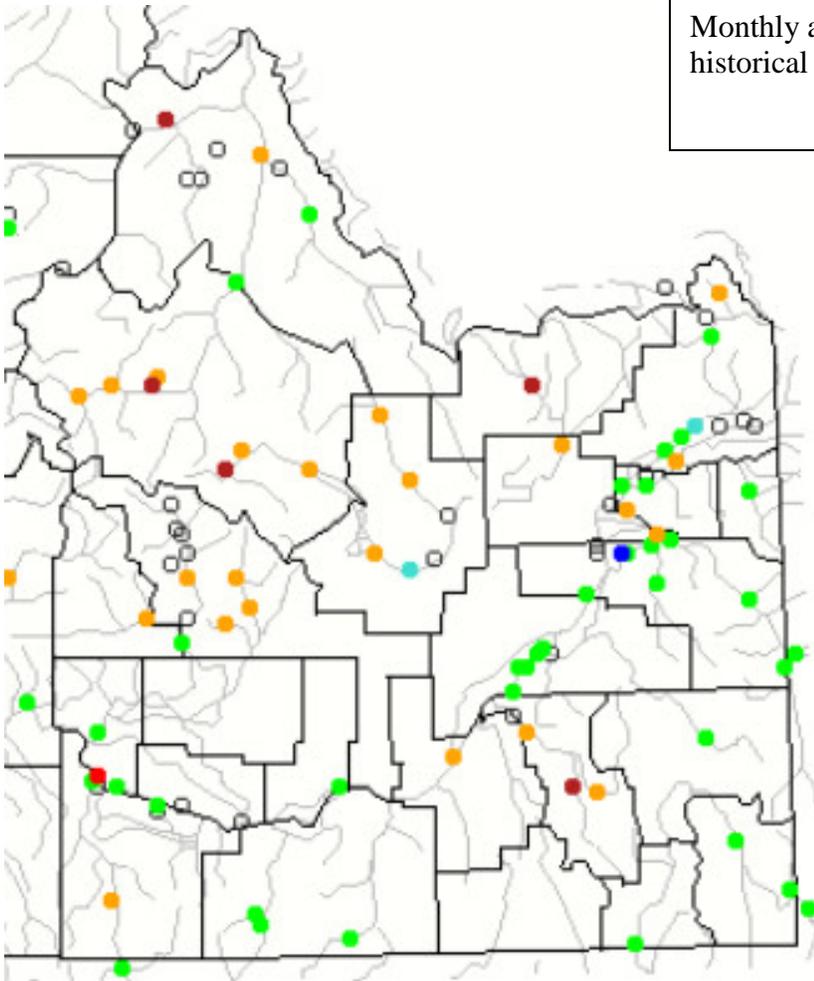
Graph of Upper Snake River Current Total System Reservoir Storage



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

Streamflow:

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



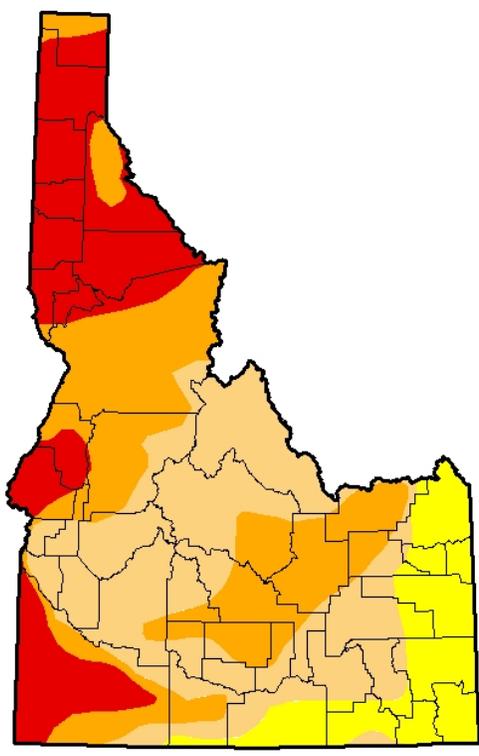
Explanation - Percentile classes							
●	●	●	●	●	●	●	○
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

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

Drought Information:

**U.S. Drought Monitor
Idaho**

August 4, 2015
(Released Thursday, Aug. 6, 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	86.63	51.71	22.20	0.00
Last Week <i>7/28/2015</i>	0.00	100.00	86.63	51.71	22.20	0.00
3 Months Ago <i>5/5/2015</i>	0.02	99.98	61.33	21.96	8.18	0.00
Start of Calendar Year <i>12/31/2014</i>	23.76	76.24	41.73	18.49	3.40	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>8/5/2014</i>	15.80	84.20	43.76	28.95	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.

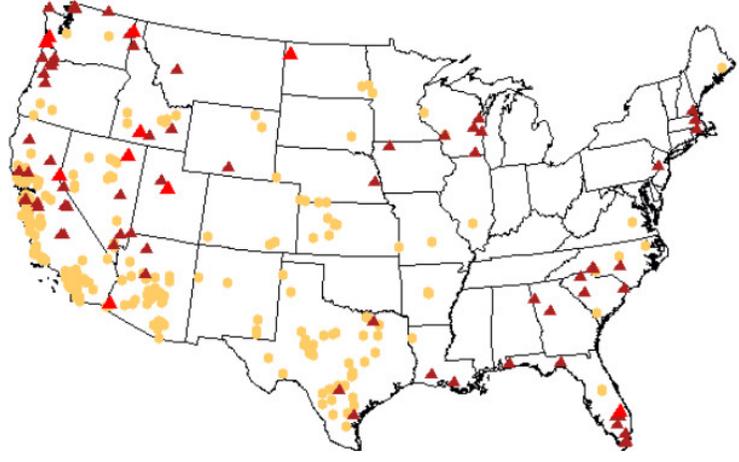
Author:
Mark Svoboda
National Drought Mitigation Center



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

Map of Record Low 7-day Streamflow

Thursday, August 06, 2015



Explanation

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

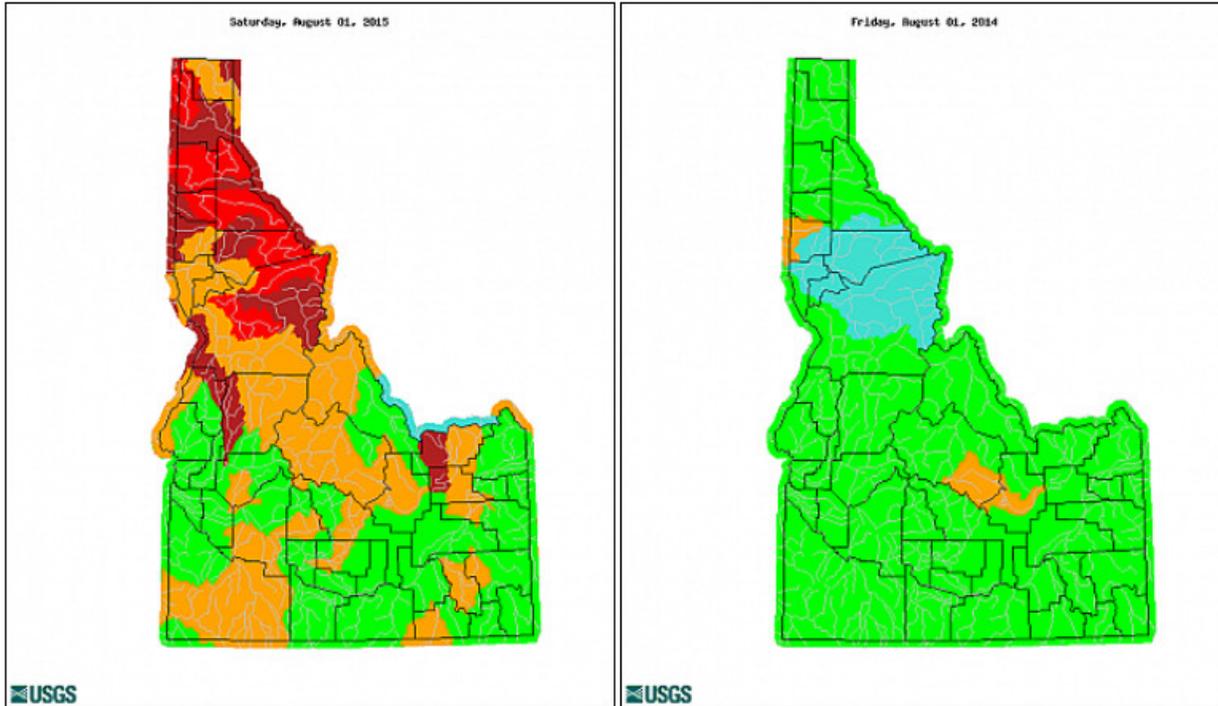
waterwatch.usgs.gov/index.php?id=wwdrought_us

Comparison of Streamflow Maps

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

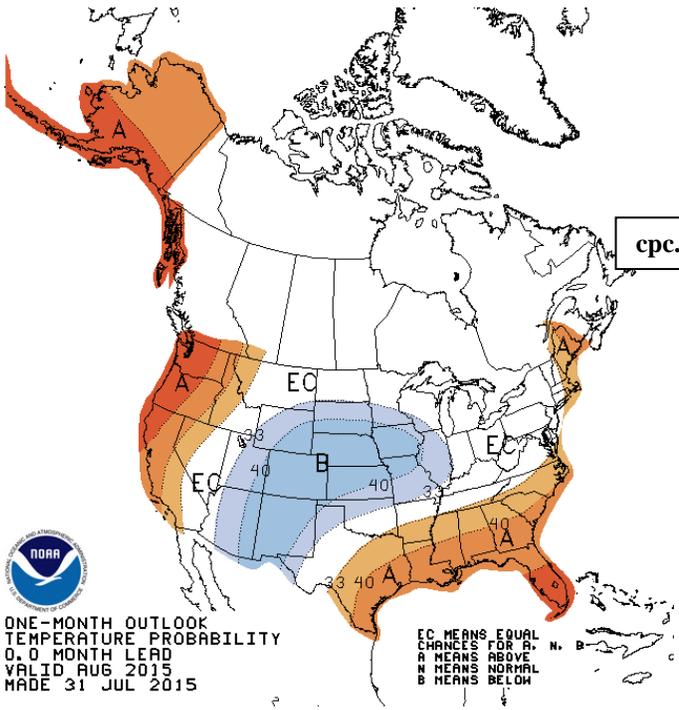
Date (YYYYMM):

Date (YYYYMM):

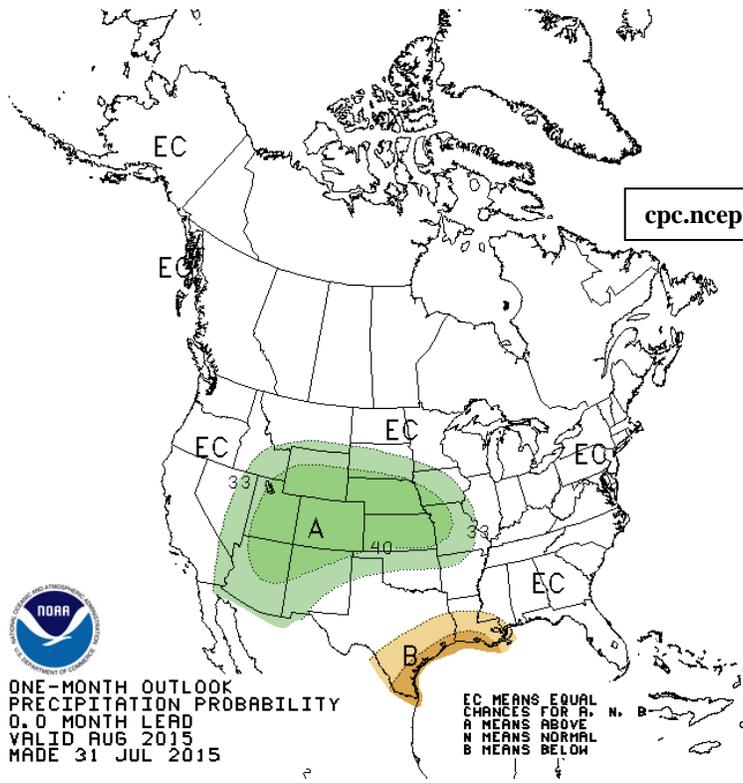


Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	No Data
	Much below normal	Below normal	Normal	Above normal	Much above normal		

waterwatch.usgs.gov/index.php



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

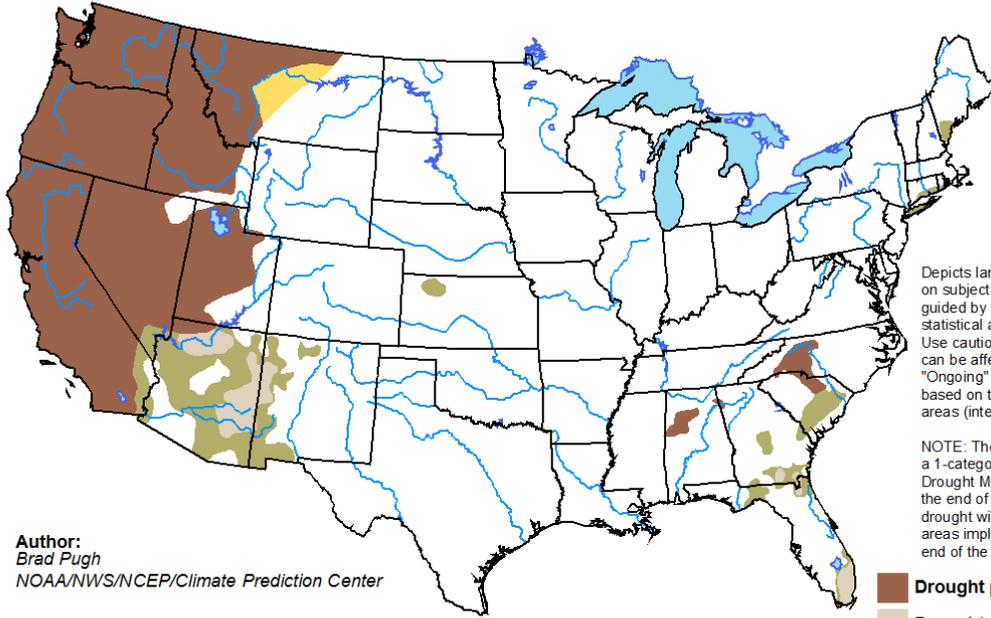


cpc.ncep.noaa.gov/products/predictions/30day/off15_prpc.gif

U.S. Seasonal Drought Outlook

Drought Tendency During the Valid Period

Valid for July 16 - October 31, 2015
Released July 16, 2015



Author:
Brad Pugh
NOAA/NWS/NCEP/Climate Prediction Center

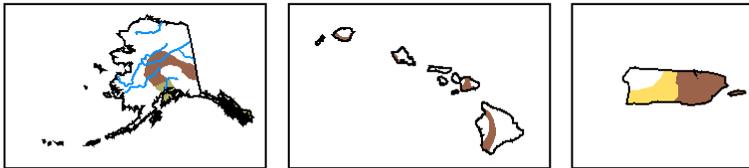
Depicts large-scale trends based on subjectively derived probabilities guided by short- and long-range statistical and dynamical forecasts. Use caution for applications that can be affected by short lived events. "Ongoing" drought areas are based on the U.S. Drought Monitor areas (intensities of D1 to 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).

-  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

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Brent Bernard, Hydrologist, Colorado Basin River Forecast Center
PIH Mets/HMT's

End
cbl