

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: 2013
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 15, 2013	
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:

Flash flooding on Garden Creek west of Challis resulted from isolated heavy rain lasting over an hour on the 2nd of July. There is no streamgauge on Garden Creek, which flows into the town of Challis. Minor damage to a flatbed trailer was reported and any other property damage is unknown. The intense rain was accompanied by lightning and hail the size of dimes to nickels as reported by a witness. Precipitation gages in the general area did not catch the intensity nor duration of the event. The nearest downstream streamgauge to the flash flooding is the Salmon River at Salmon (SMNI1), which appeared to show only a minor rise of less than one foot in stage. See below picture on page 19. No other flooding was reported.

July brought an average of around one inch total of rain within the Hydrologic Service Area (HSA) excluding the Snake River plain. On average, it was around three to six degrees warmer than average over most of the HSA. The AHPS departure from normal precipitation map below shows we are about a half an inch to an inch in deficit and the majority of eastern Idaho receiving 25-50% of normal precipitation with the exception of Minidoka, Power, Blaine, (part of Caribou county) and Cassia Counties fairing the worst (near the 5 to 25% of normal range). As stated above, parts of the HSA fringe received near to above normal precipitation, but those areas are small. The El Niño neutral pattern is forecast to continue into at least this fall, so we should see more of the usual: hot and dry.

As far as the three-month Climate Prediction Center Outlook is concerned, we stand to have about a 40 to 50% chance of having higher than normal temperatures and an equal chance of normal precipitation in eastern Idaho; most likely driven by the El Niño neutral pattern.

Of the data available for the month, the highest 24-hour precipitation total was 1.00 inch on the 6th day of the month at the Bostetter Ranger Station SNOTEL site with a total of 2.50 inches for the month, which was also the station receiving the greatest sum of precipitation for the month. There were two stations reaching the highest 24-hour temperature; Rock Lake and Minidoka Dam on the 1st and 3rd respectively. Both stations reached a scorching 106°F. The station with the lowest recorded temperature (non-SNOTEL) was the Copper Basin station at 24°F on July 23rd.

Reservoirs last month decreased capacity overall by around 18% in the upper Snake River basin system (a decrease of about 740 KAF occurred over the month and is currently sitting at 33% of capacity overall).

Compared to last year at this time, it was about 47% of capacity. Water storage this season continues to be of concern. Most notable changes were the Island Park and the Mackay reservoirs decreasing 38% and 34% of capacity respectively. They are currently both at 71 percent of average capacity, respectively, according to NRCS data. The Little Wood reservoir and Jackson Lake dropped 32 and 27% capacity last month, respectively. Lake Walcott decreased capacity by 1% and Milner Dam stayed the same level. The current forecast from the Bureau of Reclamation shows drawing down the American Falls reservoir to around 6% capacity by the end of August and the Palisades reservoir to around 9%. Indeed, very dismal conditions continue for water supply storage.

Current streamflow conditions in eastern Idaho are currently below normal for the majority of the unregulated streams (see map below). Water shortages for agricultural irrigation are most prevalent in the Little Wood and the Snake (Heise region) where they are much below normal according to the NRCS Idaho Surface Water Supply Index (SWSI). The Little Wood and the Snake (Heise) region is currently ranked 30th out of 33 years according to the 2013 streamflow forecast.

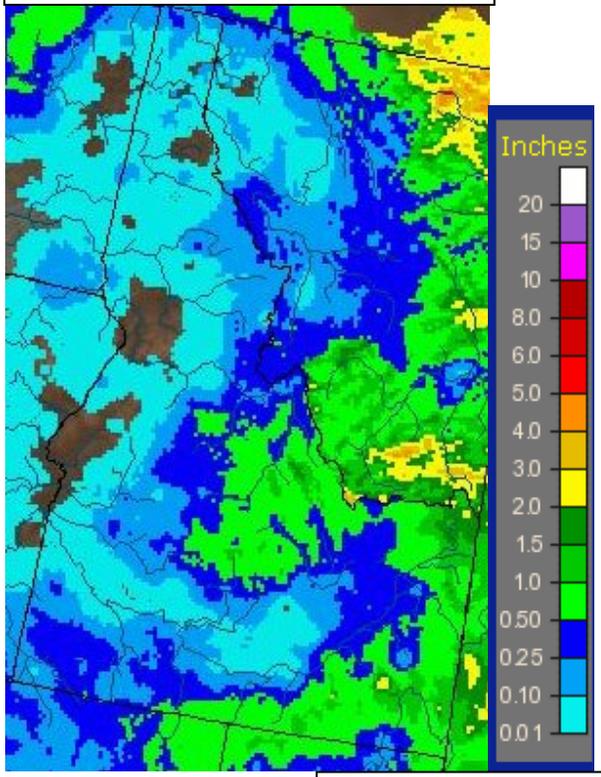
Continuing the trend of seasonal below normal precipitation and above normal temperatures, drought conditions continued over the past month. The state is now 97% in at least an abnormally dry conditions status (a slight increase of 1% since last month with only the tip of the panhandle not in dry conditions). The moderate drought (D1) intensity has increased by about 10% and the state has increased by 34% in the severe (D2) category since last month. Around 11% of the state (extreme SW Idaho) is now in the extreme drought (D3) category. The U.S. Seasonal Drought Outlook continues to forecast a persistence or intensification of drought conditions throughout almost all of Idaho (with the exception of the extreme northeast tip of the state in the Henrys Fork headwaters and the panhandle, which is not included in the assessment. Looking at the long-term climate forecast, it appears the trend of warmer and drier than normal conditions should persist at least for the next few months. Since last month's report, State drought emergencies have been declared in Bonneville, Bear Lake, Power, Madison, Caribou, Oneida and Bannock counties (for a total of 16 counties within the HSA).

This past month has resulted in many wildfires resulting from the extremely dry vegetative conditions. A summary of the current wildfire activity is below on page 18. The August 1st Wildland Fire Potential Outlook continues to forecast above normal and significant fire potential in Idaho with decreasing significant fire potential in late September. Fuel moisture values have been steadily dropping and were below normal for late July in Idaho. Elevated fire danger is expected to continue west of the continental divide into September.
www.predictiveservices.nifc.gov/outlooks/monthly_seasonal_outlook.pdf

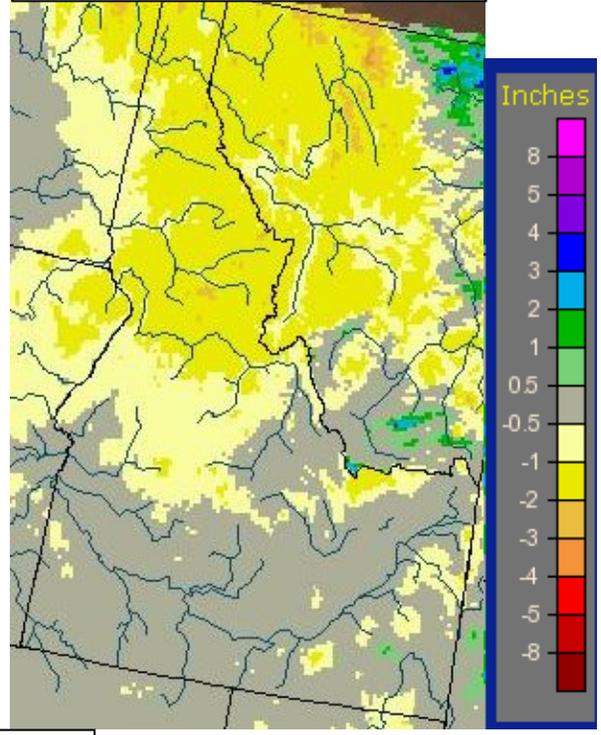
Due to the widespread wildland fires, the Idaho DEQ has issued air quality advisories for Blaine and Camas counties including mandatory burn bans.

Precipitation:

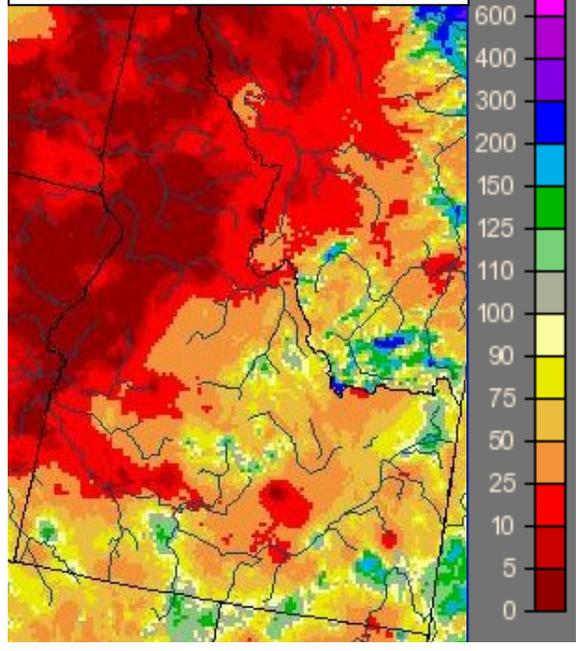
July 2013, Observed Precipitation



July 2013, Departure from Normal Precipitation

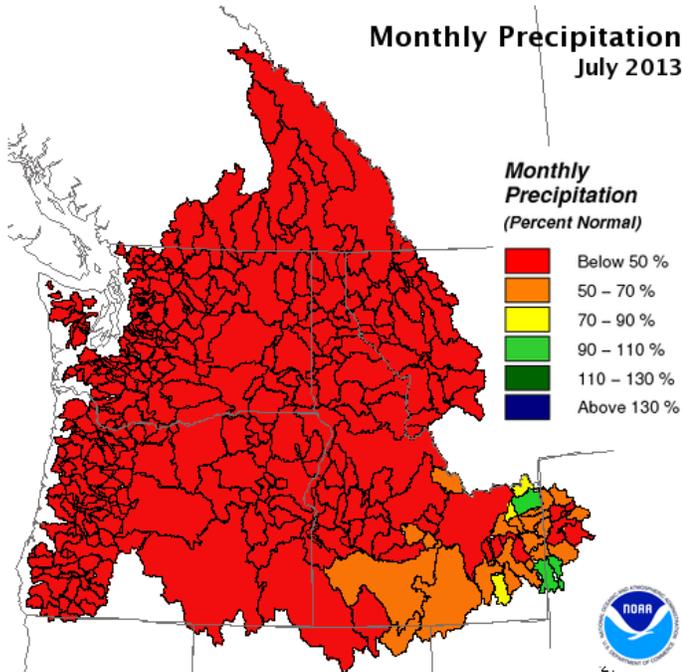


July 2013, Percent of Normal Precipitation



www.water.weather.gov/precip/index.php

Monthly Precipitation July 2013

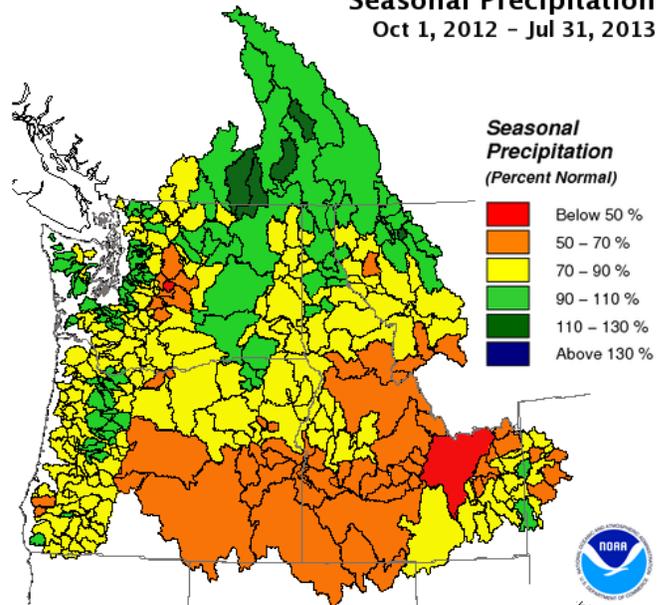


Creation Time: Monday, Aug 5, 2013

Northwest River Forecast Center

www.nwrfc.noaa.gov/WAT_RES_wy_summary/20130805/MonthMAP_2013Jul_2013080517.png

Seasonal Precipitation Oct 1, 2012 - Jul 31, 2013

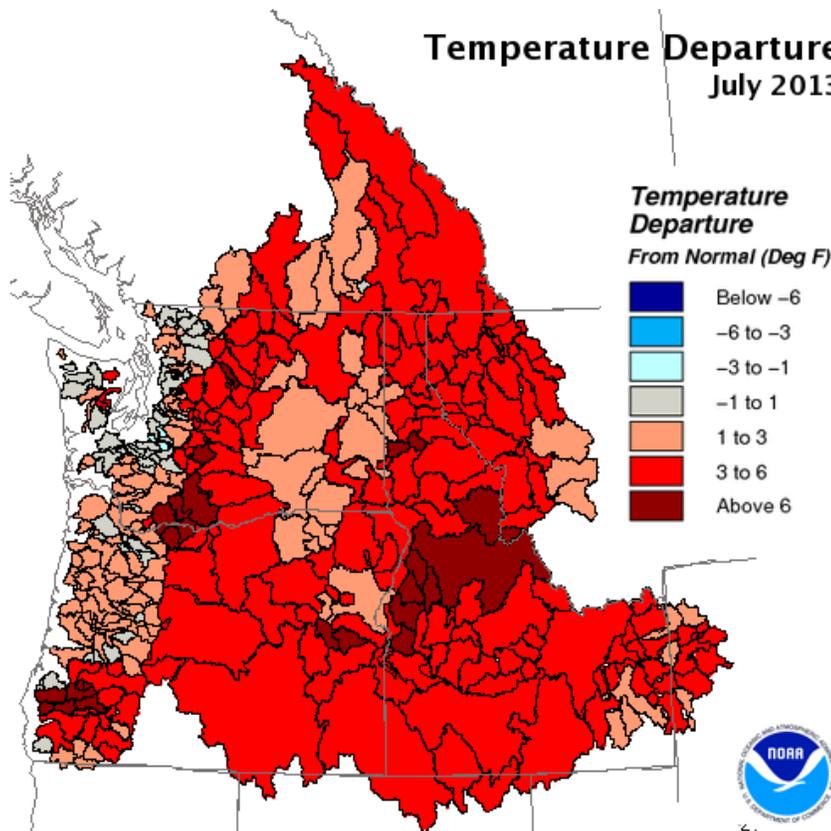


Creation Time: Thursday, Aug 1, 2013

Northwest River Forecast Center

www.nwrfc.noaa.gov/WAT_RES_wy_summary/20130805/SeasonalMAP_WY2013_OCT_JUL.2013080517.png

Temperature Departure July 2013



Creation Date: Monday, Aug 5, 2013

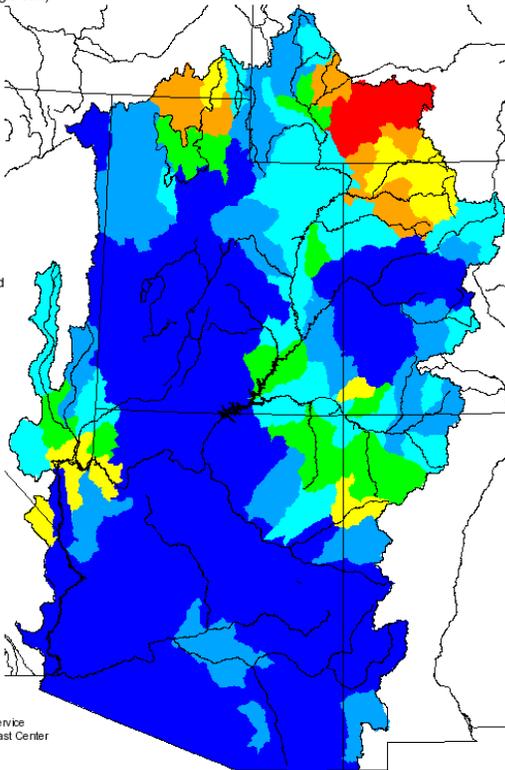
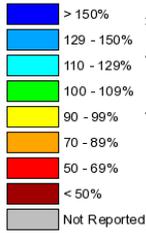
Northwest River Forecast Center

www.nwrfc.noaa.gov/WAT_RES_wy_summary/20130805/MonthMAT_2013Jul_2013080517.png

Monthly Precipitation for July 2013

(Averaged by Hydrologic Unit)

% Average



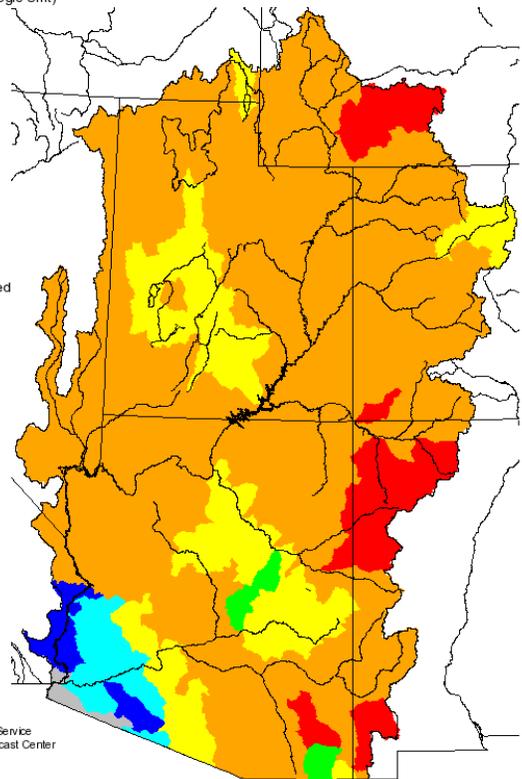
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

www.cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?M?2013?07

Seasonal Precipitation, October 2012 - July 2013

(Averaged by Hydrologic Unit)

% Average



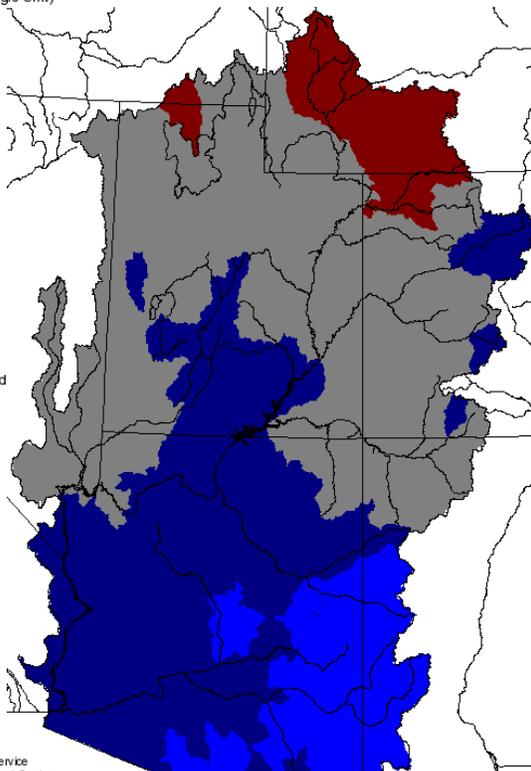
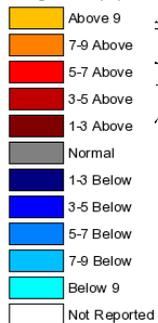
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

www.cbrfc.noaa.gov/product/mapsum/mapsum.cgi??cbrfc?S?2013?07

Monthly Max Temp Deviation for July 2013

(Averaged by Hydrologic Unit)

Degrees (F)



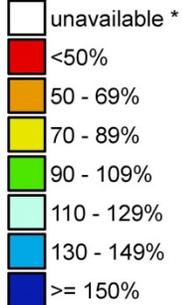
Prepared by
NOAA, National Weather Service
Colorado Basin River Forecast Center
Salt Lake City, Utah
www.cbrfc.noaa.gov

www.cbrfc.noaa.gov/product/mapsum/mapsum.cgi?temp?cbrfc?M?2013?07

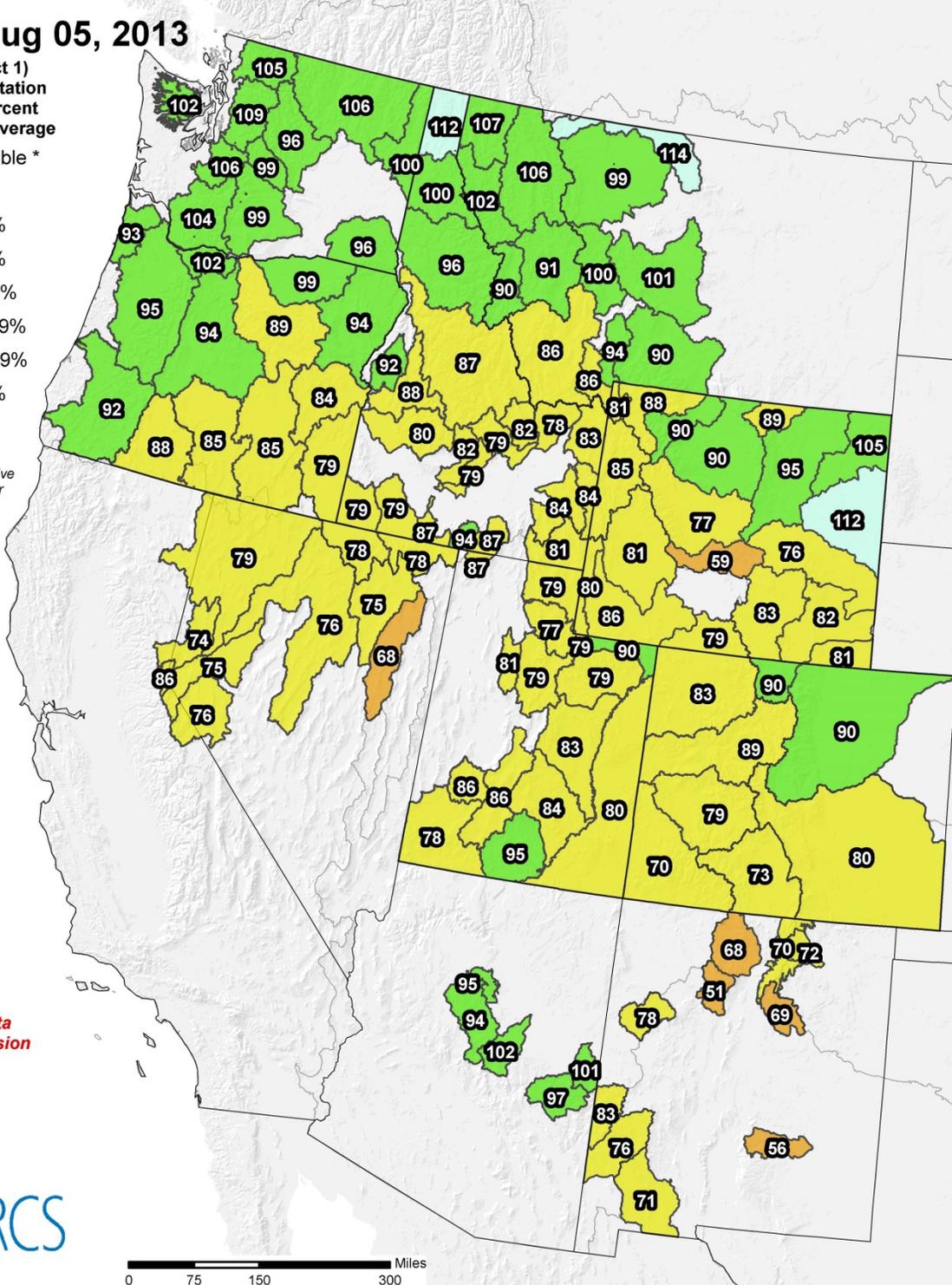
Westwide SNOTEL Water Year (Oct 1) to Date Precipitation % of Normal

Aug 05, 2013

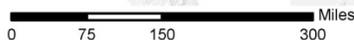
Water Year (Oct 1) to Date Precipitation Basin-wide Percent of 1981-2010 Average



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



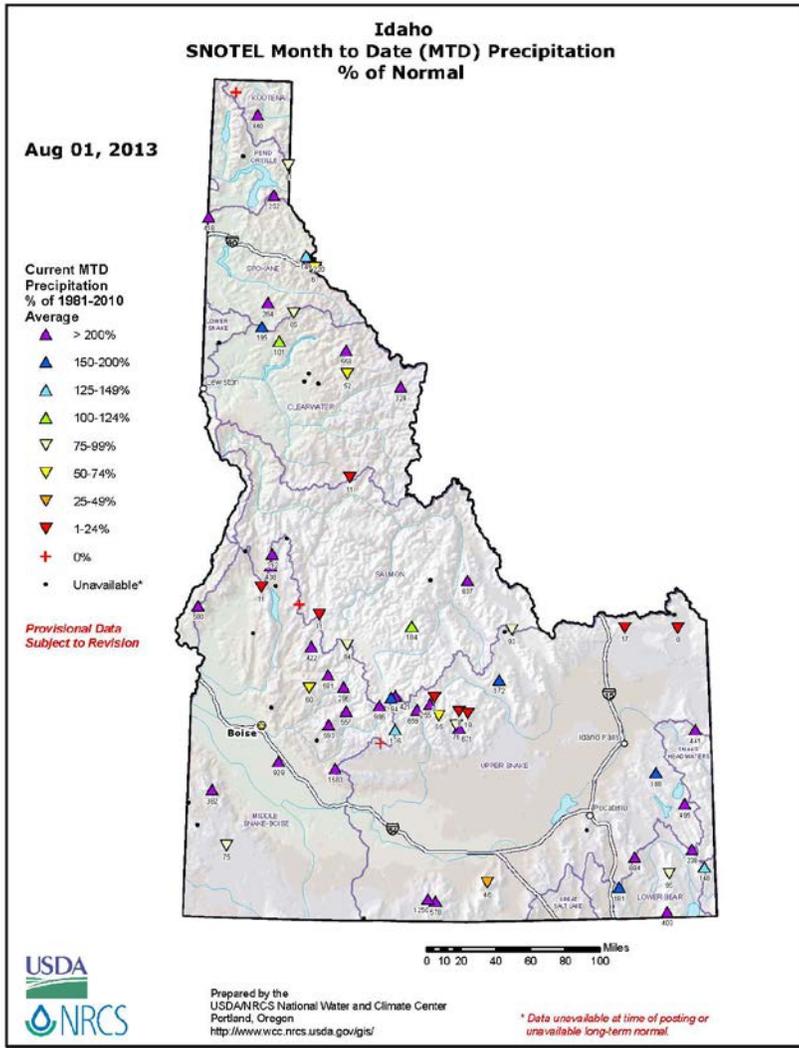
Provisional data subject to revision



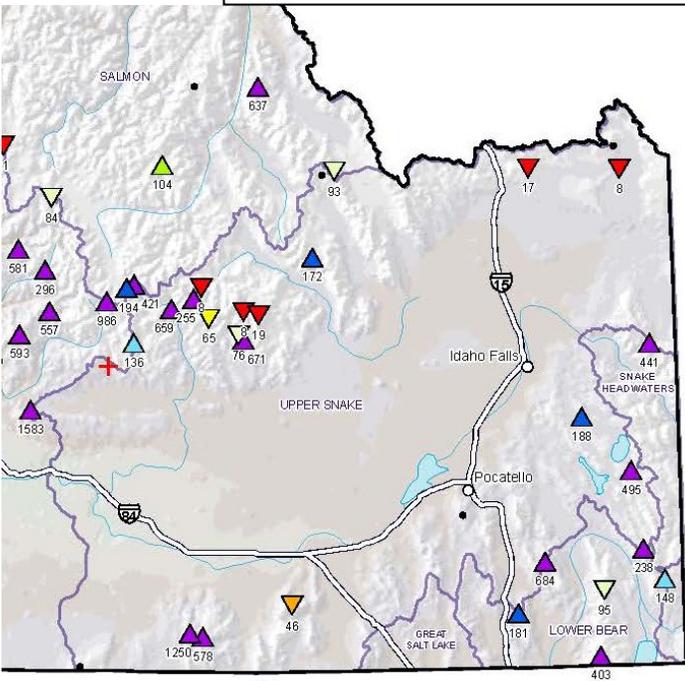
The water year to date precipitation percent of normal represents the accumulated precipitation found at selected SNOTEL sites in or near the basin compared to the average value for those sites on this day. Data based on the first reading of the day (typically 00:00).

Prepared by 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

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



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

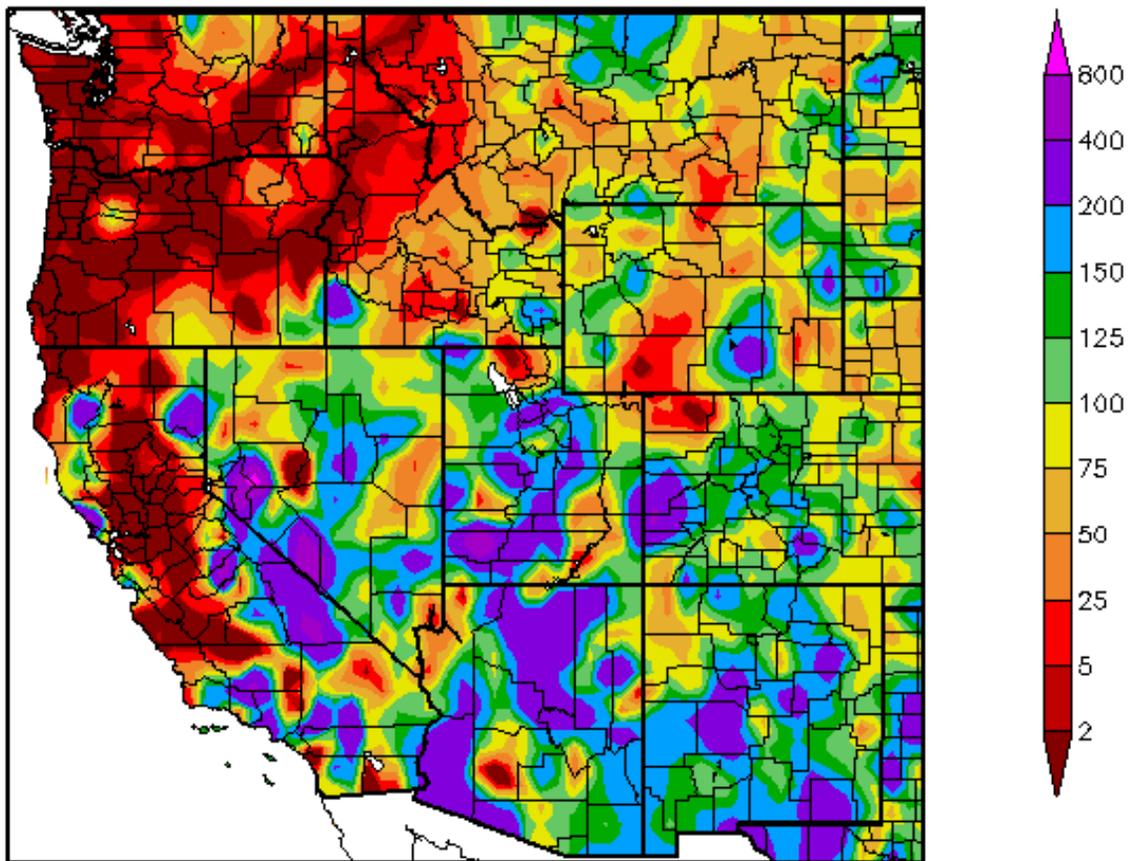


**SNOTEL MTD % of Normal
Precipitation for end of July 2013
(image is cropped from above image)**

Note: The ENSO Neutral climate pattern is forecast to continue into this Fall (see below graphic on page 9). The MJO is currently weak with a forecast of little to no activity in the western region in the next few weeks.

As compared to last month, July brought near normal precipitation for the greater part of eastern Idaho with the exception being the central mountains and near MT and UT. The area receiving the least amount of precipitation was Minidoka County, near the continental divide and Oneida County. Note the dry conditions of WA, OR, CA and northern Idaho last month.

Percent of Normal Precipitation (%) 7/1/2013 – 7/31/2013



Generated 8/5/2013 at HPRCC using provisional data.

Regional Climate Centers

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

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ -0.3 Deg C

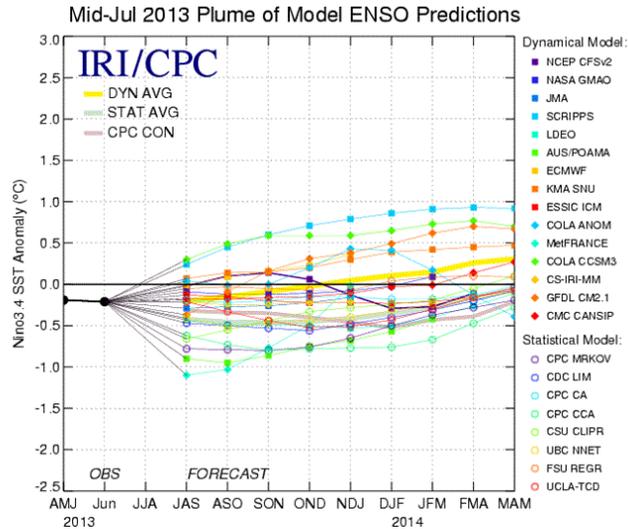
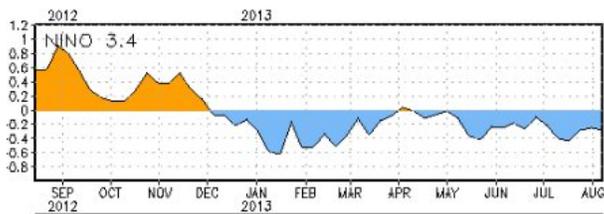


Figure 6. Forecasts of sea surface temperature (SST) anomalies for the Niño 3.4 region (5°N-5°S, 120°W-170°W). Figure courtesy of the International Research Institute (IRI) for Climate and Society. Figure updated 16 July 2013.

cpc.ncep.noaa.gov and iri.columbia.edu/climate/ENSO

CPC Synopsis: ENSO-Neutral conditions favored into Fall 2013

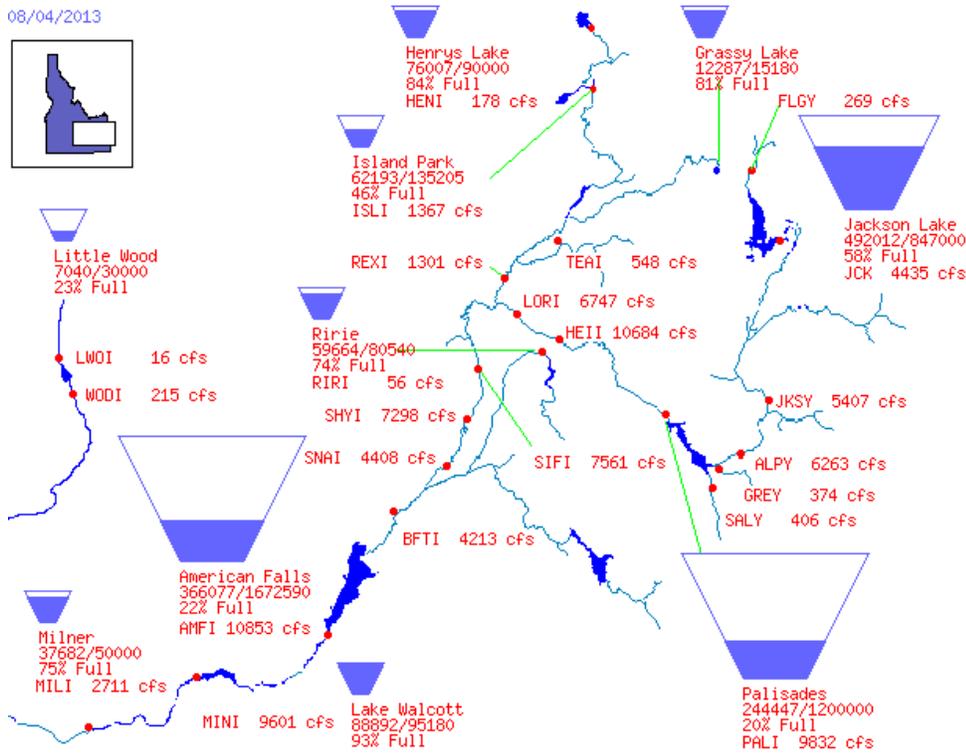
Reservoirs:

Reservoir	% Capacity June 30 ¹	% Capacity July 31 ²	Percent Change	% of Average ²	% of Last Year ²
Henry's Lake	96	86	-10	96	92
Island Park	87	49	-38	71	70
Jackson Lake	88	61	-27	81	68
Palisades	50	33	-17	46	49
Ririe	80	75	-5	90	80
Blackfoot	62	51	-11	93	68
American Falls	48	24	-24	44	82
Bear Lake	63	55	-8	97	77
Magic	3	6	3	12	8
Little Wood	60	28	-32	54	53
Mackay	69	35	-34	71	49
Oakley	29	21	-8	66	69
Lake Walcott	94 ³	93 ⁴	-1	n/a	n/a
Milner	75 ³	75 ⁴	0	n/a	n/a

Source: (1) NRCS June 30, 2013; (2) NRCS July 31, 2013.
 (3) US Bureau of Reclamation (BOR) July 8, 2013 (4) BOR August 4, 2013

www.wcc.nrcs.usda.gov/ftpref/data/water/basin_reports/idaho/wy2013/bareid7.txt

08/04/2013

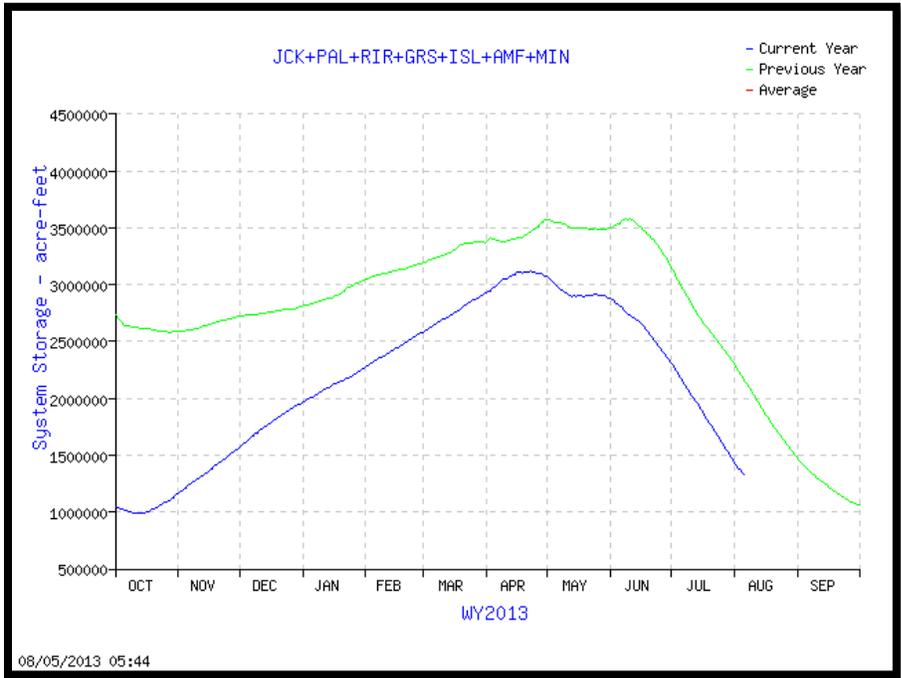


33% of Capacity in Upper Snake River System
 (Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

www.usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
 Total Space Available: 2,720,121 AF
 Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



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

Bear River Basin Current Reservoir Conditions:

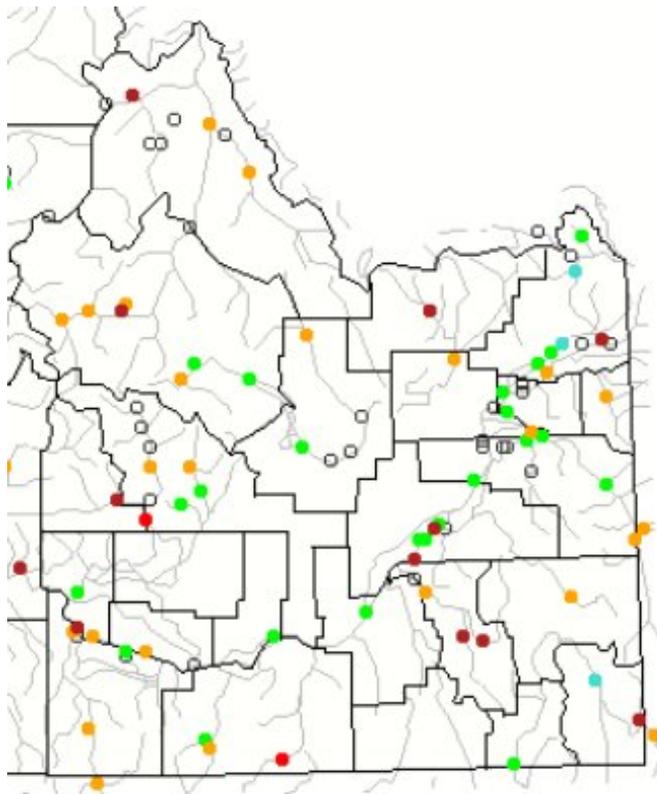
Dam Level Condition

● 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	●	5914.4	8/5 06:00	5914.4	8/5 18:00				

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

Streamflow:



Monthly average streamflow compared to historical average streamflow for July 2013.



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

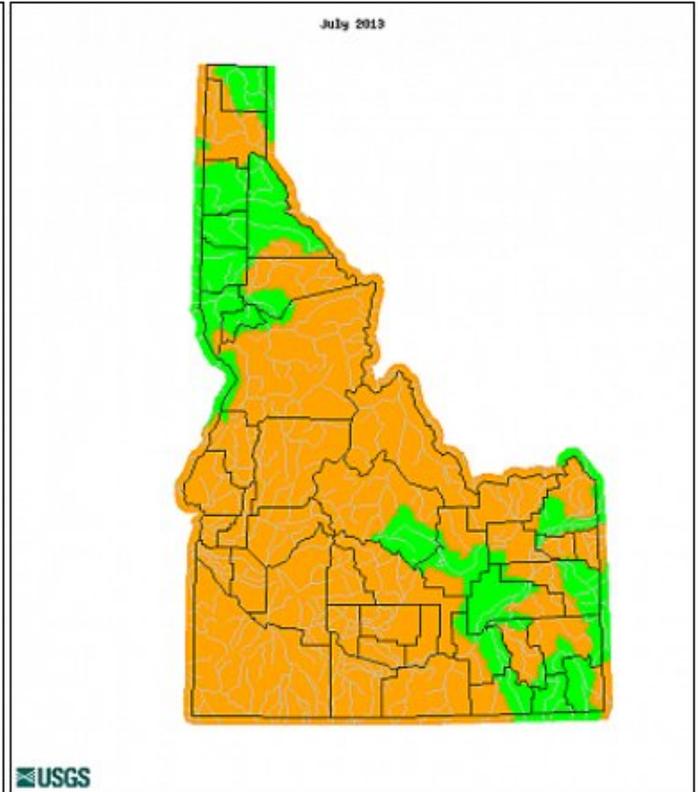
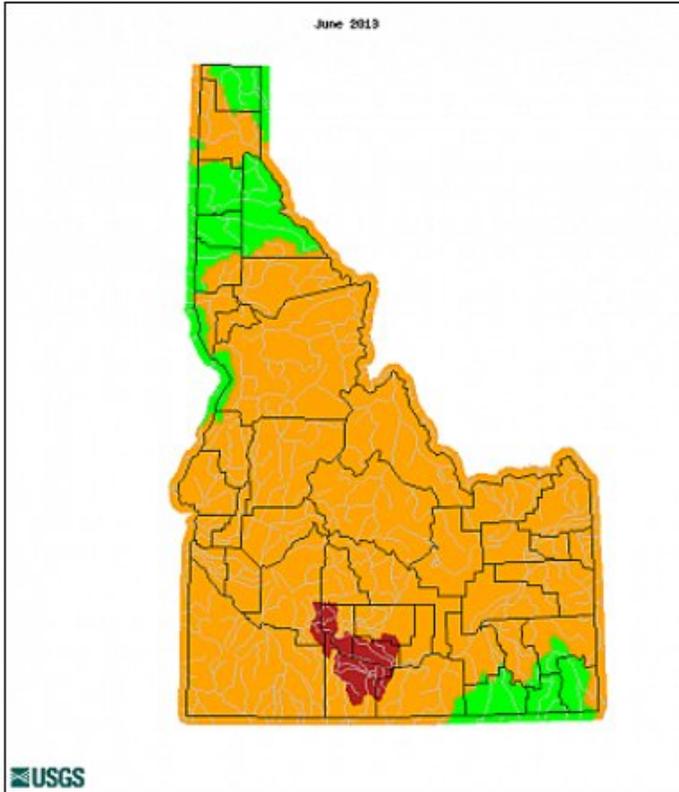
Historic Streamflow Comparison, June 2013 and July 2013:

Comparison of Monthly Streamflow Maps

Geographic Area:	<input type="text" value="Idaho"/>	Water Resource Region:	<input type="text"/>	Map Type:	<input type="text" value="HUC"/>	<input type="button" value="GO"/>
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Date (YYYYMM):

Date (YYYYMM):



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

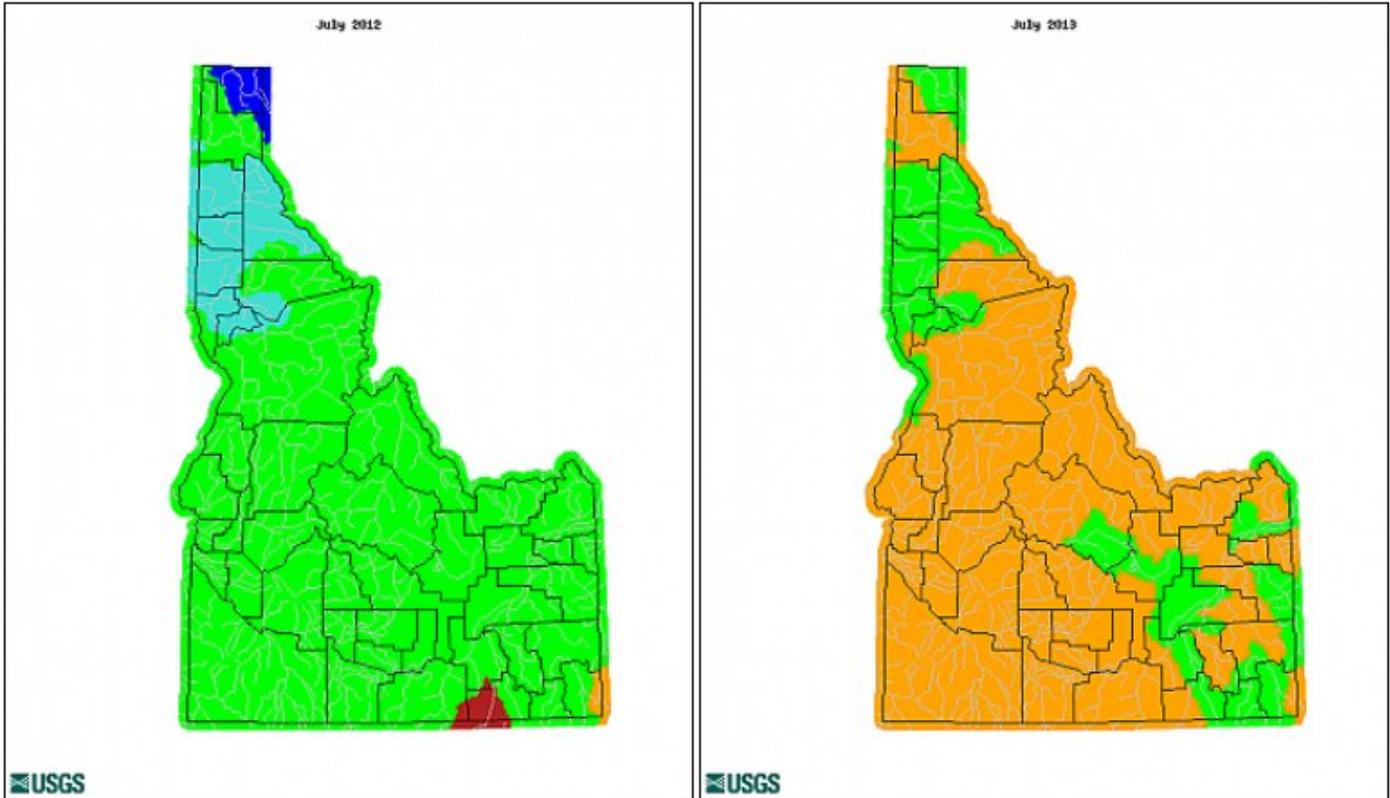
Historic Streamflow Comparison, July 2012 and July 2013:

Comparison of Monthly Streamflow Maps

Geographic Area:
 Water Resource Region:
 Map Type:

Date (YYYYMM):

Date (YYYYMM):

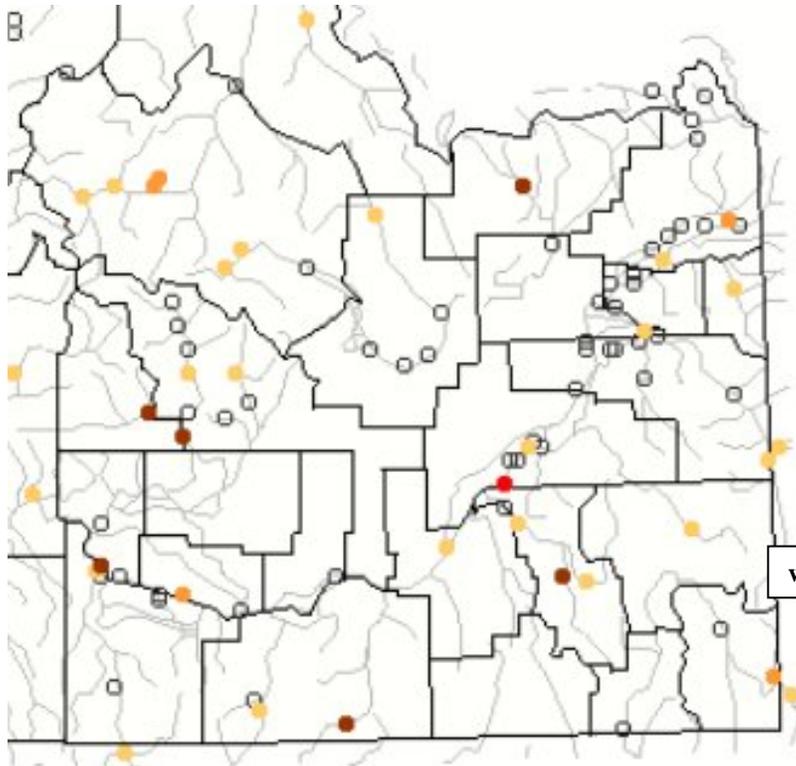


Explanation - Percentile classes						
	<10	10-24	25-75	76-90	>90	
Low	Much below normal	Below normal	Normal	Above normal	Much above normal	High

waterwatch.usgs.gov/index.php

Below Normal 28-Day average streamflow as of August 4, 2013 (see graphic below):

Medicine Lodge Creek nr Small, 29 cfs, 2nd percentile,
 Raft River abv One Mile Crk, 2 cfs, 1st percentile,
 Spring Crk at Sheepskin Rd nr Fort Hall (new low), 231 cfs, 3rd percentile,
 Marsh Crk nr McCammon, 19 cfs, 3rd percentile,
 Big Wood River blo Magic Dam, 2 cfs, 1st percentile



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

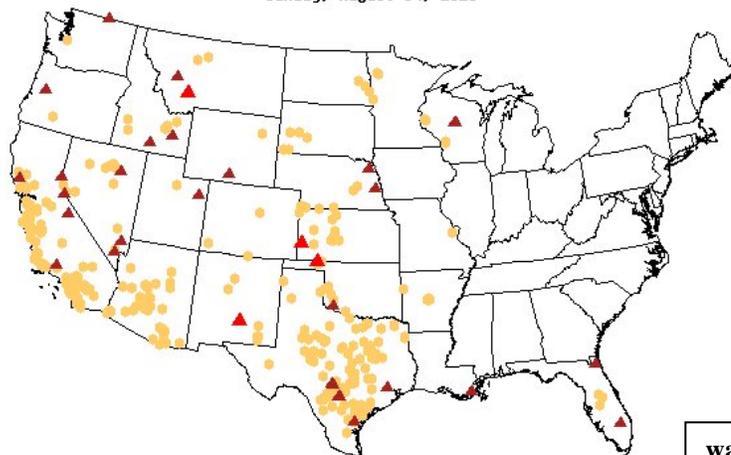


Choose a data retrieval option and select a location on the map
 List of all stations Single station Nearest stations

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

Map of Record Low 7-day Streamflow

Sunday, August 04, 2013



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

Explanation

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

Drought Information:

U.S. Drought Monitor

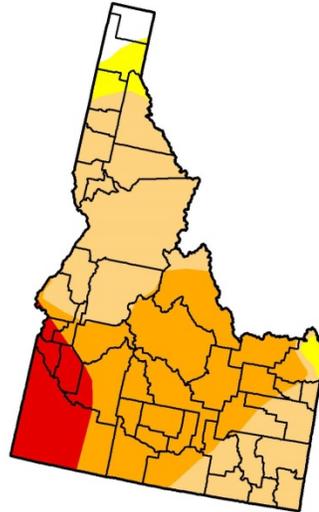
Idaho

August 13, 2013
Valid 7 a.m. EST

	Drought Conditions (Percent Area)					
	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	2.36	97.64	94.01	51.52	10.51	0.00
Last Week (08/06/2013 map)	2.36	97.64	94.01	51.52	7.28	0.00
3 Months Ago (05/14/2013 map)	18.91	81.09	22.19	0.09	0.00	0.00
Start of Calendar Year (01/01/2013 map)	45.29	54.71	47.63	0.52	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 (08/07/2012 map)	38.72	61.28	13.91	0.18	0.00	0.00

Intensity:

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

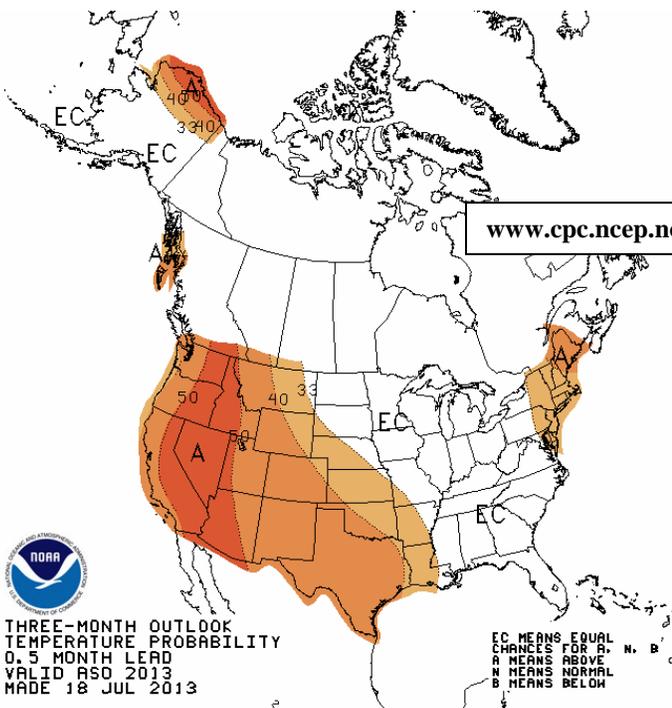


The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, August 15, 2013
Michael Brewer, National Climatic Data Center, NOAA

<http://droughtmonitor.unl.edu>

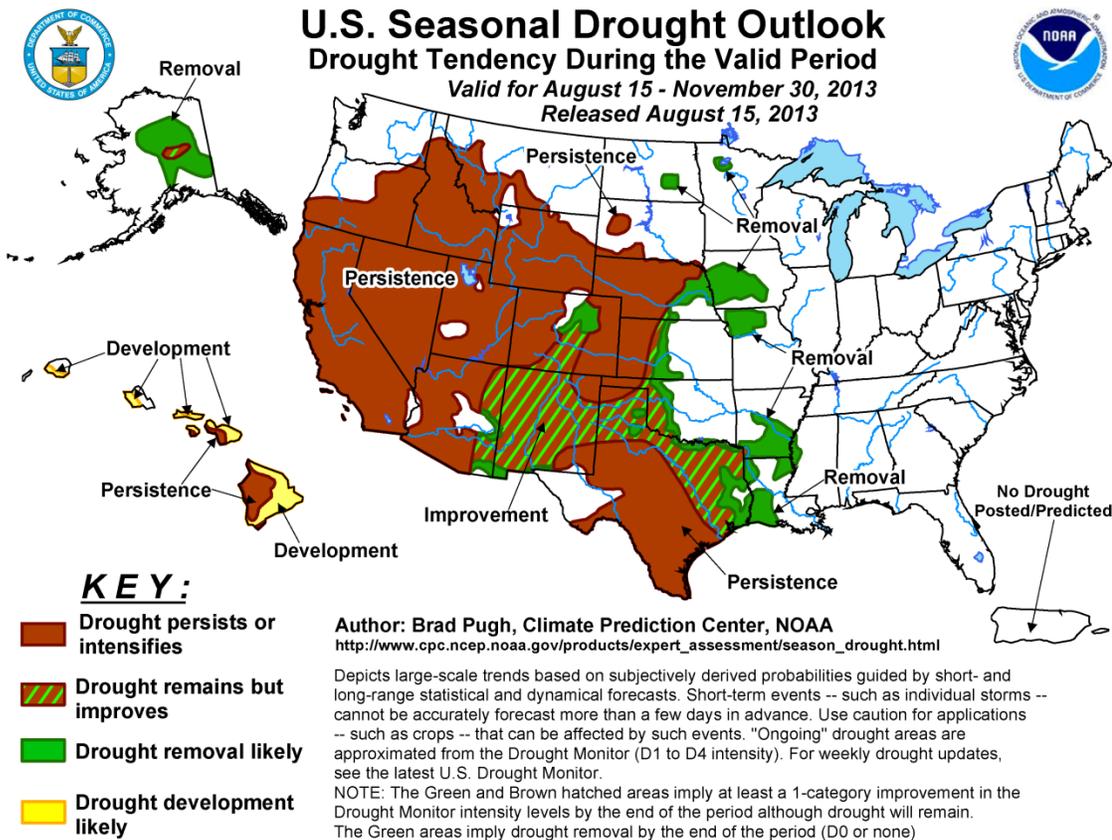
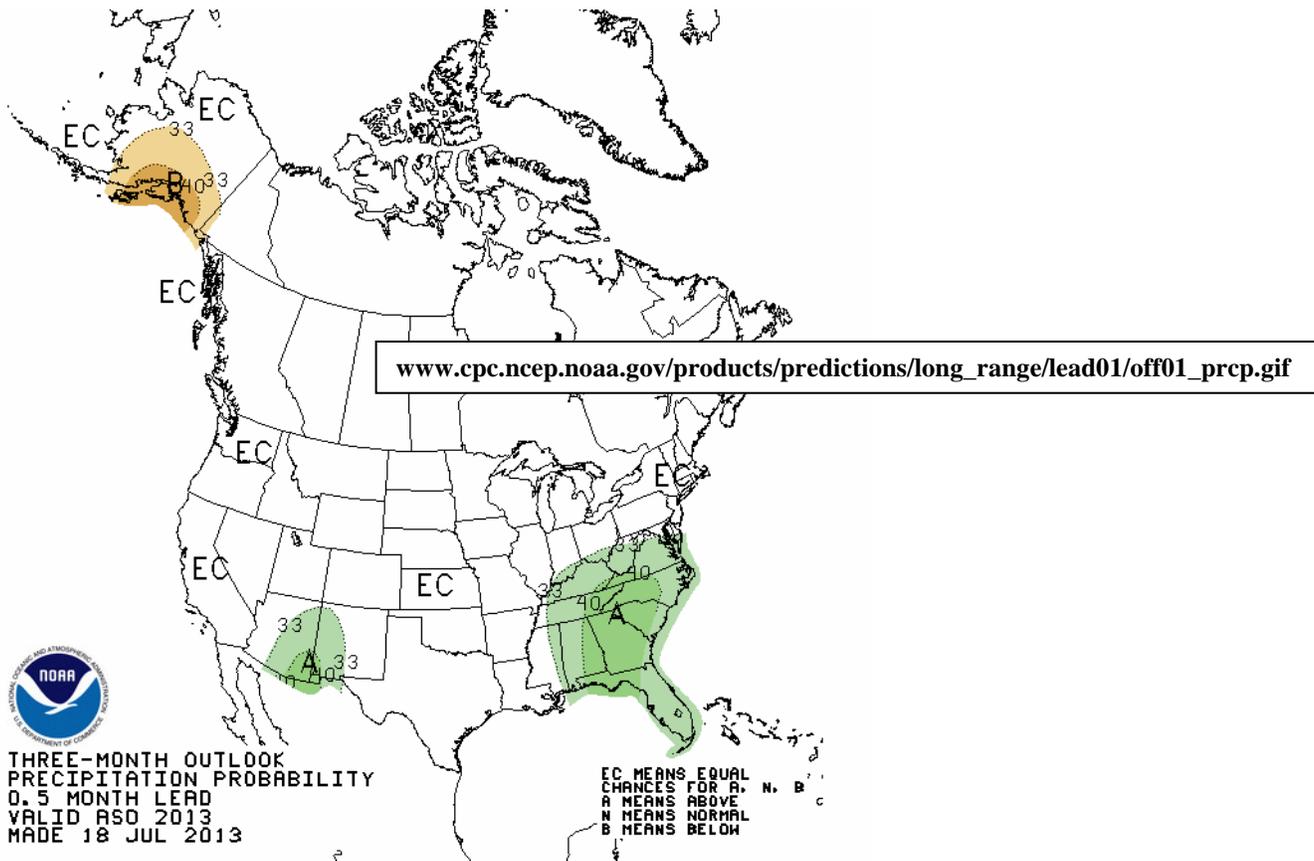


www.cpc.ncep.noaa.gov/products/predictions/long_range/lead01/off01_temp.gif



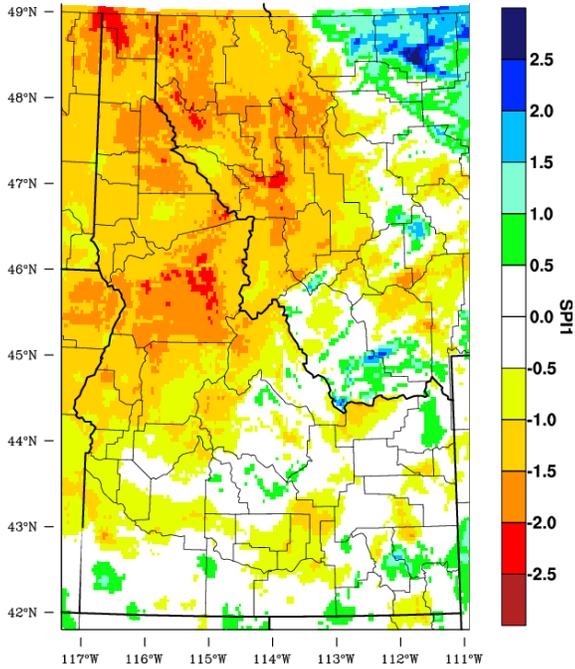
THREE-MONTH OUTLOOK
TEMPERATURE PROBABILITY
0.5 MONTH LEAD
VALID ASD 2013
MADE 18 JUL 2013

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

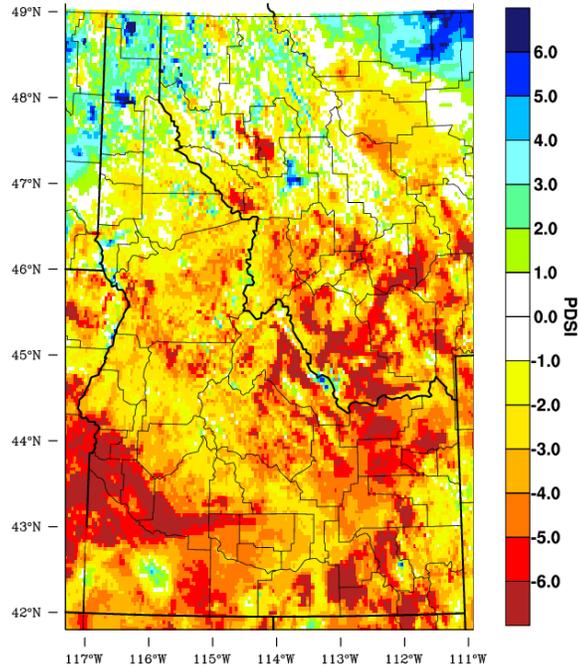


www.cpc.ncep.noaa.gov/products/expert_assessment/season_drought.gif

Idaho - 1 month SPI
July 2013



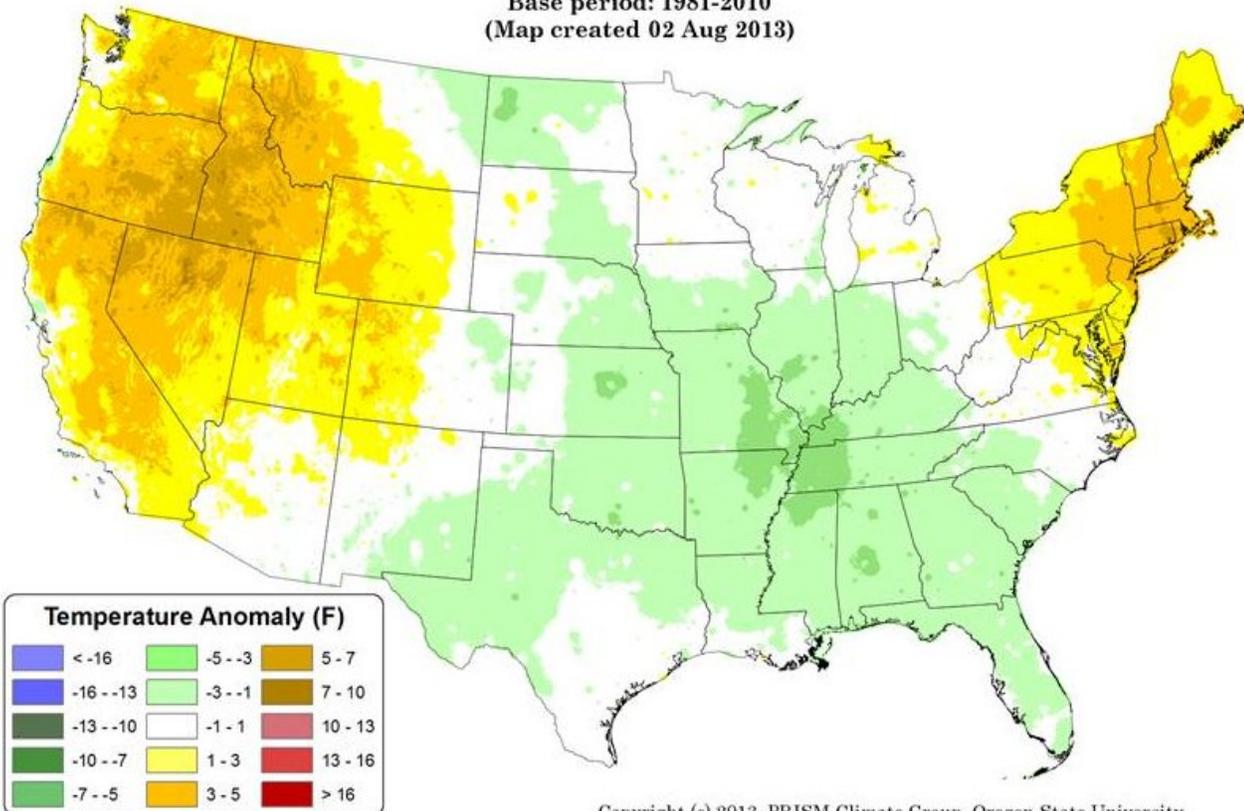
Idaho - PDSI
July 2013



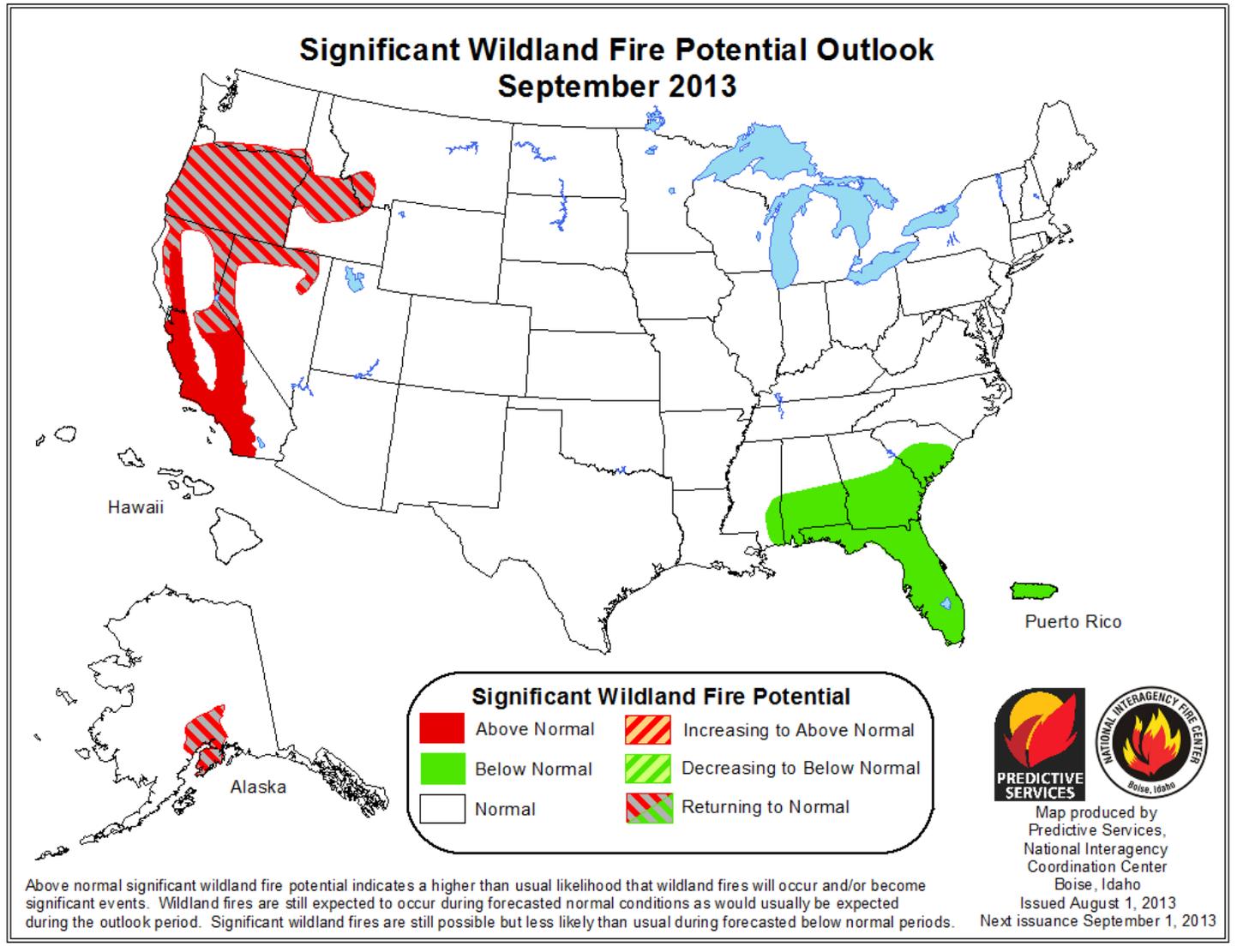
WestWide Drought Tracker - WRCC/UI Data Source - PRISM (Prelim), created 2 AUG 2013 WestWide Drought Tracker - WRCC/UI Data Source - PRISM (Prelim), created 2 AUG 2013

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

Daily Mean Temperature Anomaly: July 2013
Period ending 7 AM EST 31 Jul 2013
Base period: 1981-2010
(Map created 02 Aug 2013)



Copyright (c) 2013, PRISM Climate Group, Oregon State University



http://www.predictiveservices.nifc.gov/outlooks/month2_outlook.png

Current (Active) Fires in HSA as of 8/14/13:

Beaver Creek, Sawtooth NF, northwest of Hailey, currently 38,739 acres, 15% contained, timber, brush and grass, active crown fire.

State, near Malad, ID, currently 22,949 acres, 50% contained, timber and grass, smoldering, backing with occasional run.

McCan, Twin Falls District BLM, near Fairfield, ID, currently 23,860 acres, 45% contained, timber, brush and grass, structures threatened, smoldering.

Lodgepole, Salmon-Challis NF, 10 mi west of Challis, currently 22,533 acres, 72% contained, timber and sagebrush, creeping, structures threatened.

Yale Road, 12 mi north of Malta, ID, currently 62.5 acres, contained yesterday.

Note: A number of other fires, most small, have burned in eastern Idaho and are currently contained.

Sources: www.nifc.gov/nicc/sitreprt.pdf and www.inciweb.org

Flooding:

See above narrative discussion overview.



Garden Creek flash flooding (approx. 5 mi. NW of Challis)

cc:
Mike Schaffner, Western Region HCSD
Harold Opitz, Hydrologist-in-Charge, Northwest River Forecast Center
Joe Intermill, Service Coordination 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
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