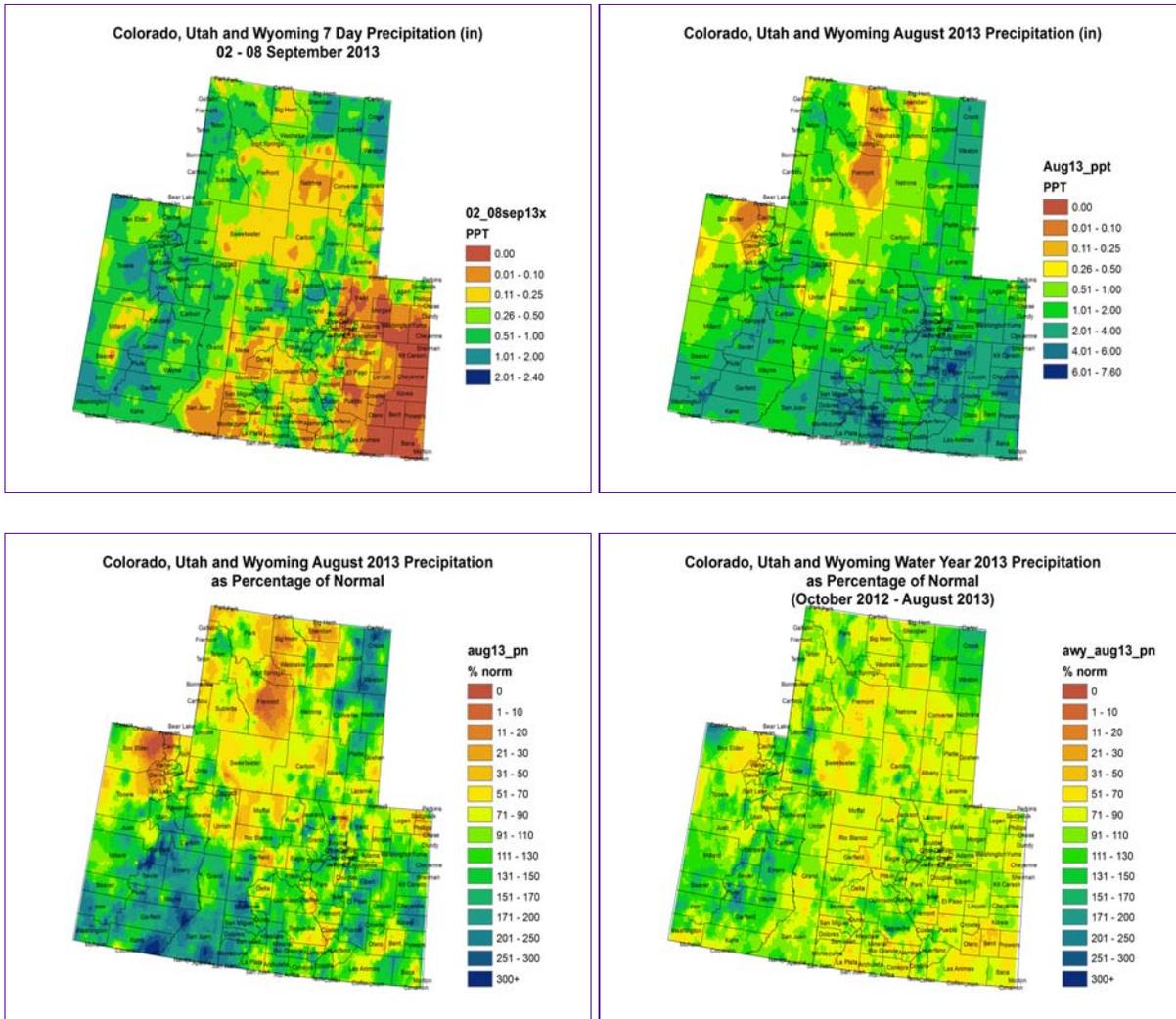


# PRECIPITATION



The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average; water-year-to-date precipitation as a percent of average.

## WYTD Precipitation:

- Much of northeastern UT and western WY have seen near average precipitation for the water year with some drier areas in the Wasatch mountains and in Sweetwater County, WY
- Most areas of eastern UT and western CO have received between 70% and 110% of average precipitation for the water year, with some spotty areas less than 70% of average
- The Four Corners region ranges from 50% to 110% of average
- The northern and central CO mountains are near average for the water year
- Most of northeast CO is 70% to 110% of average
- Most areas of southeast CO are below average, with some regions around the Arkansas River valley between 30% and 50% of average

### **August Precipitation:**

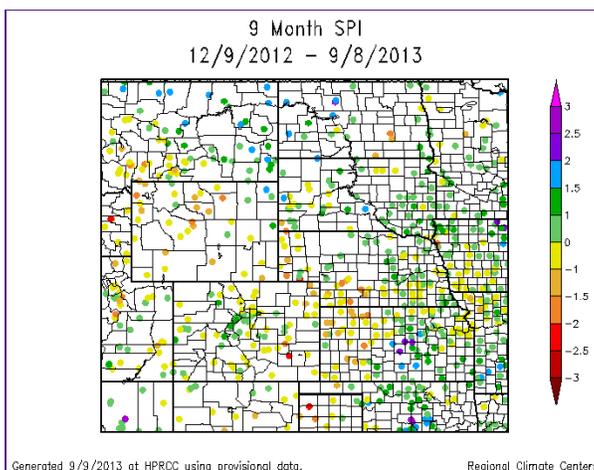
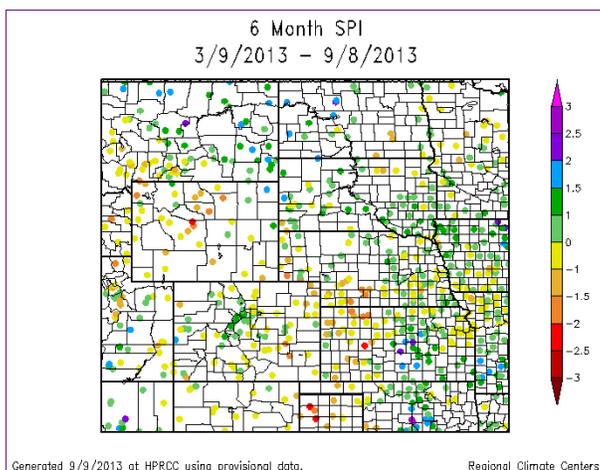
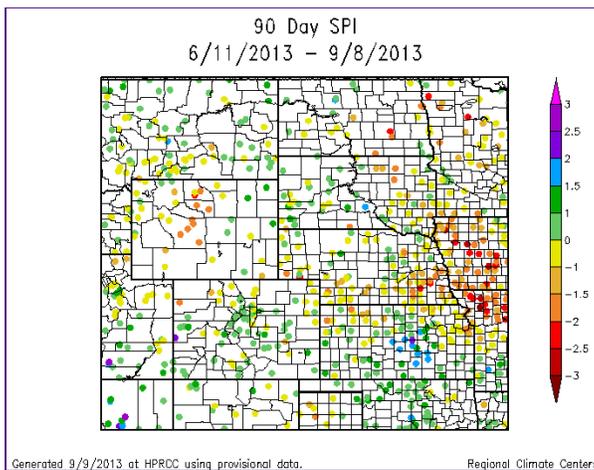
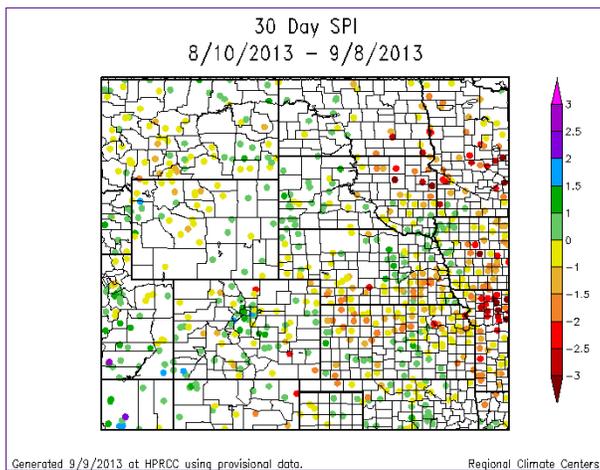
- The southern half of the UCRB saw near to above average precipitation for the month, while the northern part of the basin received below average precipitation
- Spotty areas in the northern part of the basin received near to above average precipitation. However, much of the northern region received between 30% and 70% of average precipitation
- In the southern half, the central and western sides of the basin received over 150% of average precipitation in most areas
- All along the east side of the basin, precipitation mostly ranged between 90% and 130% of average
- Most areas of eastern CO and eastern WY received near to above average precipitation for the month, with a few spotty areas drier than average

### **Last Week Precipitation:**

- The northern portion of the basin in SW WY received between 0.10 - 1.00". The higher amounts were in the far western counties (Uinta, Lincoln and western Sublette Counties).
- The western portion of the basin (in eastern/central UT) received between .50 and 1.00 inches of precipitation.
- The eastern portion of the basin in CO was spottier with the NW counties (Moffat, Rio Blanco) and central mountains receiving between .25 and 1 inch of precipitation
- The San Juan Mountains in SW CO also has spotty precipitation between 0.10 and 1.00".
- East of the Continental Divide, the Front Range higher elevations mostly saw between 0.25 and 1.00" of precipitation, with Custer County seeing up to 2.00".
- Most of northeast and southeast CO were drier (less than .10 inches) with the exception of Logan and Sedgwick Counties in NE CO which received between 0.25 - 1.00" last week
- Beneficial precipitation did fall on September 9th in most of CO (not included in 7 Day map), with many areas in Colorado receiving over 0.50". SE CO missed this precipitation.

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## **STANDARDIZED PRECIPITATION INDEX**



Standardized Precipitation Index standardizes precipitation accumulations for a specified time period into percentile rankings. -1.0 to -1.5 is equivalent to a D1 to D2. -1.5 to -2.0 is equivalent to a D2 to D3. -2.0 and worse is equivalent to a D3 to D4. 30- and 60-day SPIs focus on short-term conditions while 6- and 9-month SPIs focus on long-term conditions. SPI data provided by High Plains Regional Climate Center.

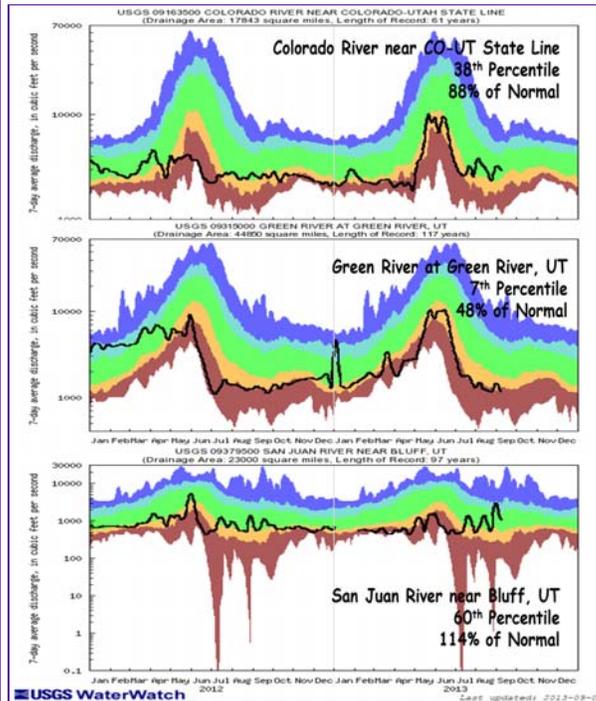
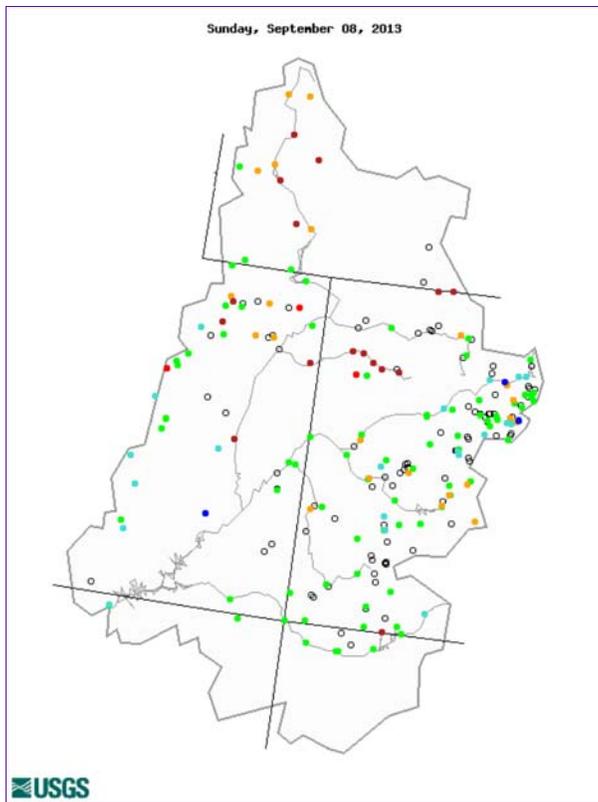
**Short Term (30-day):**

- Most of the basin shows near average conditions with most SPIs between -1 and +1
- The Four Corners region shows some wetter SPIs
- East of the basin, most of eastern WY and eastern CO show SPIs between -1 and +1, with a few isolated spots of more negative SPIs

**Long Term (6-month):**

- SPIs in the northern part of the basin between 0 and -1
- SPIs between -1 and -1.5 along the Wasatch range in northern UT with wetter SPIs to the south
- The Four Corners region showing mixed positive and negative SPIs
- Wetter SPIs along the northern and central CO mountains
- Mixed wet/dry SPIs along the Front Range
- Eastern CO mostly seeing drier SPIs between 0 and -2

# STREAMFLOW



Explanation - Percentile classes							
<span style="color: red;">●</span>	<span style="color: red;">●</span>	<span style="color: orange;">●</span>	<span style="color: green;">●</span>	<span style="color: cyan;">●</span>	<span style="color: blue;">●</span>	<span style="color: black;">●</span>	<span style="color: gray;">○</span>
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff, UT. All streamflow data provided by United States Geological Survey.

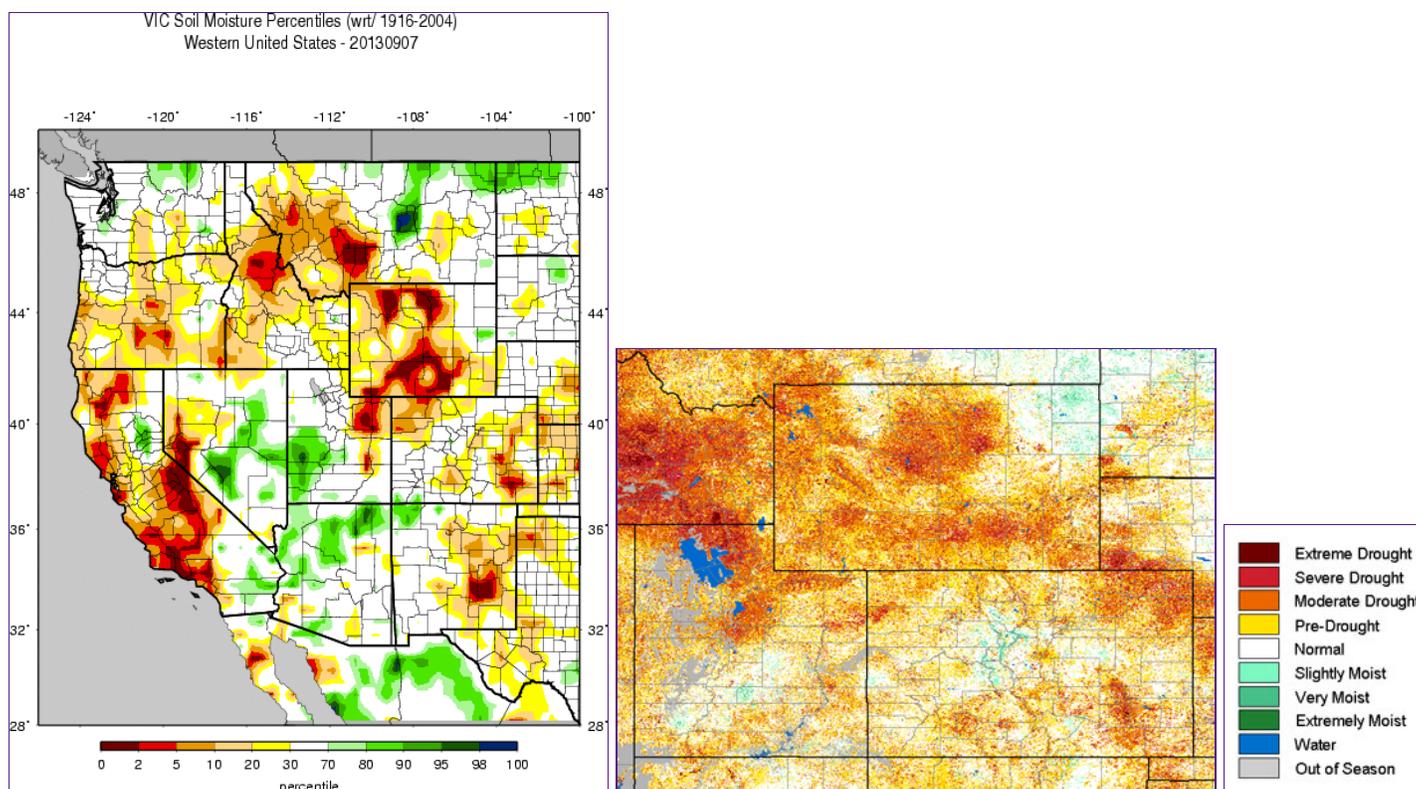
## Streamflow Statistics:

- 68% of gages recording normal to above normal 7-day average streamflows
- 10% of gages recording much below normal 7-day average streamflows
- Overall increase in flows across the basin in the past couple of weeks (from only 44% of the gages recording normal or greater flows to a majority of the gages)
- Green and White rivers showing the lowest flows with near normal flows along the Colorado, Dolores, and San Juan rivers, and along the headwater regions in northern CO
- The Colorado River at the CO-UT state line saw a slight decrease in flows last week and is currently recording in the near normal range at

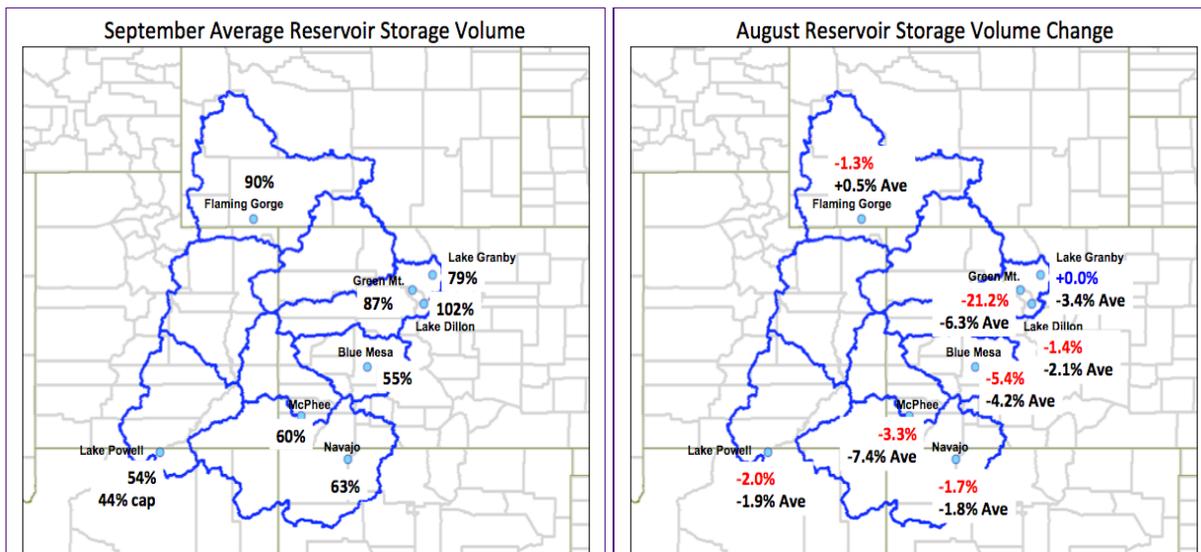
the 38th percentile (88% of normal)

- The Green River at Green River, UT saw a decrease in flows to the much below normal range (the 7th percentile)
- Flows on the San Juan River near Bluff, UT saw a large increase from last week after seeing a large increase and is currently slightly above normal at 114% of normal streamflow (60th percentile).

## SURFACE WATER



The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).



The above left image shows the percent of average volumes of the major reservoirs in the UCRB. The above right image shows the percent change in volume over a specific time period for the reservoirs.

**VIC:**

- Dry soil moisture conditions widespread throughout central and western WY, with large areas of soil moisture below the 5th percentile in southern WY
- Soil moisture below the 10th percentile for much of the Uintah Mountains in northeast UT, with improving soil moisture in northern UT.
- Dry soil moisture in northwest CO, mostly below the 20th percentile
- The Four Corners showing near normal to wet soil moisture conditions
- A portion of the the Rio Grande basin is drier, with soil moisture below the 20th percentile
- Near normal soil moisture conditions for most of northeast CO with some slightly dry soils in the far northeast
- Southeast CO showing drier soil moisture, with areas around the Arkansas valley below the 20th percentile

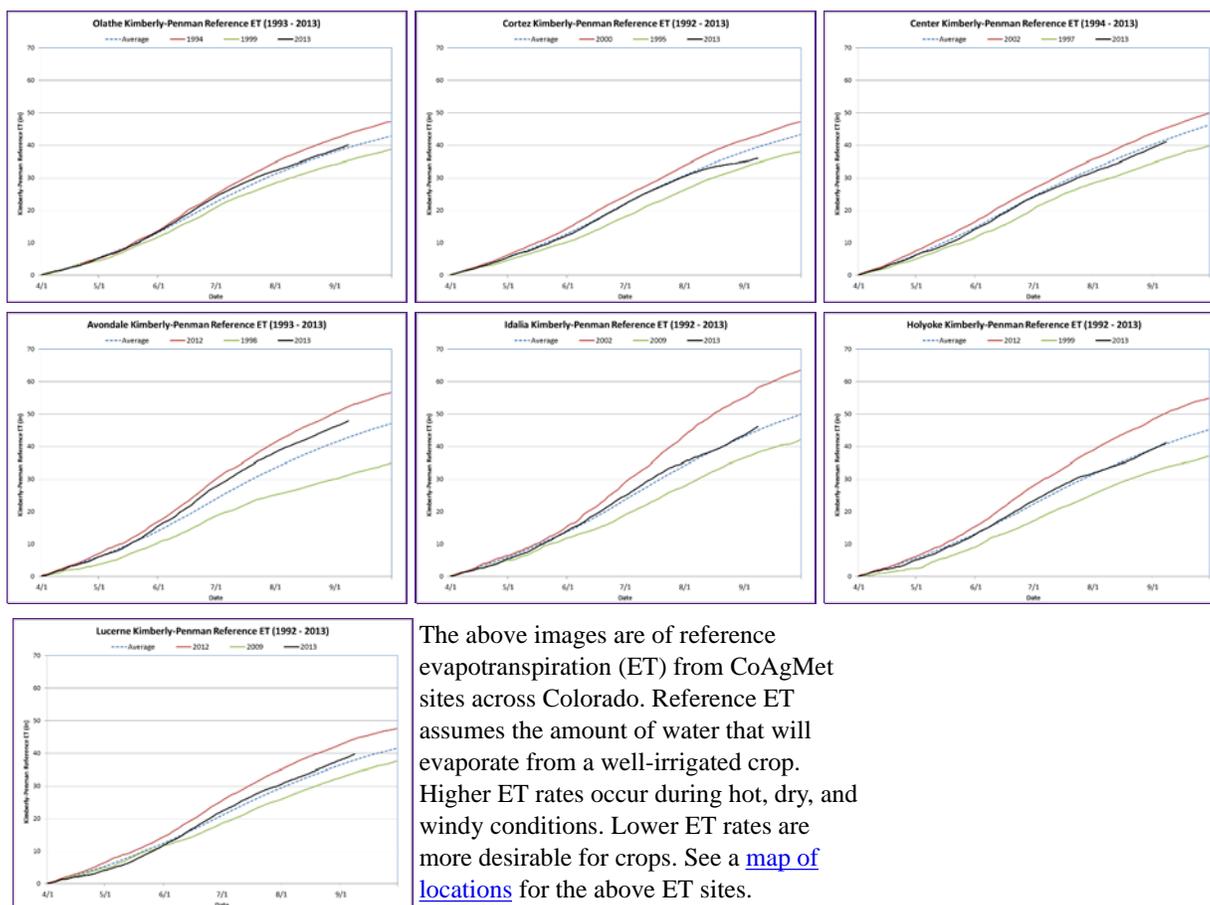
**VegDRI:**

- Most of the UCRB showing dry vegetation conditions
- The northern fringes of the basin in southwest WY are showing very dry vegetation conditions
- Very dry vegetation is also showing up over northern UT and the Uintahs in northeast UT
- The northern and central CO mountains are showing near normal to slightly moist vegetation with slightly drier vegetation in western CO
- The Colorado River valley in southeast UT and the Four Corners are showing moderately dry vegetation
- Drier vegetation is showing up over northeast CO and along the Arkansas valley in southeast CO

**Reservoirs:**

- Most of the reservoirs saw a near normal decrease in volume for the month of August
- Lake Granby stayed near steady last month, while Green Mountain saw very large volume decreases
- Lake Dillon showing near average volume for September
- Flaming Gorge, Green Mountain, and Lake Granby slightly below their September averages
- Remaining reservoirs showing volumes between 50% and 70% of average
- Lake Powell currently at 44% of capacity

**EVAPOTRANSPIRATION**

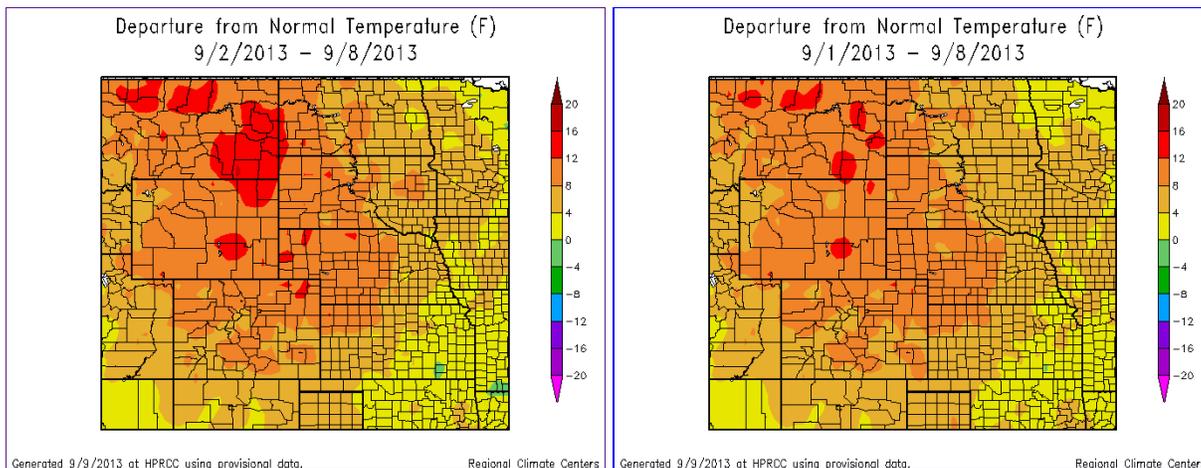


**Reference ET:**

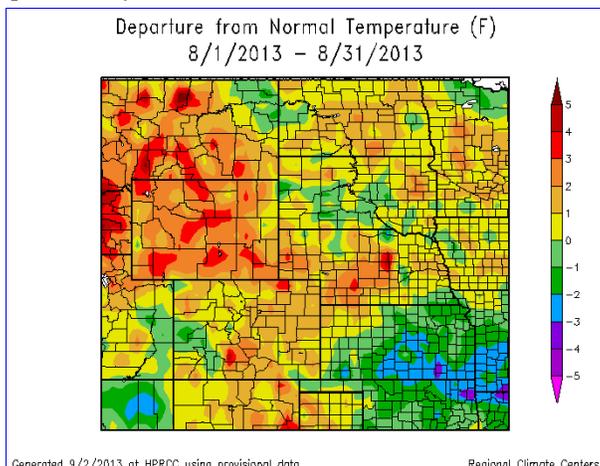
- Olathe: ET was above average for most of July. Near the end of July, ET rates slowed and ET is now slightly above average
- Cortez: ET was near average for July. Slower ET rates have helped lower that to below average for most of August, currently much lower than average

- Center: ET has been below average since the beginning of July
- Avondale: ET rates have been well above average for most of the growing season, though still below the record ET year of 2012. ET rates have slowed somewhat since late July but are still much above average
- Idalia: ET was above average for July. ET rates slowed and ET have been close to average for the past few weeks, with a slight increase in ET over the last week due to warm, dry weather.
- Holyoke: ET rates dropped to slightly below average after being slightly above average for July. ET has been near average for the past couple of weeks
- Lucerne:ET has been slightly above average since late June
- Along eastern CO, daily ET rates have increased over the past couple weeks as a result of lower humidity and hotter temperature.

## TEMPERATURE



All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.



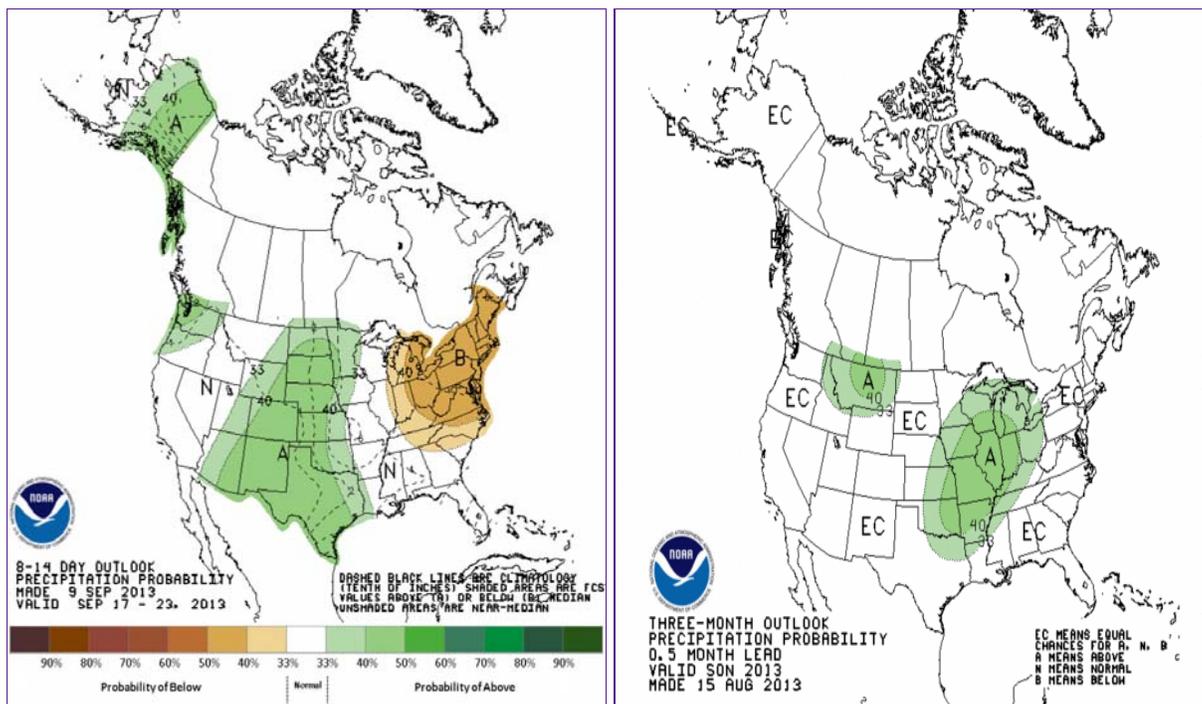
### Last Week Temperatures:

- Most of the UCRB saw much warmer than average temperatures
- Temperatures ranged between 8 and 12 degrees above average in the northern and eastern portions of the basin.
- In the western and southern portions, temperatures were 4 to 8 degrees above average.
- All of WY and eastern CO were also much warmer than average, ranging between 4 and 12 degrees above average, with spots up to 16 degrees above average.

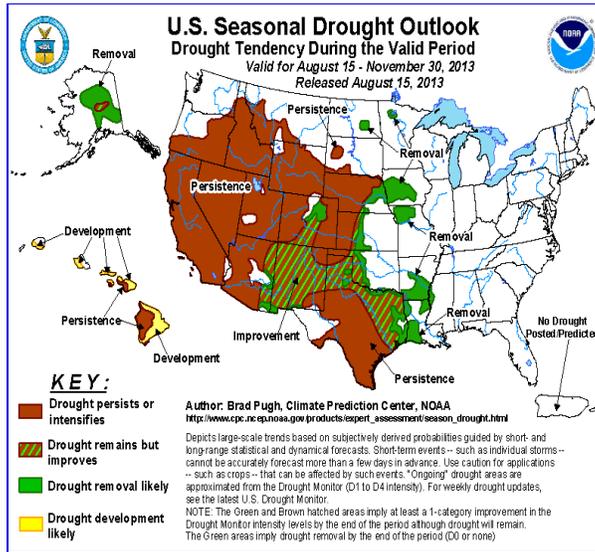
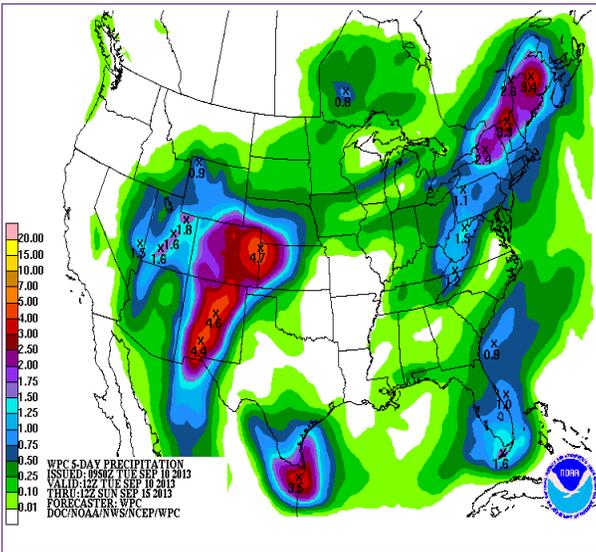
**Last Month Temperatures:**

- The northern portion of the basin saw warmer than average temperatures, ranging between 0 and 4 degrees above average
- The southern portion of the basin was closer to average, with temperatures -1 below average to +1 above average
- Most of WY was much warmer than average
- Eastern CO was mostly 1 to 2 degrees warmer than average

**FORECAST AND OUTLOOK**



The top two images show Climate Prediction Center's Precipitation outlooks for 8 - 14 days (top left) and 3 months (top right). The bottom left image shows the Hydrologic Prediction Center's Quantitative Precipitation Forecast accumulation for the five days between Tuesday 12Z and ending Sunday 12Z. The bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.



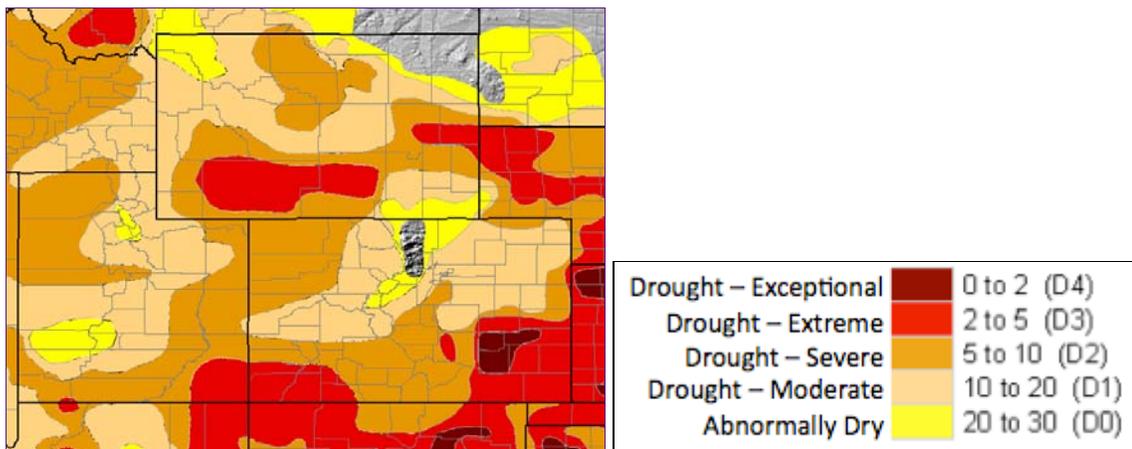
**This Week:**

- Widespread and isolated thunderstorms will continue in the UCRB through Wednesday, then slowly drying out.
- Temperatures through the next few days will be cooler than average and returning to near normal by the weekend.
- An unseasonably cool and moist weather pattern will continue through Thursday in eastern CO, the higher mountain peaks (above 11,000 feet) could likely see snow.
- Slightly drier and warmer weather will return Friday and Saturday, but still with a chance of precipitation.

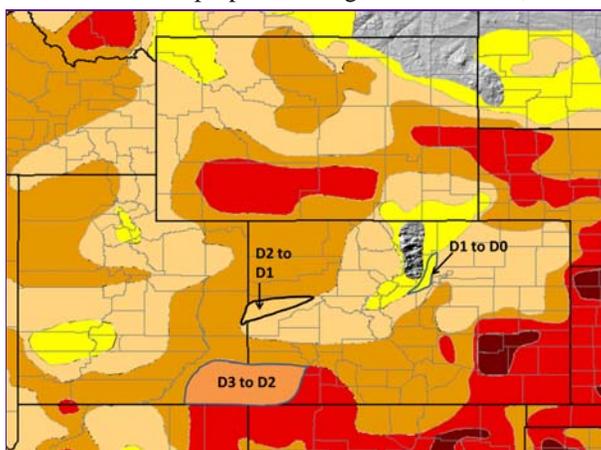
**Longer Term:**

- The 8-14 day outlook shows a good chance of warmer than average temperatures across the region and above average moisture over all of the basin and the rest of CO and WY
- The three month outlook shows equal chances for wet, dry, or normal conditions for the region
- The drought outlook shows the possibility for some drought improvement in southern CO with drought persistence throughout the rest of the region

**U.S. DROUGHT MONITOR**



Above is the most recent release of the U.S. Drought Monitor map for the UCRB region. Below shows the proposed changes for this week, with supporting text.



**Summary: September 10, 2013**

After a warm, dry week over much of the base, cooler temperatures and very beneficial precipitation came into the UCRB, eastern Colorado and Wyoming on Monday dropping more than 0.50" of precipitation across much of the basin and NE CO. Areas in Mesa County and the Denver Metro area received greater than an inch of rain and some areas over two inches. This beneficial moisture prompted some recommended improvements.

**Recommendations\*\***

**UCRB:**

In Mesa County, CO, improving the D2 to D1 in the northern portion of the county thanks to the precipitation to hit much of the Grand Junction and surrounding areas on Monday. Amounts in the area were between 0.80" to 1.50".

In the Four Corners region, it is recommended the D3 improve to D2 in eastern La Plata and Montezuma Counties in CO and San Juan County, UT. This area received above average precipitation for the month of August and continued to receive beneficial precipitation the last week. Although

cumulative streamflow volume for the San Juan River is very near the minimum year, 7-day average streamflow for the San Juan River near Bluff, UT is above normal.

### **Eastern CO:**

Thanks to very beneficial precipitation that fell northwest of the Denver Metro area on Monday continuing through the evening into Tuesday, improvements in eastern Boulder, Jefferson and extreme NE Park Counties is recommended from D1 to D0.

Wyoming recommendations that will be coming in the SE portion of the state. They are looking to go to D-nothing, connecting to the D-nothing in Colorado and pushing the D0 and D1 boundaries northward in Albany and Laramie Counties.