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:** April **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:** May 21, 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 <u>no</u> flooding has occurred for the month within this hydrologic service area.**

Overview:

Warm temperatures and dry conditions continued across the Hydrologic Service Area (HSA) for the month of April. Overall, about a half an inch to an inch and a half of precipitation fell across the mountainous and highland areas and about a quarter of an inch to a half an inch fell across the Snake River Plain according to AHPS data. Total snowfall ranged from about 0 to 6 inches over the HSA. Temperature departures from normal for April show that across the HSA, temperatures were mostly 3 to 6 degrees F above normal within the HSA. Mean average temperatures ranged from 27 to 50 degrees F as well. The Pocatello City and 2 NE COOPs stations have had 6 and 5 days respectively with average temperatures over 55 degrees F in April.

Water supply volume forecasts dropped rapidly as drier than normal conditions dominated. Early season irrigating is going to cause stress on the scarce water available where the southern Idaho streams have peaked. Snowpack has melted out and has resembled what it would look like late in the season; like in June. Irrigation shortages should occur in the Big/Little Wood, Big Lost and Southside basins.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast is near normal to a 33 percent chance of above normal temperatures in eastern Idaho and a 40 to 50 percent of above normal precipitation. The one-month forecast graphics are below. For the three-month outlook, the trend seems to continue with a 40 to 50 percent chance of above normal temperatures within the HSA and for precipitation, the outlook is for a 40 percent chance of above normal precipitation across all of southern Idaho.

Of the data available for the month, the stations within the HSA reaching the highest 24-hour temperature (non-SNOTEL) was the Monteview, Malad City and Pocatello WBAN and COOP stations reaching 79°F on the 29th and 30th. The station with the lowest recorded temperature was the Monteview COOP station at 7°F on April 3rd. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Soda Springs CoCoRaHS where 0.76 inch fell on the 25th. The highest recorded precipitation total (non-SNOTEL) occurred at the Soda Springs CoCoRaHS where 1.83 total inches was recorded. The Stanley COOP station received the most total snowfall, which recorded 12.0 inches of snow total for the month. The second highest was the Swan Valley COOP recording 9.0 total inches.

Reservoirs last month decreased capacity overall by around 4% in the upper Snake River basin system (a decrease of about 152 KAF occurred over the month and is currently sitting at 83% of capacity overall).

Compared to last year at this time, it was about 63% of capacity. According to NRCS and U.S. Bureau of Reclamation reservoir data, the most notable decreases were American Falls decreasing 7%, Little Wood 4% and Palisades Reservoirs decreasing 4% of capacity. Irrigation demands have begun, drawing out water from the reservoirs for the season. The upper Snake reservoirs are nearly full.

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 since last month's assessment. Moderate drought conditions have expanded near the Henrys Fork area. Severe Drought expanded into most of central Idaho and Extreme drought introduced in the central mountains. Currently, about 9 percent and 26 percent of the state is in Extreme and Severe drought respectively. The U.S. Seasonal Drought Outlook continues to forecast drought to persist/intensify across the central mountains and middle Snake River plain where the extreme eastern Idaho and southeast counties are excluded from the outlook. Currently, Fremont, Blaine, Lincoln, Butte and Custer counties are listed of having drought emergency declarations according to IDWR.

According to the Idaho NRCS Snow Survey May 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 basin. The basin was given a SWSI rating of -0.7 (near normal). This rating reflects overall water availability in the basins and are mostly used for irrigational planning purposes. The three lowest ranked basins within the HSA are the Little Wood, Big Lost and Little Lost basins all rated at -4.0 respectively, which are much below normal (bottom of the scale).

For more information on the Idaho Water Supply May 1st Outlook please go to:
ftp://ftp.wcc.nrcs.usda.gov/states/id/webftp/wsor/2015/borid515.pdf

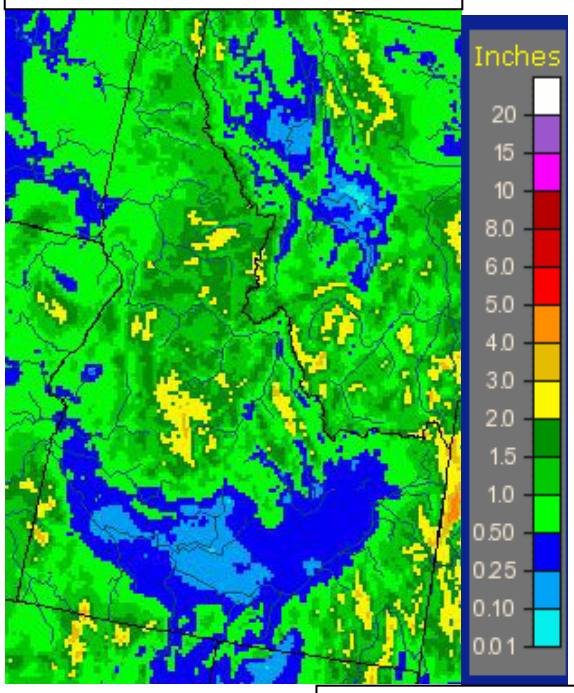
Please see NWRFC and CBRFC Official May 1st and current water supply season streamflow volume forecasts:

www.nwrfc.noaa.gov/ws
www.cbrfc.noaa.gov/lmap.php?interface=wsup

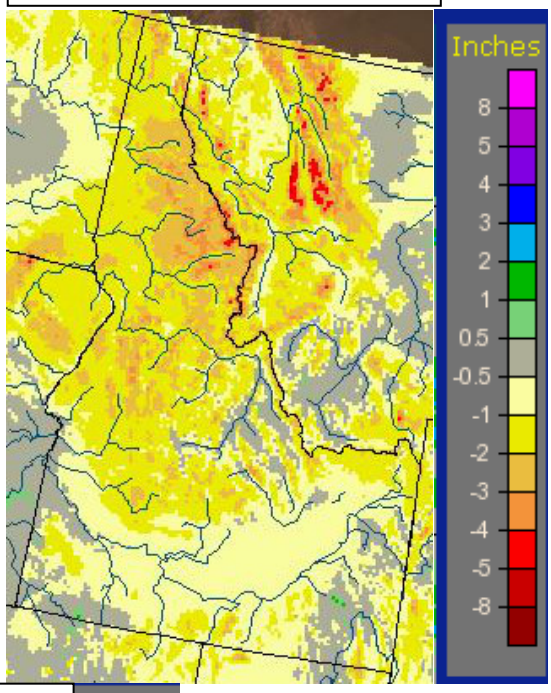
For a table format of the current volume forecasts and current runoff for WFO PIH:
www.nwrfc.noaa.gov/water_supply/ws_report.cgi

Precipitation:

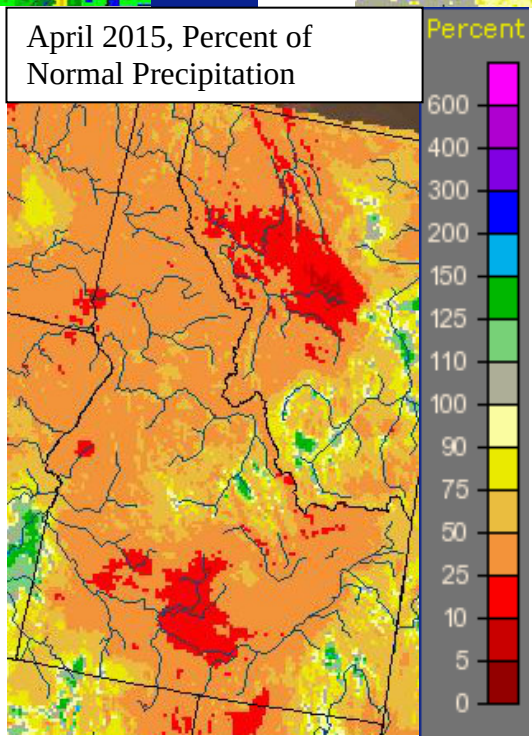
April 2015, Observed Precipitation



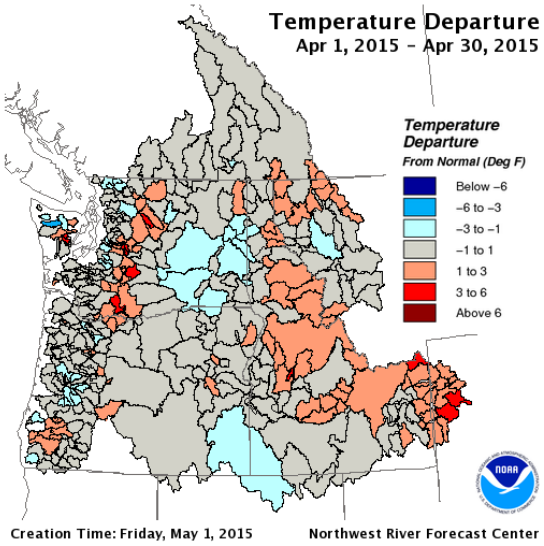
April 2015, Departure from Normal Precipitation

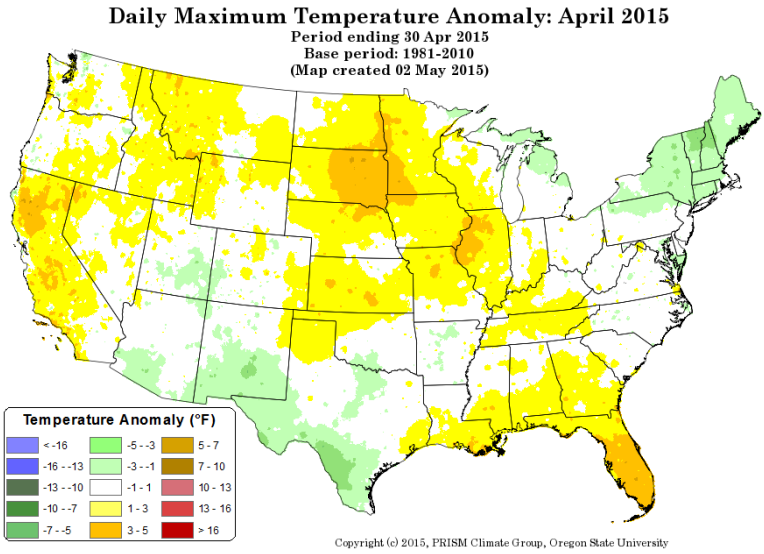


April 2015, Percent of Normal Precipitation



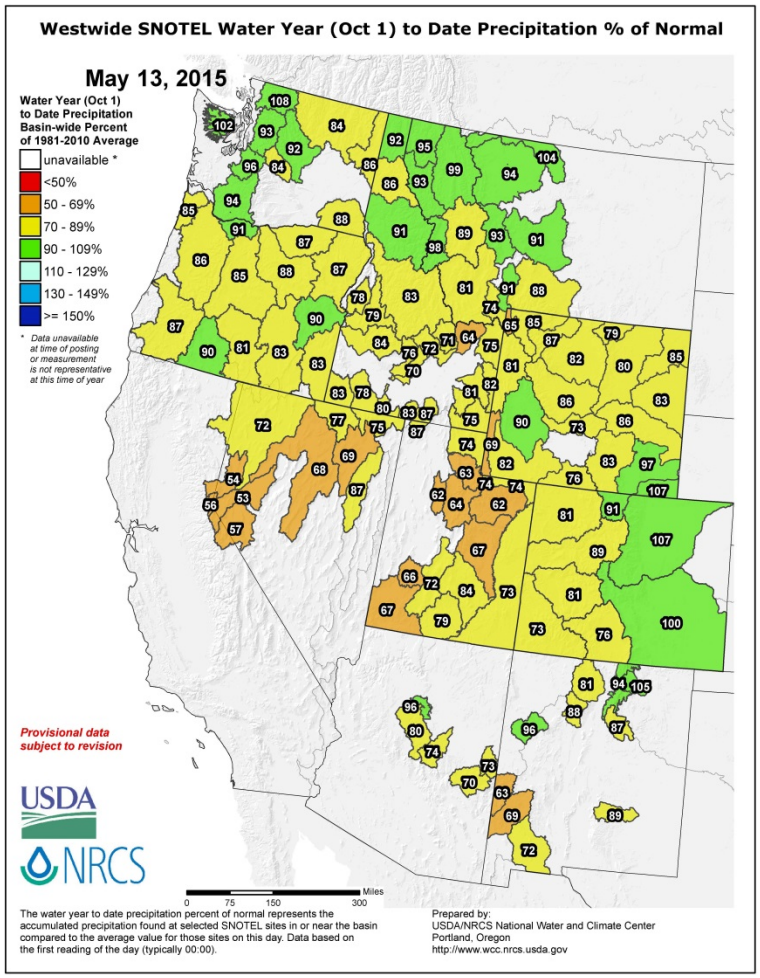
water.weather.gov/precip/index.php



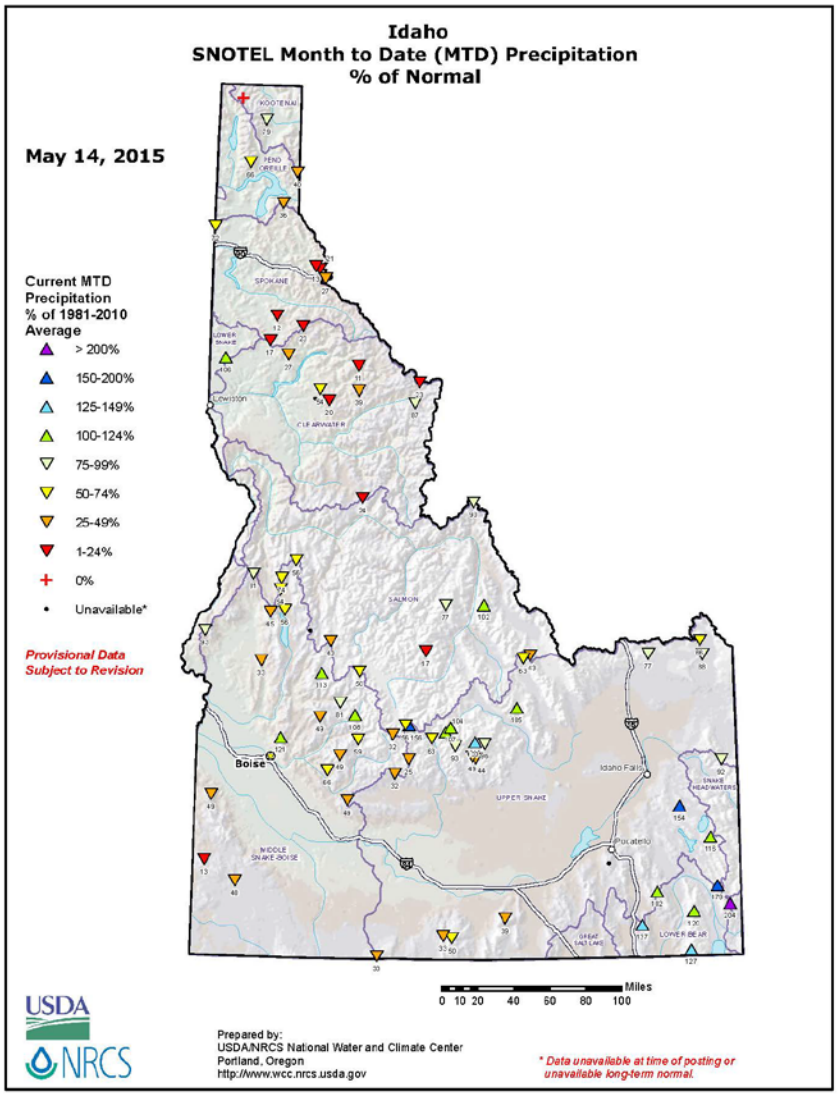


nwrfc.noaa.gov/WAT_RES_wy_summary/20150501/CurMonMAT_2015Apr30_2015050116.png

prism.oregonstate.edu/



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



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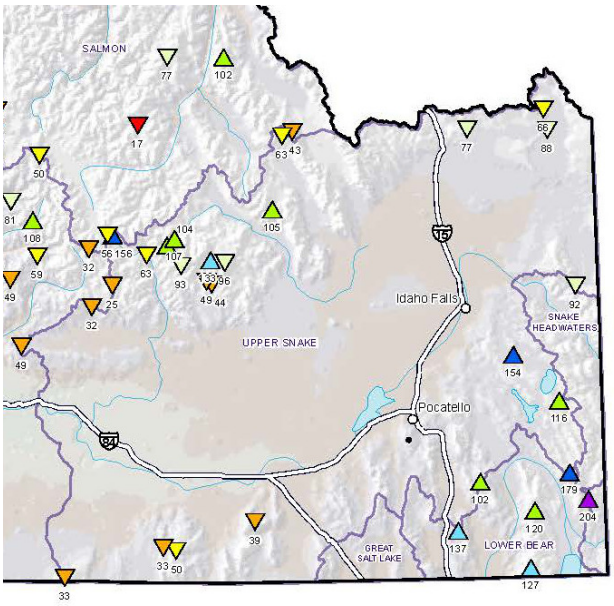
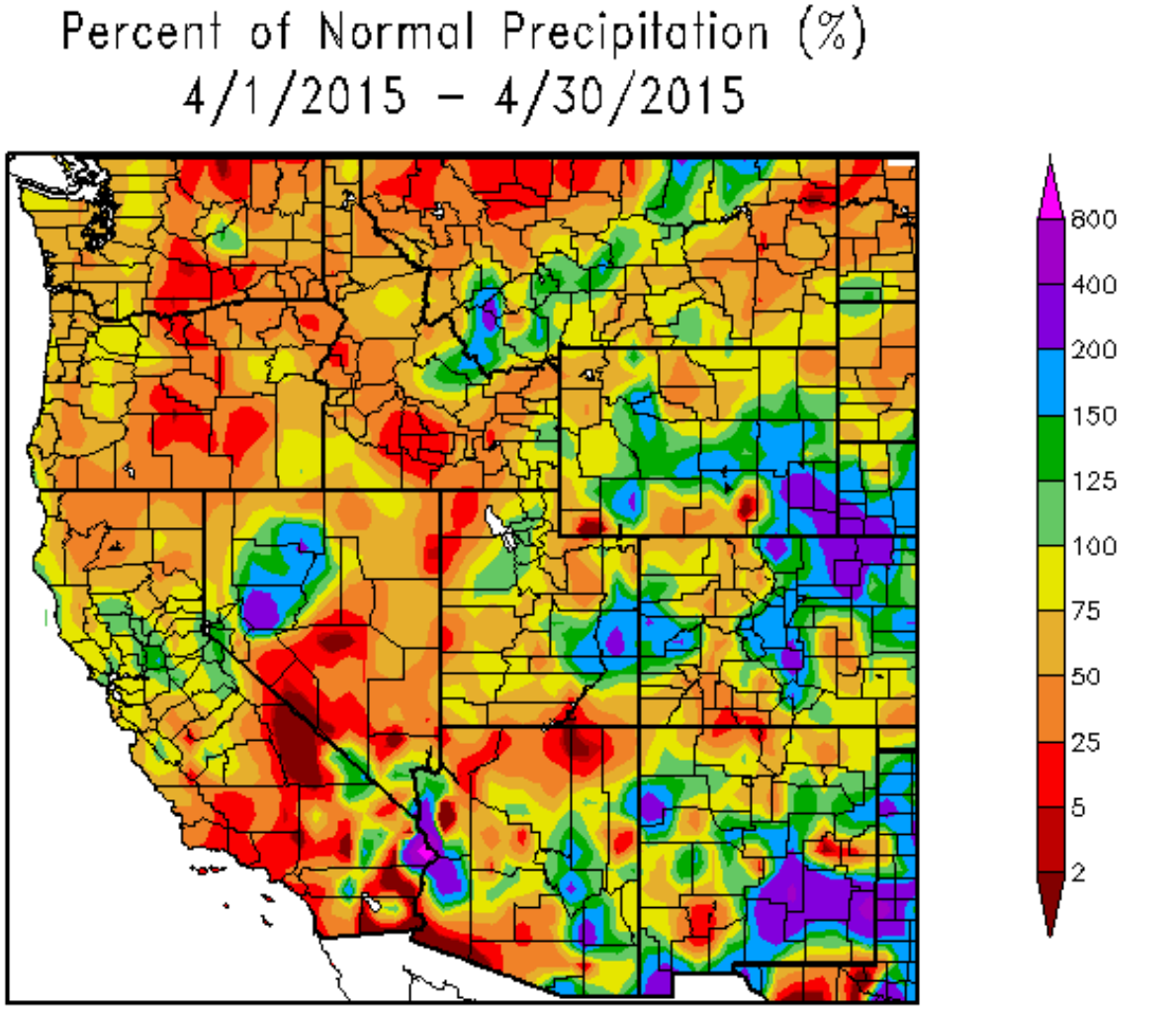


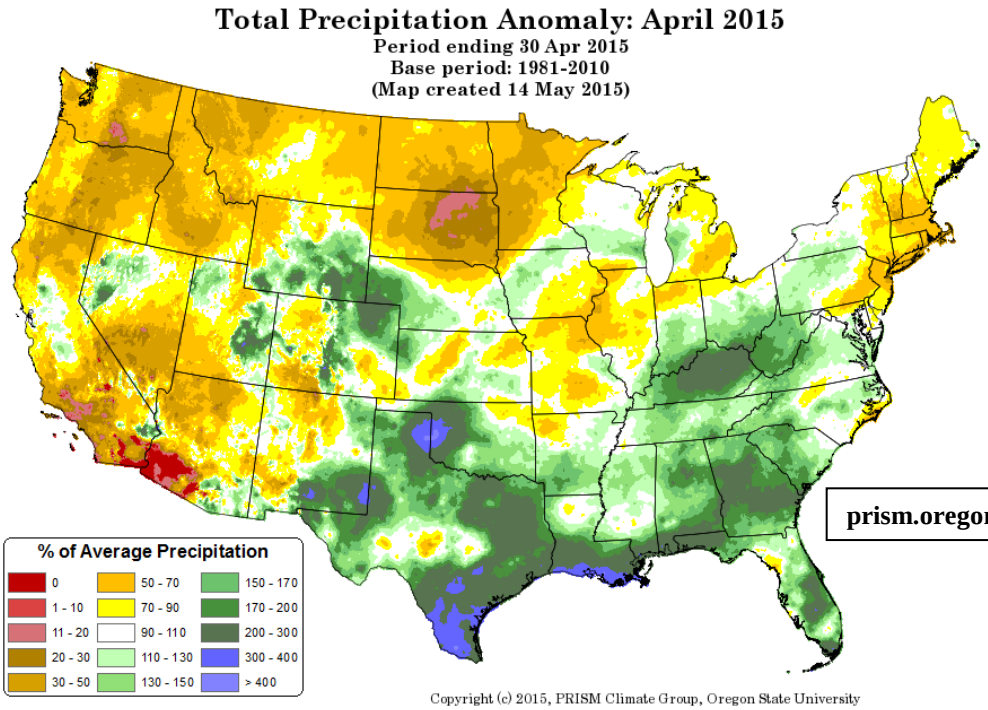
SNOTEL MTD % of Normal Precipitation for end of April 2015
(image is cropped from above image)

April's precipitation pattern was mostly dry across the HSA; especially along the Snake River plain and south central Idaho. Most of the HSA received 25-100% of normal for the month. Across the West it continued to be dry, including: WA, OR, CA, NV, MT, whereas parts of NV, MT, WY, CO and NM received well above normal precipitation.

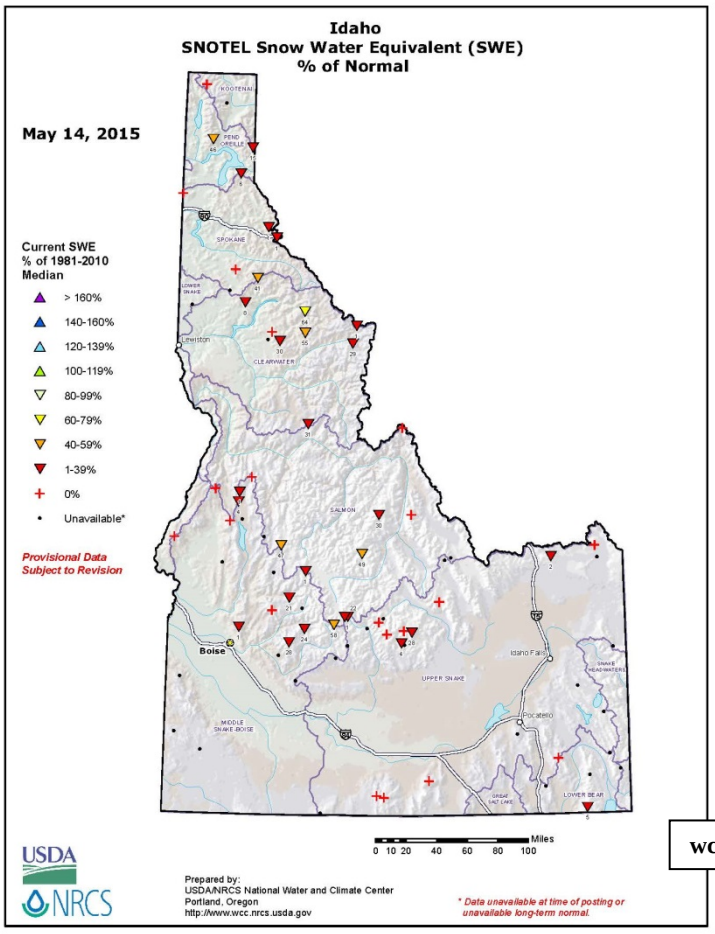


hprcc.unl.edu/maps/current/index.php?action=update_type&map_type=

April CONUS Precipitation Anomaly:



prism.oregonstate.edu/comparisons/anomalies.php



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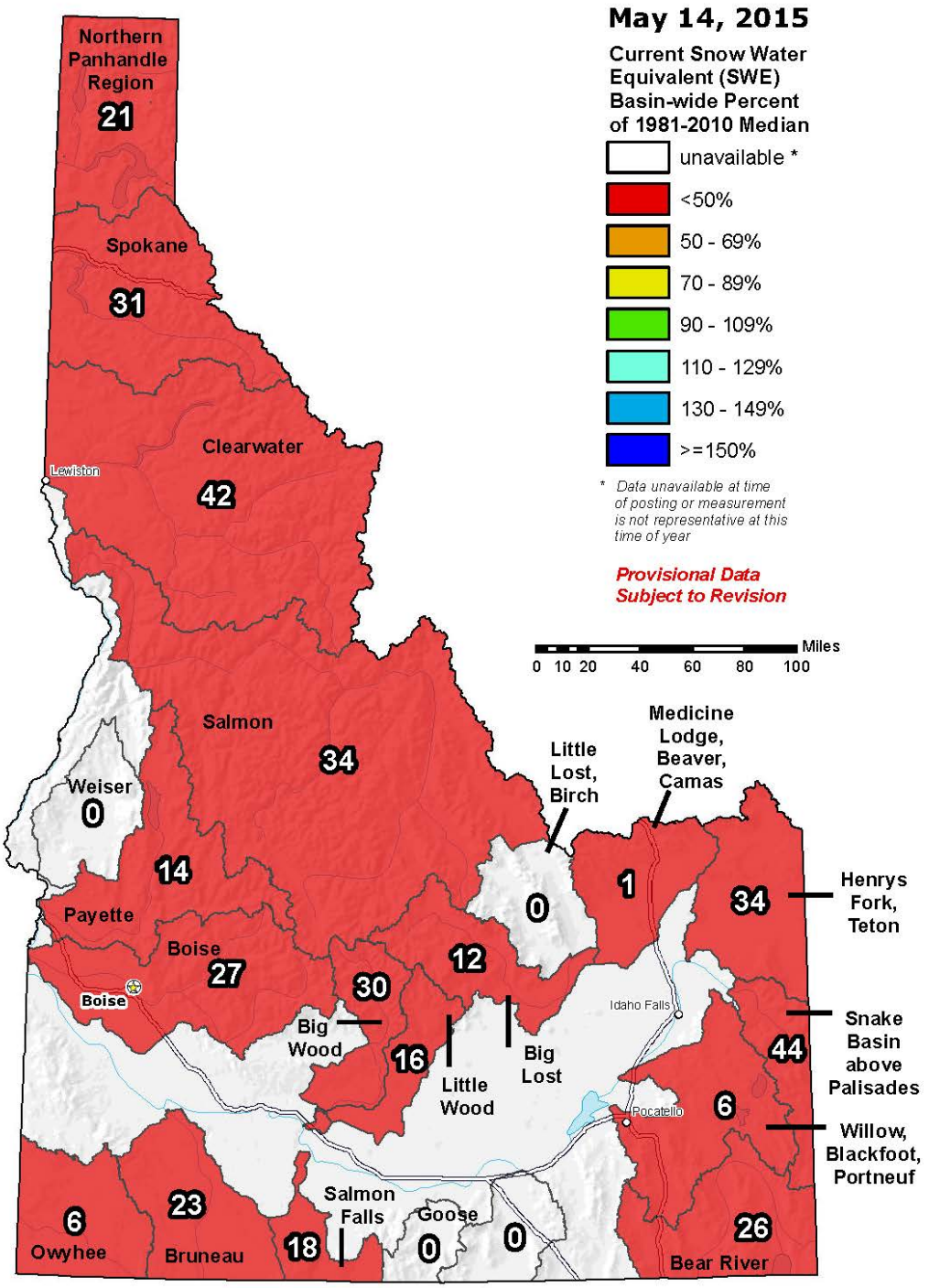
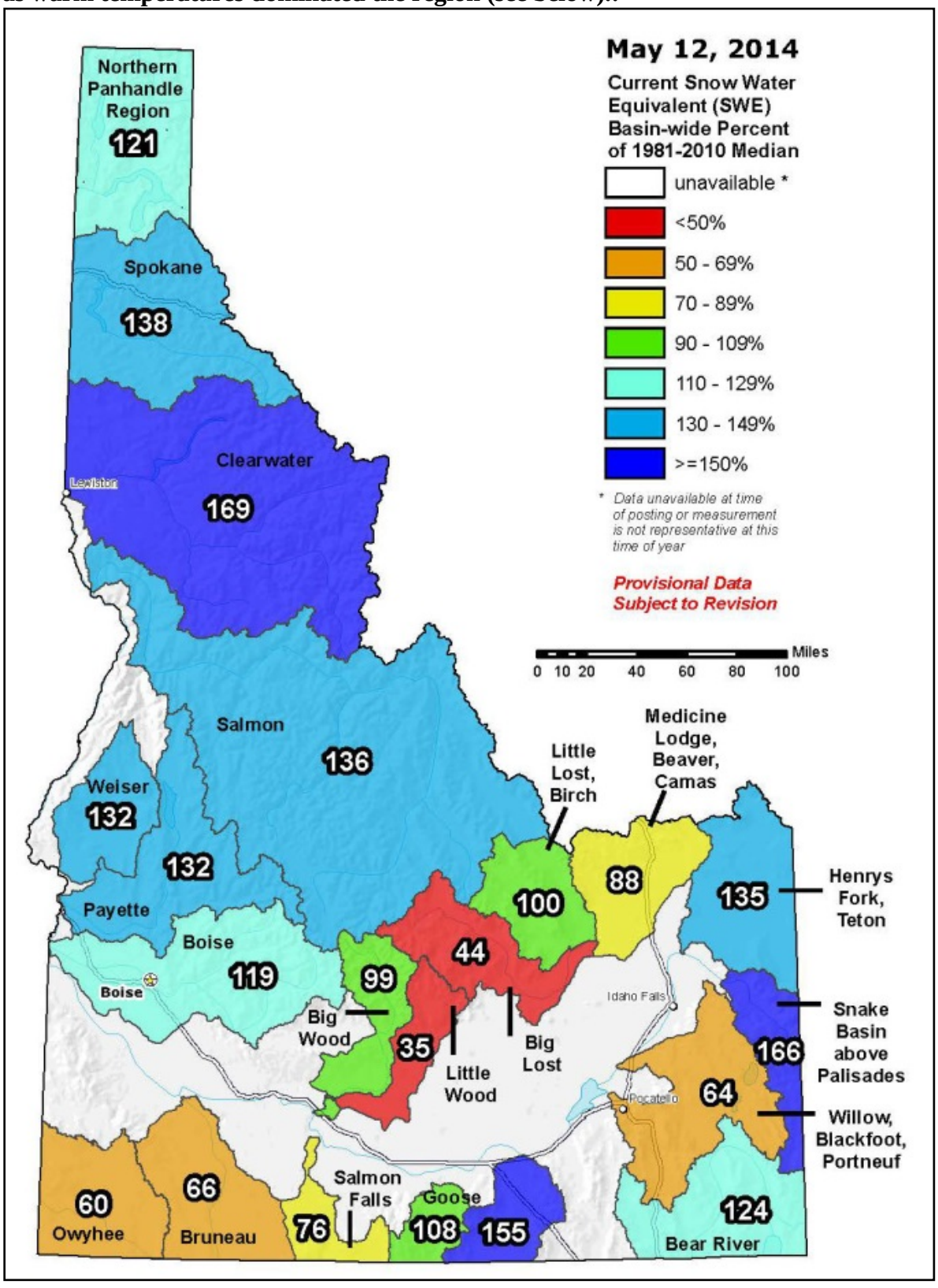
Idaho SNOTEL Current Snow Water Equivalent (SWE) % of Normal



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).

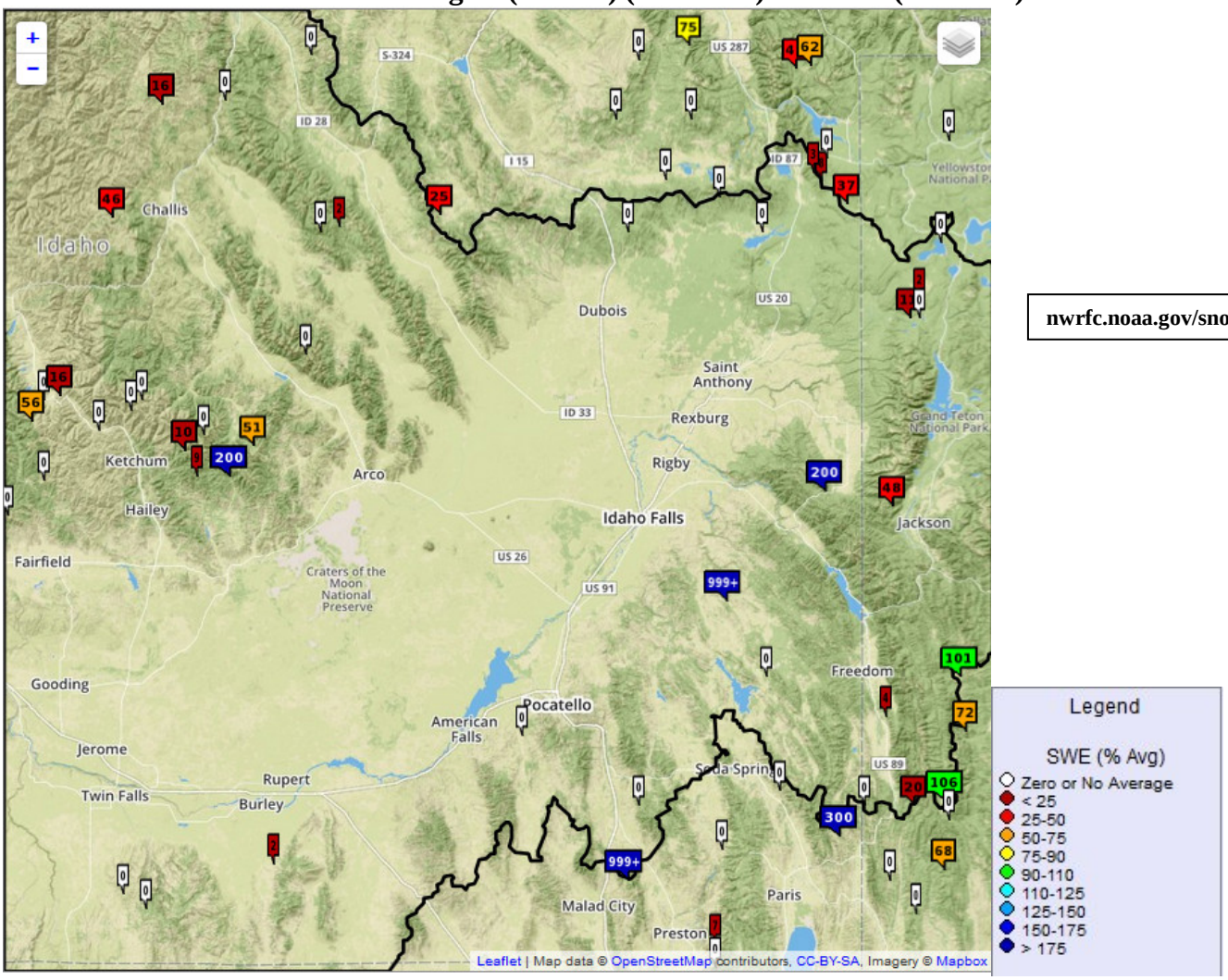
Prepared by:
USDA/NRCS National Water and Climate Center
Portland, Oregon
http://www.wcc.nrcs.usda.gov

Idaho Basinwide SWE compared to last year; major reductions across all basins. Snow melted very early as warm temperatures dominated the region (see below).:



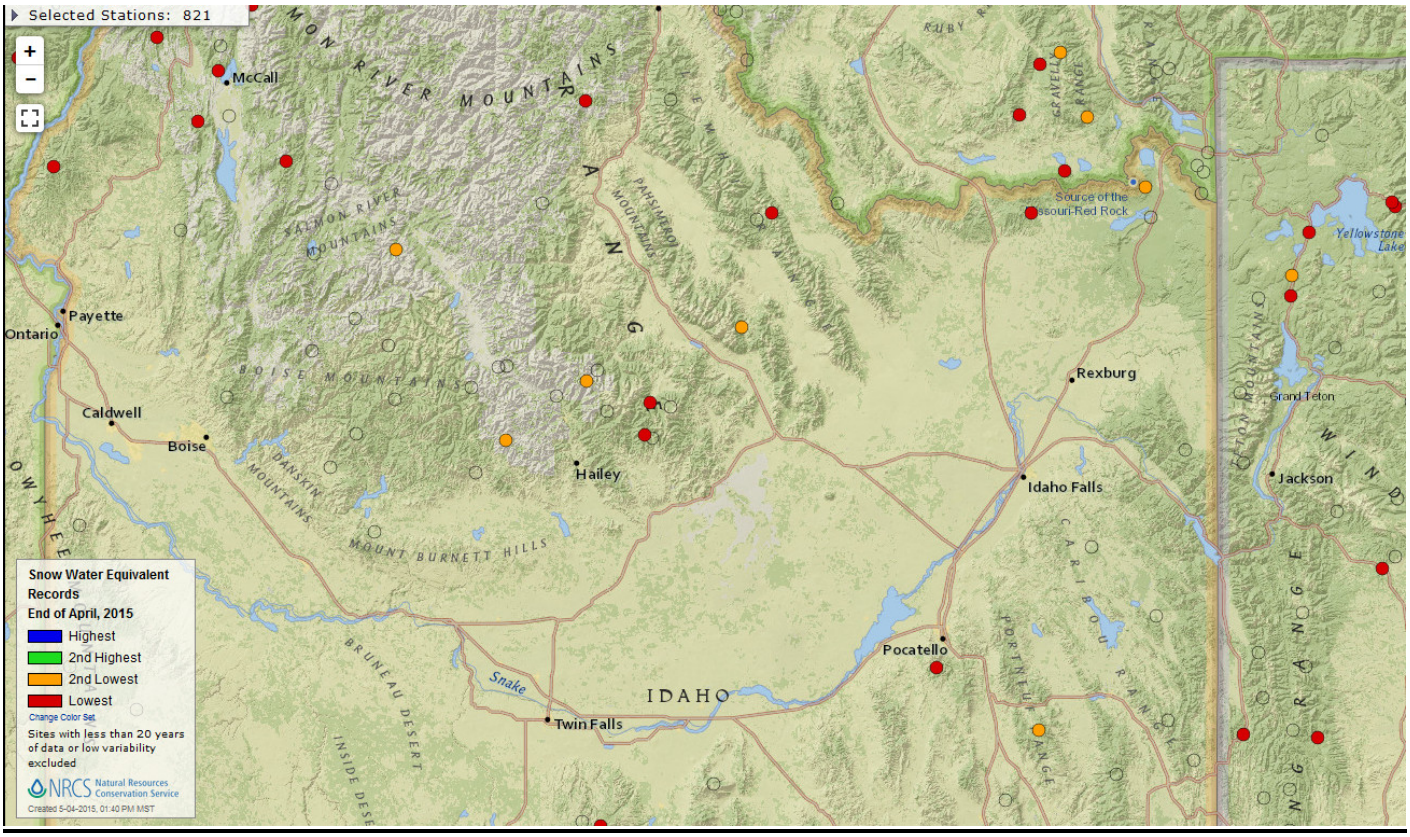
wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_swepctnormal_update.pdf

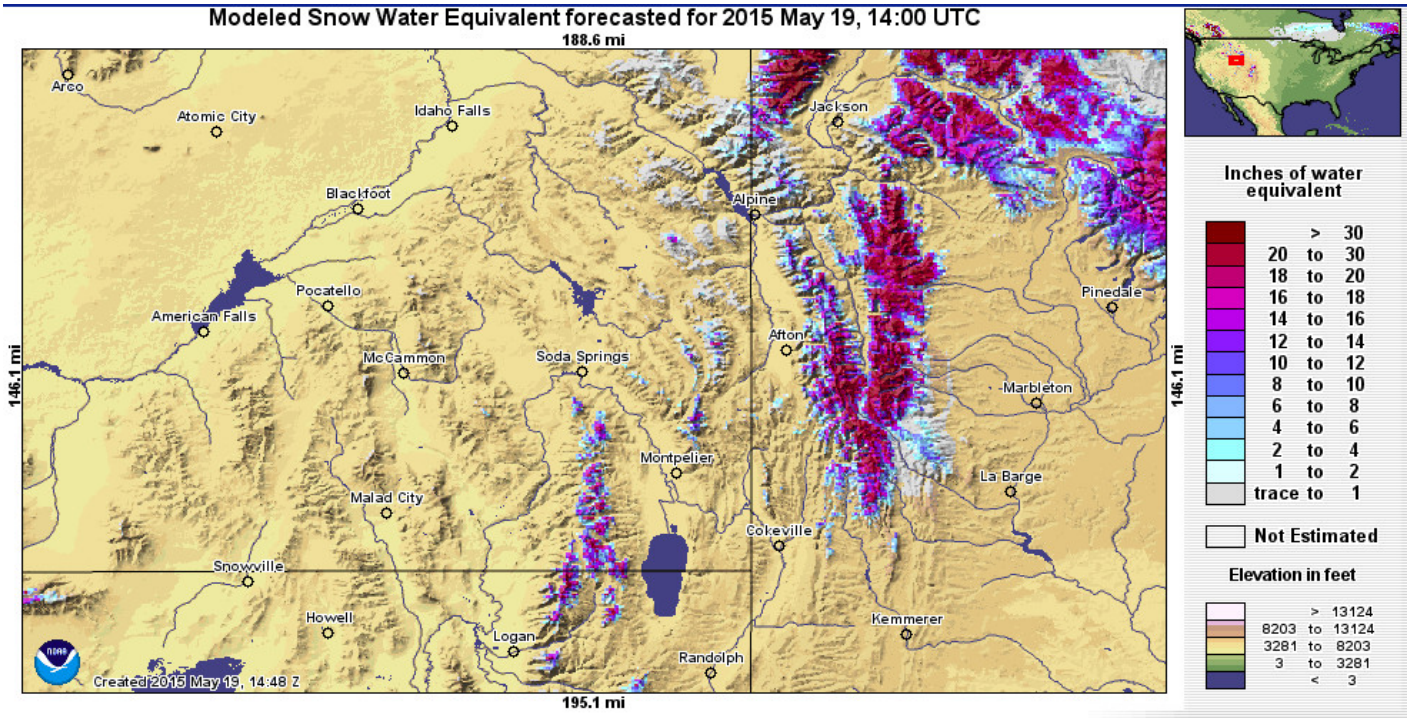
Current SWE Conditions: % of Avg (5/20/15) (SNOTEL): (NWRFC)



nwrfc.noaa.gov/snow

NRCS SNOTEL Record Lows for swe at end of April:

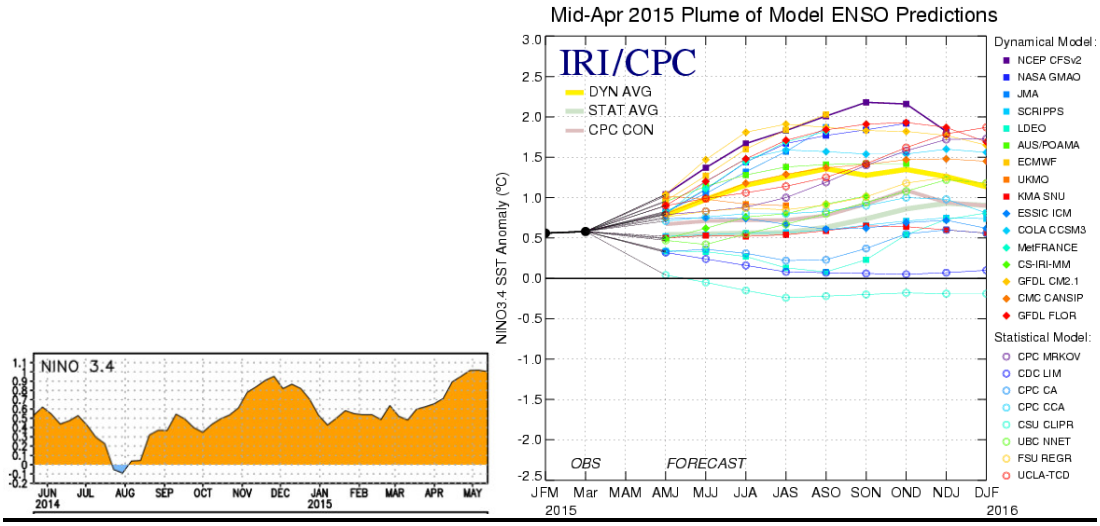




nohrsc.noaa.gov/interactive/html/map.html

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ 1.0 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 an approximately90% chance that El Niño conditions continue in the Northern Hemisphere during summer 2015.

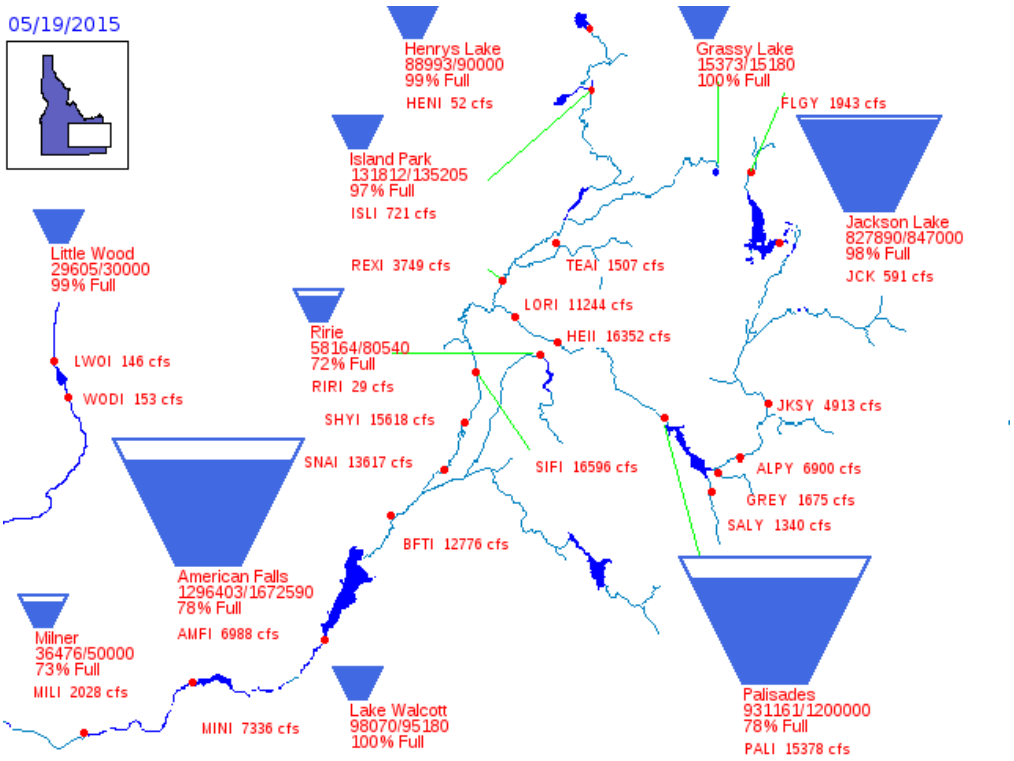
Note: Positive equatorial sea surface temperature (SSTs) anomalies continue across the Pacific Ocean. MJO has weakened. The AO has been mostly positive.

Reservoirs:

Reservoir	% Capacity March 31[1]	% Capacity April 30[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Henrys Lake	99	98	-1	106	99
Island Park	93	100	7	109	99
Grassy Lake	86	91	5	108	112
Jackson Lake	76	84	8	159	97
Palisades	89	85	-4	131	56
Ririe	66	71	5	97	113
Blackfoot	52	57	5	90	96
American Falls	89	82	-7	89	103
Bear Lake	45	46	1	92	94
Magic	42	43	1	64	73
Little Wood	74	70	-4	84	96
Mackay	77	83	6	113	106
Oakley	30	30	0	65	72
Lake Walcott	97[3]	100[4]	3	n/a	n/a
Milner	70[3]	73[4]	3	n/a	n/a

Source: (1) NRCS March 31, 2015; (2) NRCS April 30, 2015.
(3) US Bureau of Reclamation (BOR) April 13, 2015 (4) BOR May 19, 2015

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_5_2015.pdf

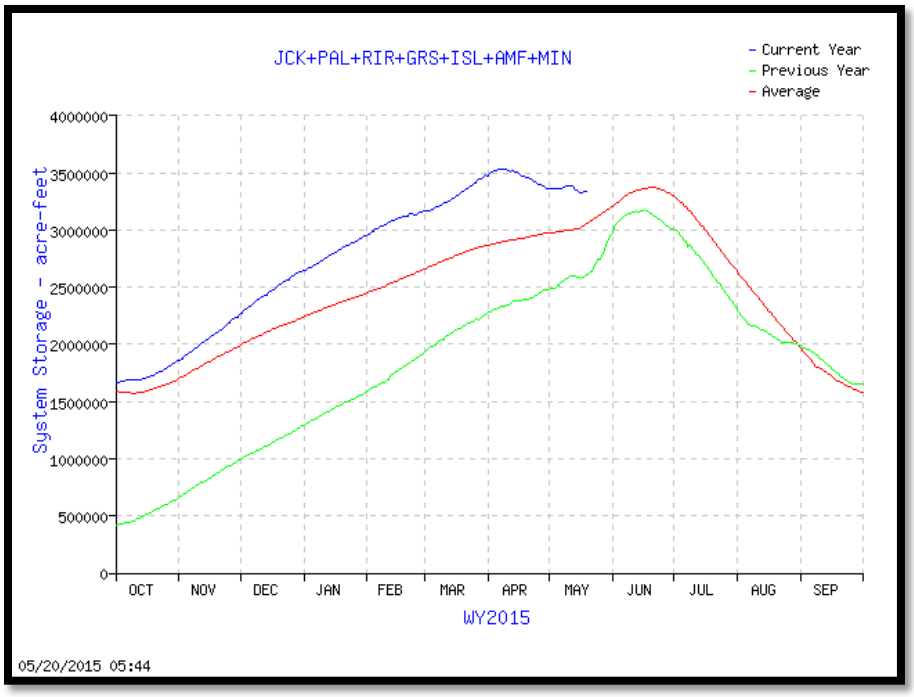


83% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

Upper Snake River:
Total Space Available: 686,821 AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage

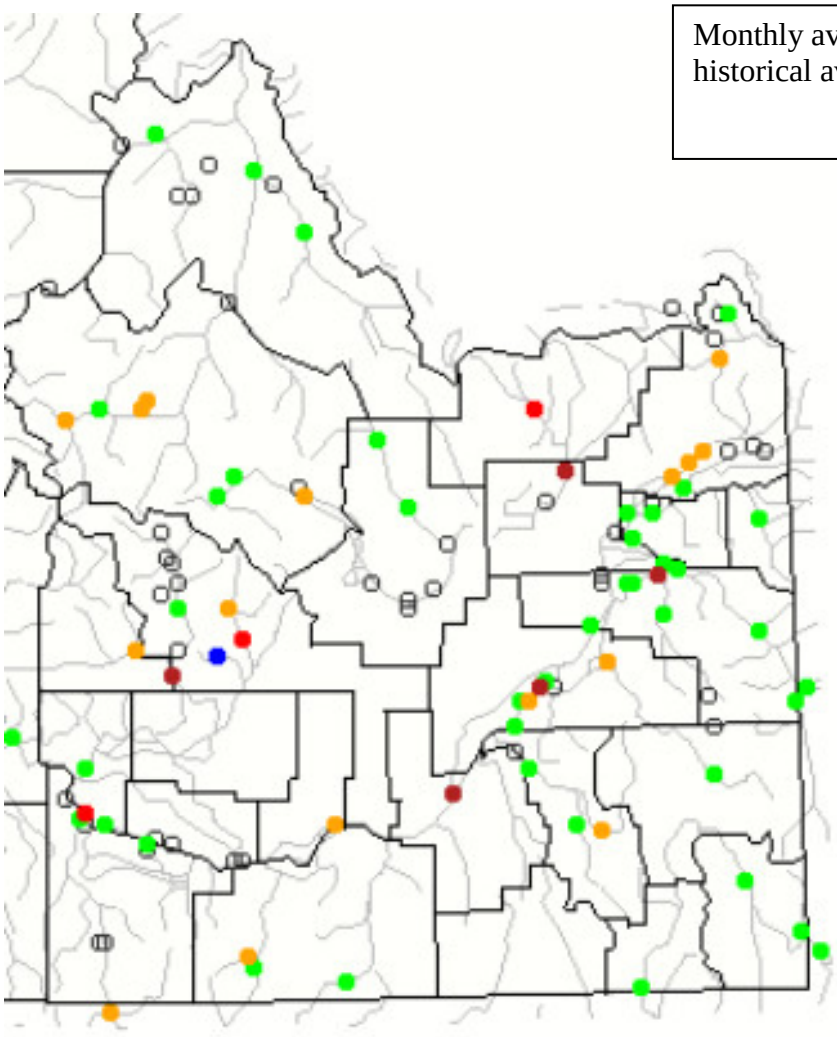


usbr.gov/pn-bin/graphwy2.pl?snasys_af

Streamflow:

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

USGS

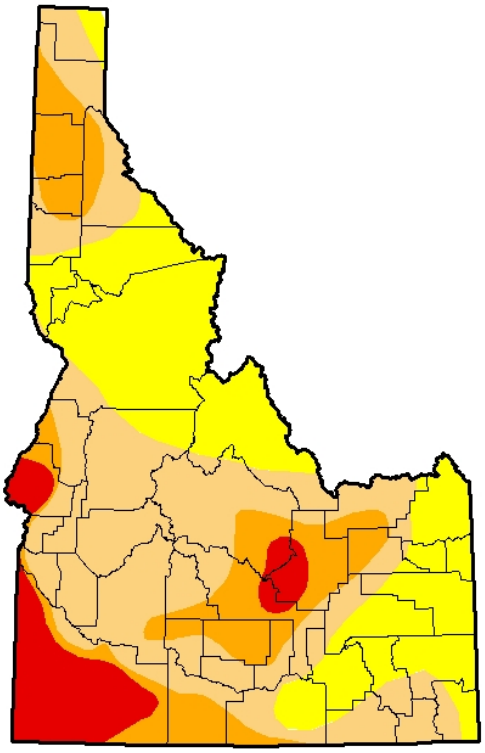


Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

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

Drought Information:

U.S. Drought Monitor
Idaho



May 19, 2015
(Released Thursday, May. 21, 2015)
Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	0.02	99.98	66.60	26.22	9.19	0.00
Last Week 5/12/2015	0.02	99.98	61.33	21.96	8.18	0.00
3 Months Ago 2/17/2015	42.83	57.17	34.45	18.25	2.19	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 9/30/2014	13.19	86.81	52.39	26.35	3.53	0.00
One Year Ago 5/20/2014	48.16	51.84	38.47	27.16	1.74	0.00

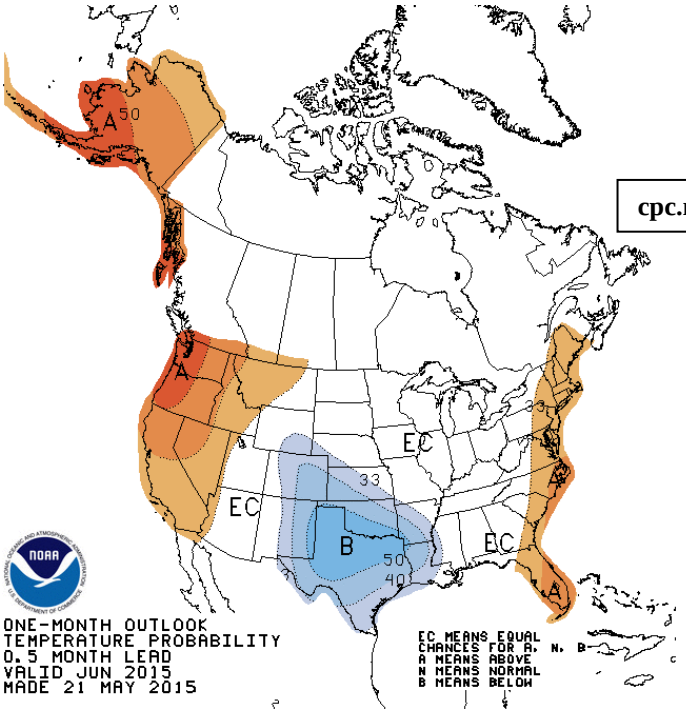
Intensity:

- 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:
Brad Rippey
U.S. Department of Agriculture

http://droughtmonitor.unl.edu/



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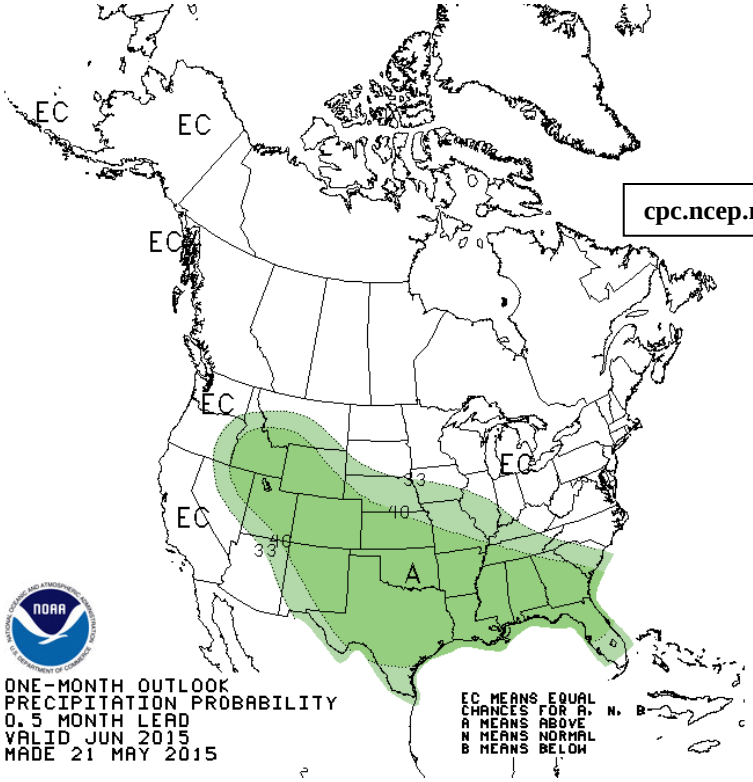

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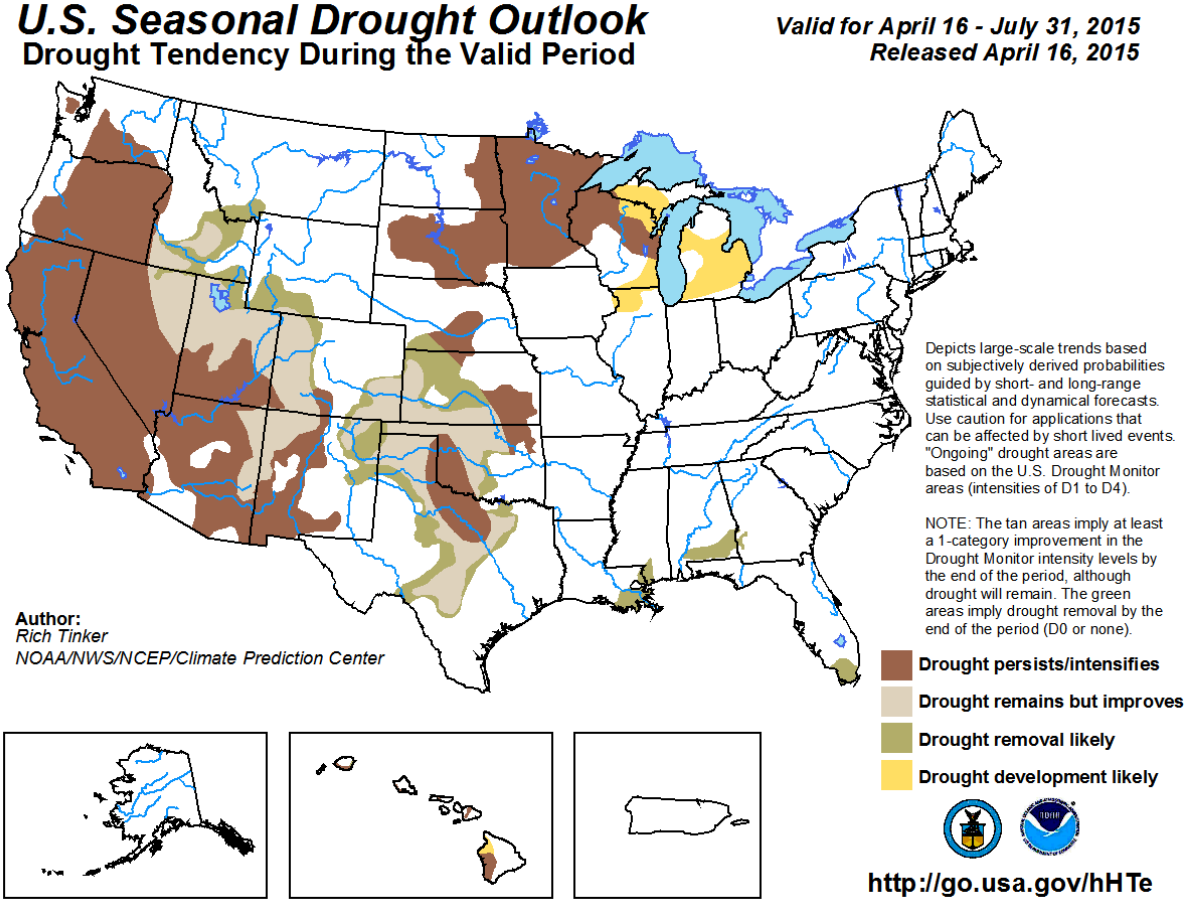
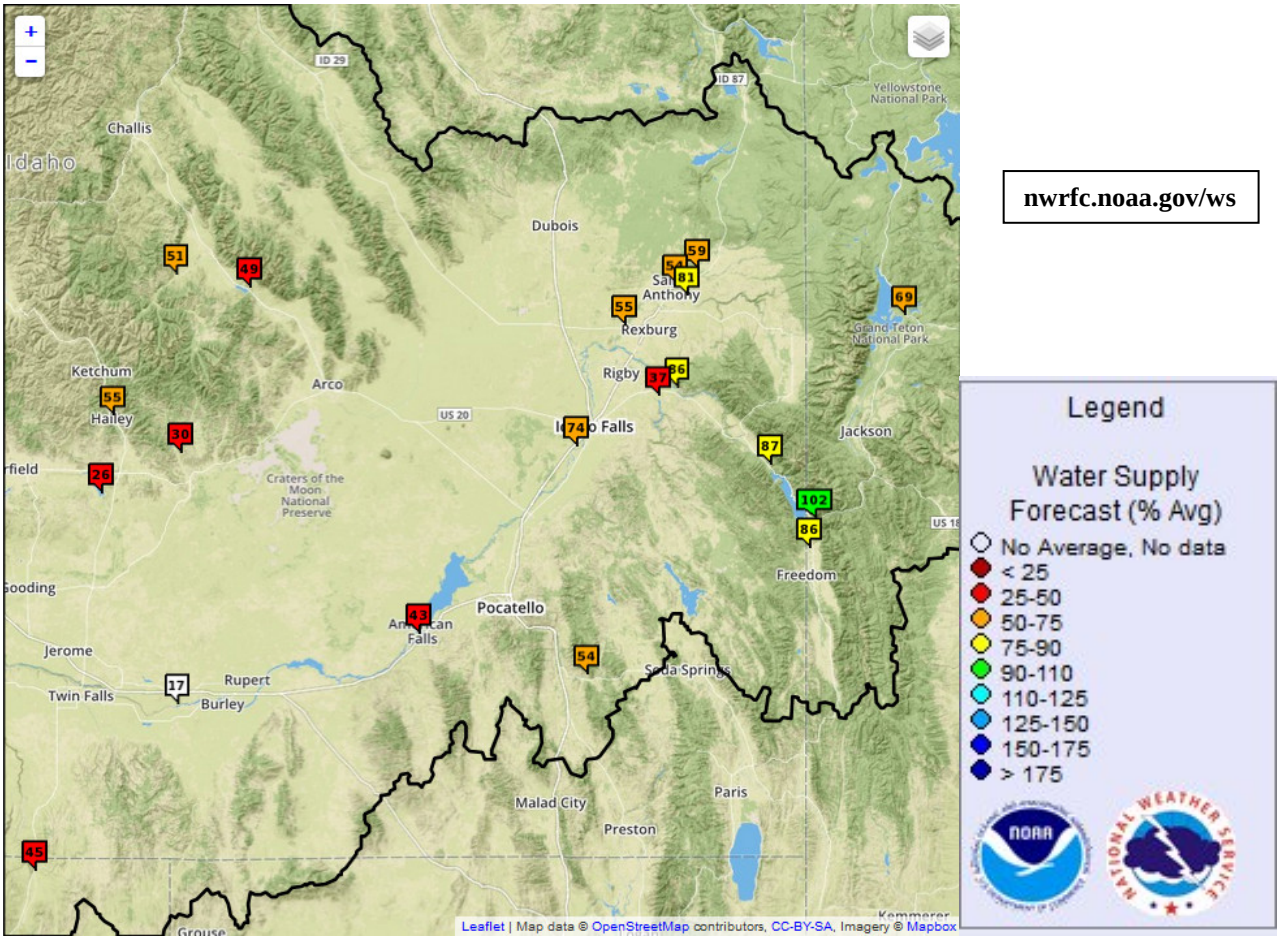


cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

Water Supply: **NWRFC Water Supply Volume Forecast Map (5/21/15):**



nwrfc.noaa.gov/ws

CBRFC Water Supply Forecast Report for Bear River basin (May 1 Forecast):

Water Supply Volume Percent Average/Median Condition
▲ <70 △ 70-90 ▲ 90-110 △ 110-130 ▲ >130 △ Regulated

Options (on/off): Plot
Area: CBRFC Green Colorado San Juan Great Sevier Virgin Low Col WGRFC ABRFC

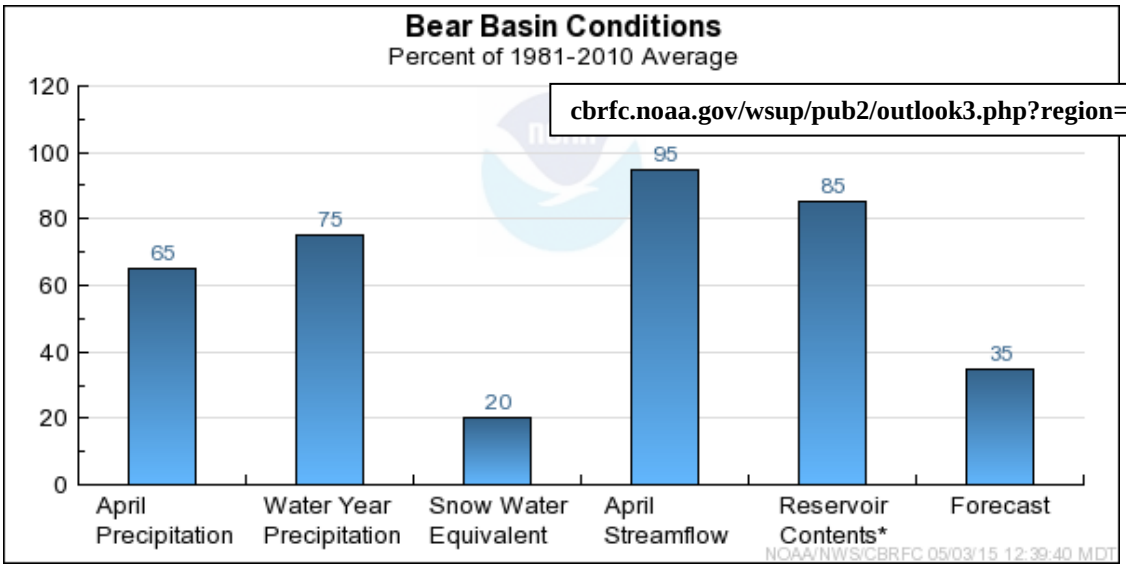
Columns (on/off): Area Sub Area NWS ID DS River Location Forecast Date Avg Cond Med Cond Forecast Period Min 90 MP 50 Max 10 Avg M

Click column heading to sort by that data. Click ID to view point info. Click Area, Sub Area, or Forecast Period to show only those points.

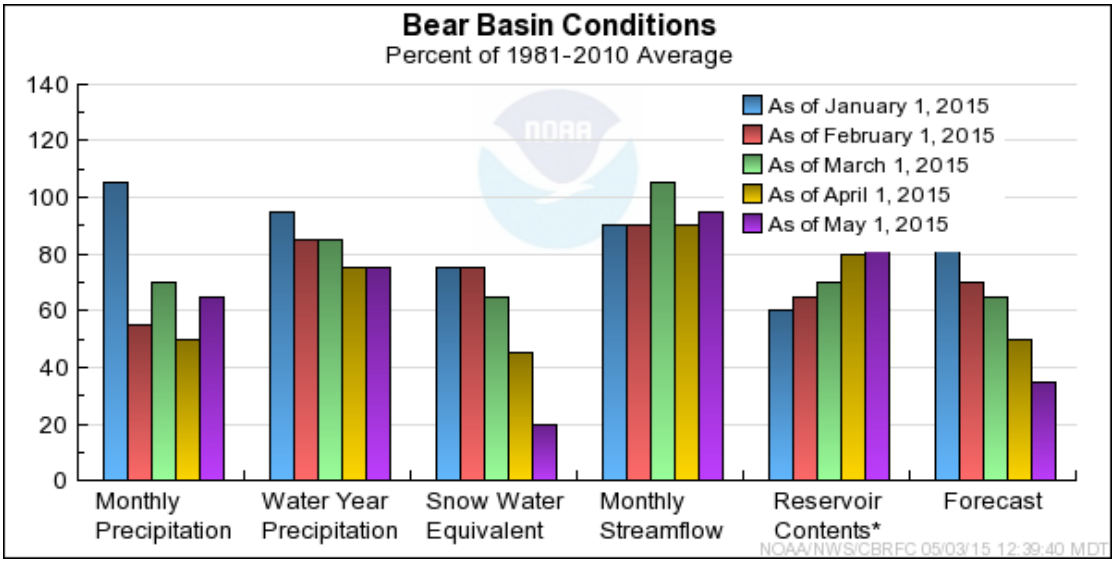
	Area	Sub Area	NWS ID	River	Location	Forecast Date	Avg Cond	Med Cond	Forecast Period	Min 90	MP 50	Max 10	Avg	Med	Pct Avg	Pct Med
1	Great	Bear	BERU1	Bear	Utah	2015-5-1	▲	▲	Apr 01-Jul 31	53	**61**	70	112	106	*54*	*58*
2	Great	Bear	BERU1	Bear	Utah	2015-5-1	▲	▲	May 01-Jul 31	43	**51**	60	104	100	*49*	*51*
3	Great	Bear	BEAW4	Bear	Woodruff Narrows Rsvr	2015-5-1	▲	▲	Apr 01-Jul 31	32	**36**	45	121	110	*30*	*33*
4	Great	Bear	BEAW4	Bear	Woodruff Narrows Rsvr	2015-5-1	▲	▲	May 01-Jul 31	27	**31**	40	105	87	*30*	*36*
5	Great	Bear	BORW4	Smiths Fork	Border	2015-5-1	△	△	Apr 01-Jul 31	63	**70**	78	89	80	*79*	*88*
6	Great	Bear	BORW4	Smiths Fork	Border	2015-5-1	△	△	May 01-Jul 31	50	**57**	65	80	67	*71*	*85*
7	Great	Bear	STDI1	Bear	Montpelier	2015-5-1	▲	▲	Apr 01-Jul 31	51	**58**	80	182	117	*32*	*50*
8	Great	Bear	STDI1	Bear	Montpelier	2015-5-1	▲	▲	May 01-Jul 31	42	**49**	71	145	104	*34*	*47*

cbrfc.noaa.gov/rmap/wsup/wsuplist.php

Bear River Basin Conditions:



Snow Water Equivalent in Percent of Median.
* Percent usable capacity, not percent average contents.



cbrfc.noaa.gov/wsup/pub2/graph/png/br.cond.2015.3.png

cc:

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Troy Lindquist, Senior Service Hydrologist, Boise, Idaho
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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