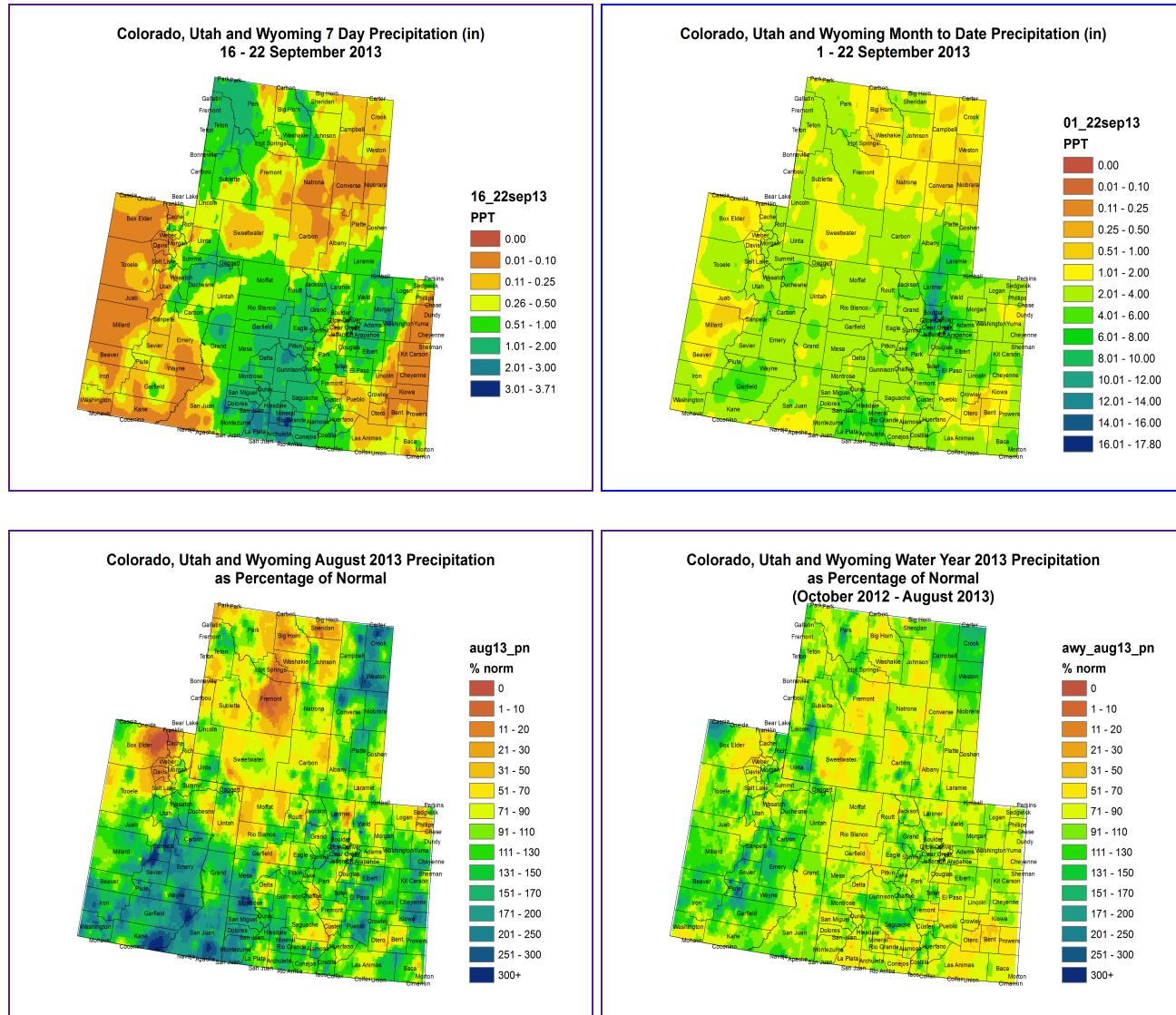


# PRECIPITATION



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:**

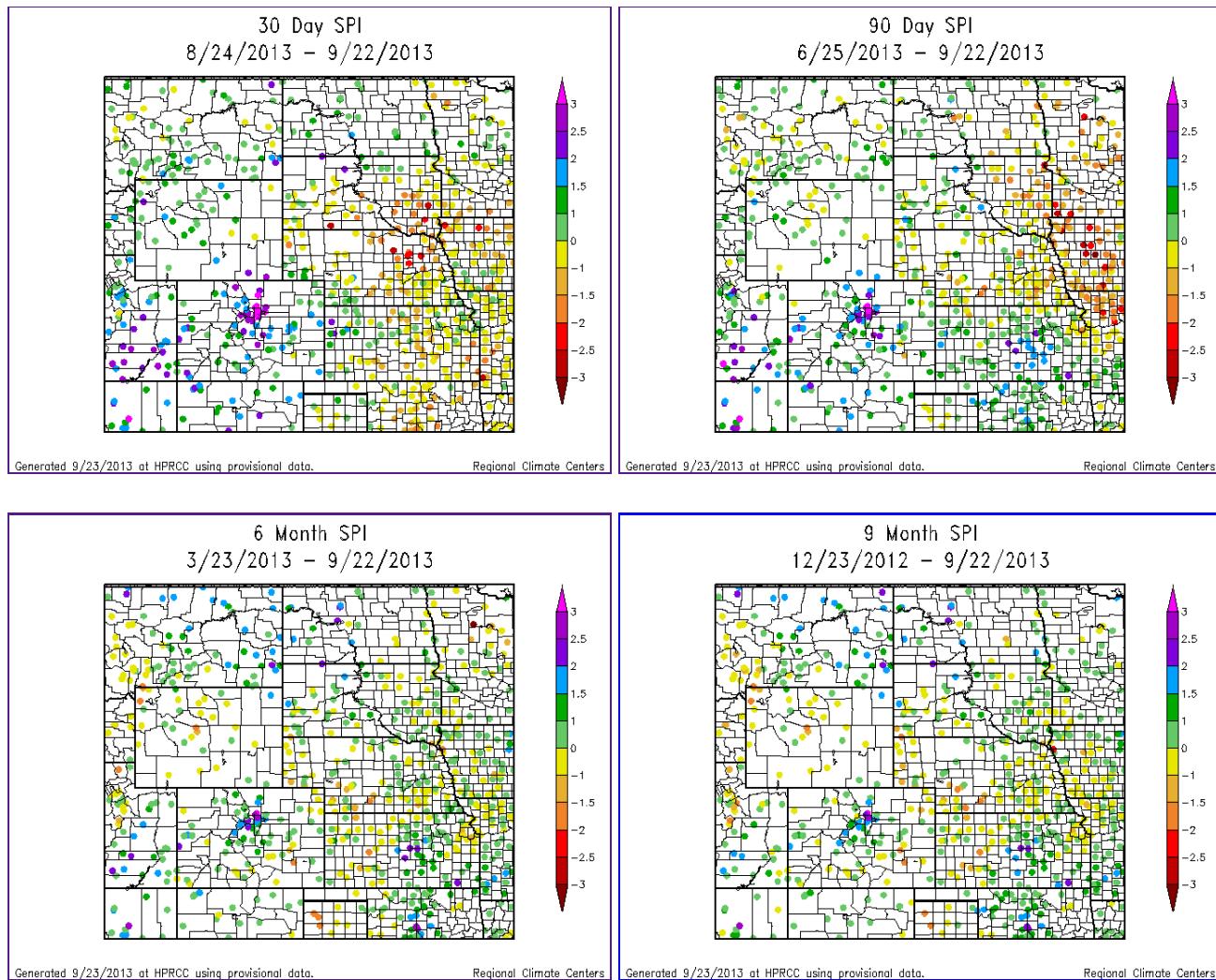
- The southern half of the UCRB saw near to above average precipitation for the month, while the northern part of the basin received below average precipitation
- Spotty areas in the northern part of the basin received near to above average precipitation. However, much of the northern region received 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:**

- Widespread precipitation fell across much of the eastern part of the basin
- All of western CO received between .5 and 2 inches of moisture for the week, with locally heavier amounts between 2 and 3 inches in the San Juan mountains in southwest CO
- Most of UT was drier, seeing less than .5 inches for the week, except the Uintahs in northeast UT which received between .5 and 2 inches
- Northwest WY received between .5 and 2 inches, with lower amounts report in southwest WY

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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.

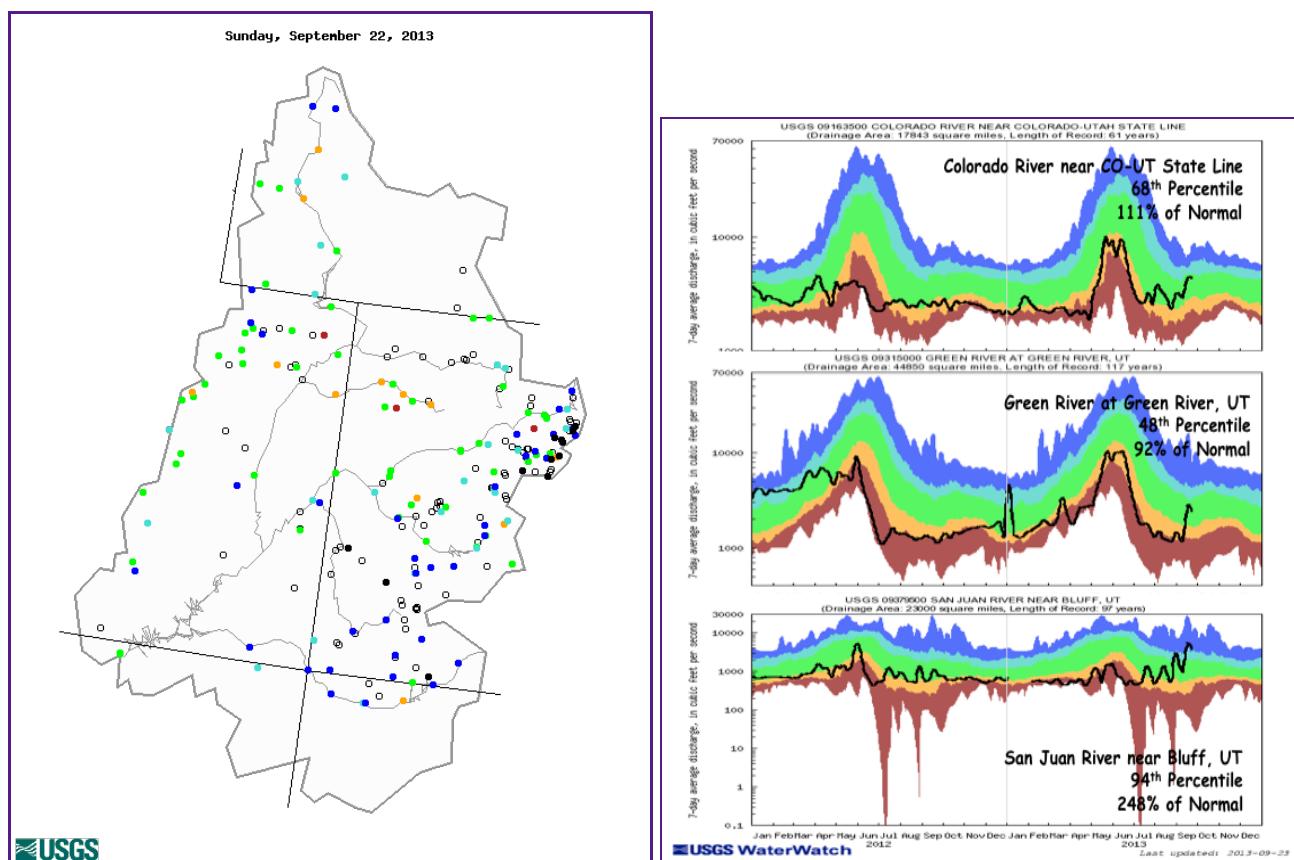
### **Short Term (30-day):**

- All of the basin is showing wet indicators on the 30-day timescale
- Areas around the Colorado River valley in southeast UT are in the +2 to +3 range
- SPIs throughout much of western CO and the northern part of the basin are between 0 and +1.5
- SPIs are between 1.5 and 2 around the Colorado Headwaters
- SPIs east of the basin are also positive with extremely wet indicators along the Front Range (+2 to +3) and ranges between 0 and +2 along the CO eastern plains

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

- Most SPIs in the basin show near normal to wet SPIs
- Northern UT has some slightly drier SPIs
- Mixed -1 to +1 SPIs around the Four Corners
- Wettest SPIs are along the Colorado River valley in southeast UT and the Colorado River mainstem
- The northern CO Front Range shows very wet SPIs
- Drier SPIs show up in northeast CO (0 to -1) and in the Arkansas valley (0 to -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:white;">○</span>
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
Much below normal	Below normal	Normal	Above normal	Much above normal			

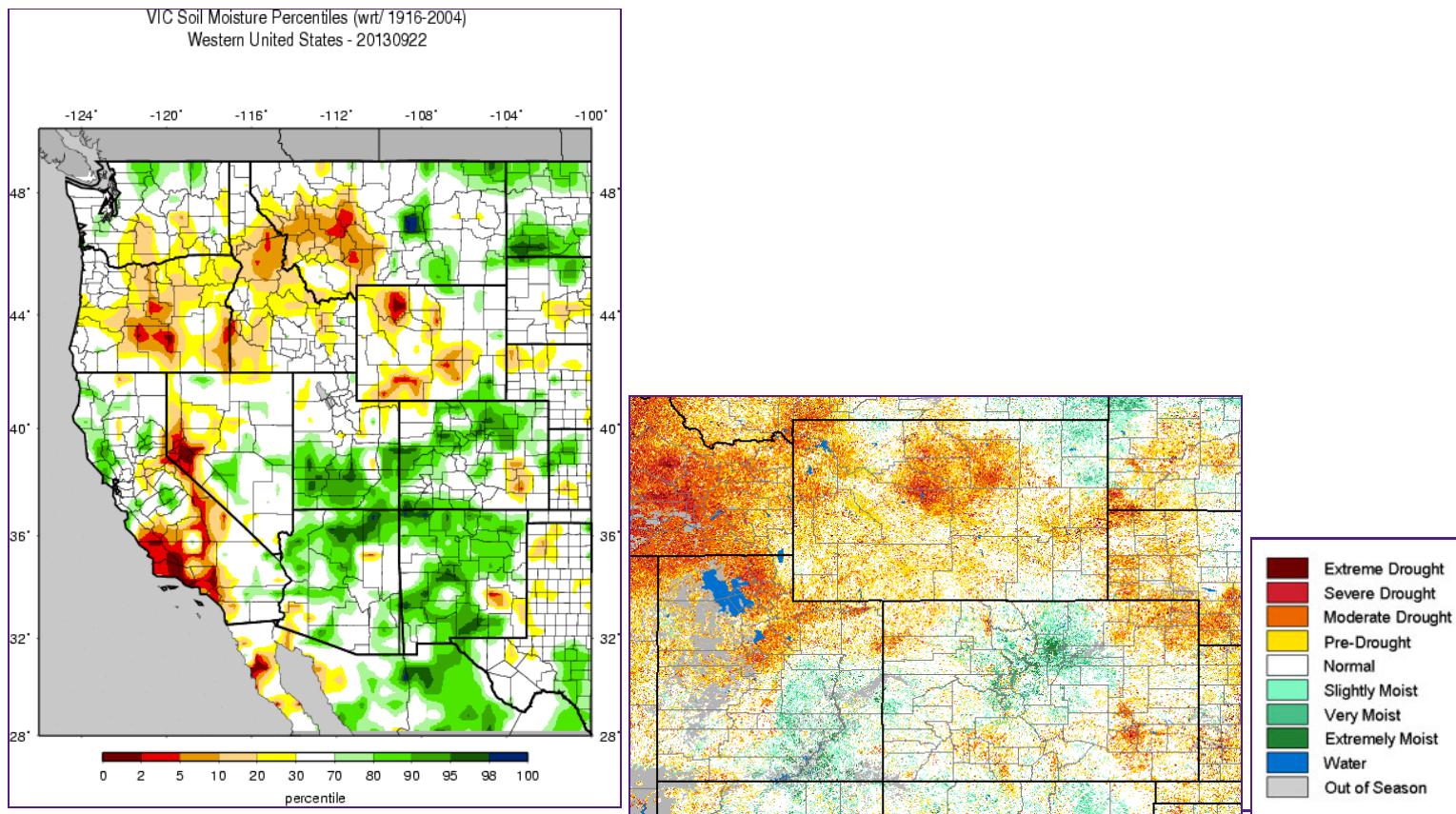
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

## Streamflow Statistics:

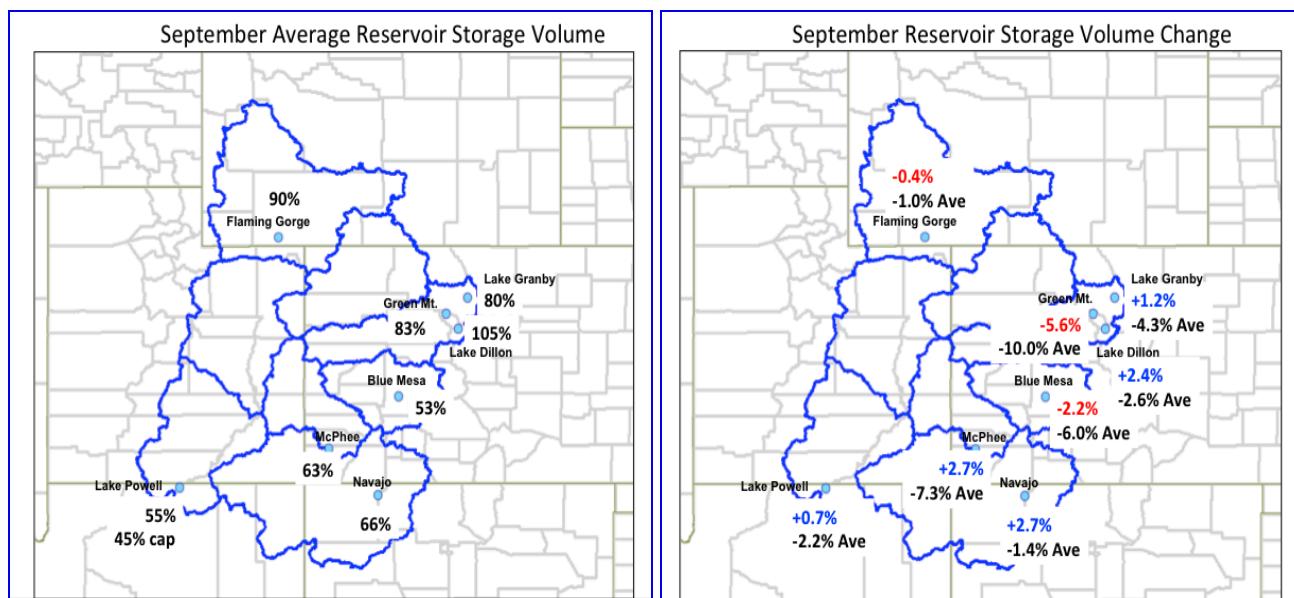
- 89% of gages recording normal to above normal 7-day average streamflows (an increase from 44% one month ago)
- 8% of the gages recording high flows (highest recorded streamflow for that day of year)
- 8% of the gages are recording below normal 7-day average streamflows and only 2% are recording much below normal flows (a decrease from 15% one month ago)
- Large overall increase in streamflow across the entire basin
- Highest flows concentrated around the Colorado River mainstem
- Three key gages around the basin all show increases in streamflow over the past couple of weeks
- The Colorado River near the CO-UT state line currently recording near normal flows at the 68th percentile
- The Green River at Green River, UT saw a slight decrease in the past couple of days, but still recording flows in the near normal range at the 48th percentile
- Flows on the San Juan River near Bluff, UT are in the much above normal range, at the 94th percentile, and 248% of normal. These flows are as high as they would normally be during peak runoff season and have really helped make up some of the deficit from earlier this spring

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## 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:**

- Vast improvements to the VIC soil moisture product over the past couple weeks with recent widespread heavy rains.
- Southern WY remains dry with soil moisture percentiles less than the 20th percentile for the southern portion of the state
- In southeast CO, the southern Lincoln, Crowley, Otero, Bent and Prowers counties continue to report soil moisture percentiles below the 20th percentile, with the rest of southeast CO showing near normal soil moisture
- Most of the southern portion of the UCRB showing wet soil moisture conditions
- Most of northern CO showing wet soil moisture conditions

**VegDRI:**

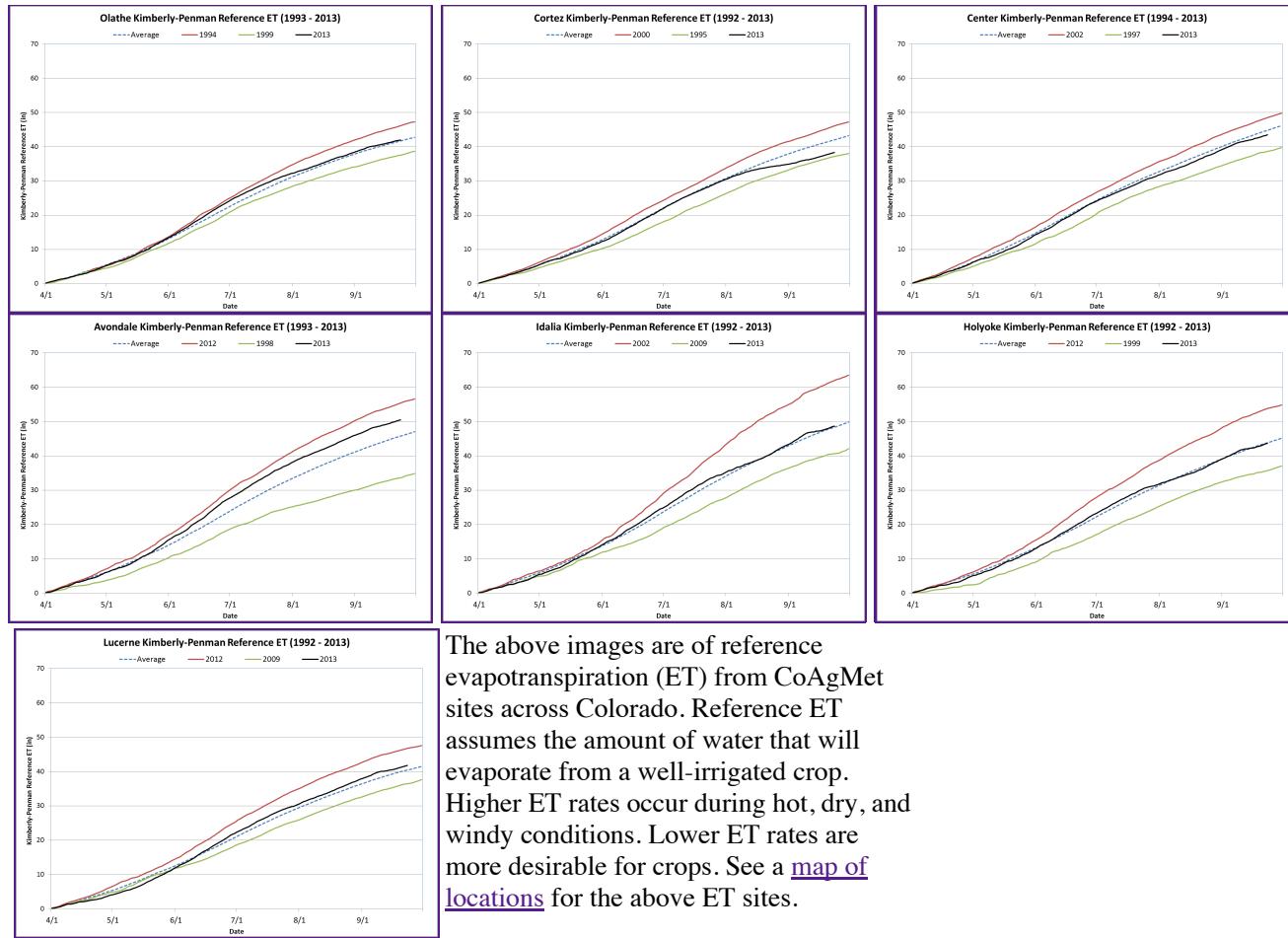
- The northern portion of the UCRB continues to show dry vegetation conditions through the Green, Wasatch, Uintas, Yampa and White basins.
- The Colorado River valley showing wet vegetation with near normal vegetation conditions in southwest CO
- Wet vegetation showing up around the Colorado mainstem, across the Continental Divide and across the northern CO Front Range
- Near normal vegetation showing up in southern CO with drier vegetation conditions in northeast CO and in parts of the Arkansas valley

**Reservoirs:**

- Lake Dillon currently above average for September
- Flaming Gorge, Green Mountain and Lake Granby are in the 80% to 90% of average range
- The southern reservoirs are a bit lower, ranging from 53% of average (Blue Mesa) to 66% of average (Navajo)
- Many of the reservoirs have seen an increase in volume since the beginning of September, which is not normal for this time of year. Many have seen around a 2% increase, and Lake Powell has seen a .7% increase, when it normally decreases by 2% in September
- Flaming Gorge, Green Mountain, and Blue Mesa have all decreased since the beginning of the month, but the decreases have been less than what is normally expected in September
- Overall, an improvement in water supply during September

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## EVAPOTRANSPIRATION



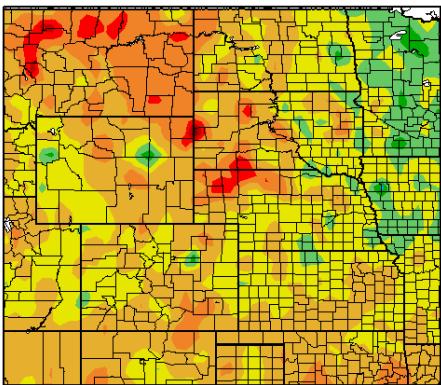
The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of locations](#) for the above ET sites.

## Reference ET:

- Olathe: ET has dropped over the past couple weeks and is now very near normal for the growing season to date.
- 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 and approaching the low year of 1995.
- 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 above average for the growing season.
- Idalia: ET was above average for July. ET rates slowed and ET have been close to average for the past few weeks and is now just slightly above normal for the growing season.
- 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.

# TEMPERATURE

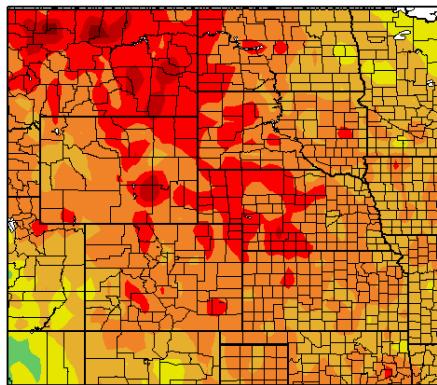
Departure from Normal Temperature (F)  
9/16/2013 – 9/22/2013



Generated 9/23/2013 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Temperature (F)  
9/1/2013 – 9/22/2013

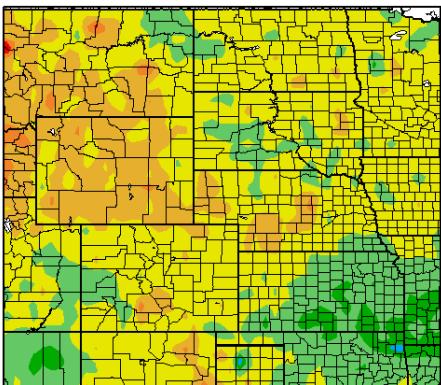


Generated 9/23/2013 at HPRCC using provisional data.

Regional Climate Centers

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.

Departure from Normal Temperature (F)  
8/1/2013 – 8/31/2013



Generated 9/11/2013 at HPRCC using provisional data.

Regional Climate Centers

## Last Week Temperatures:

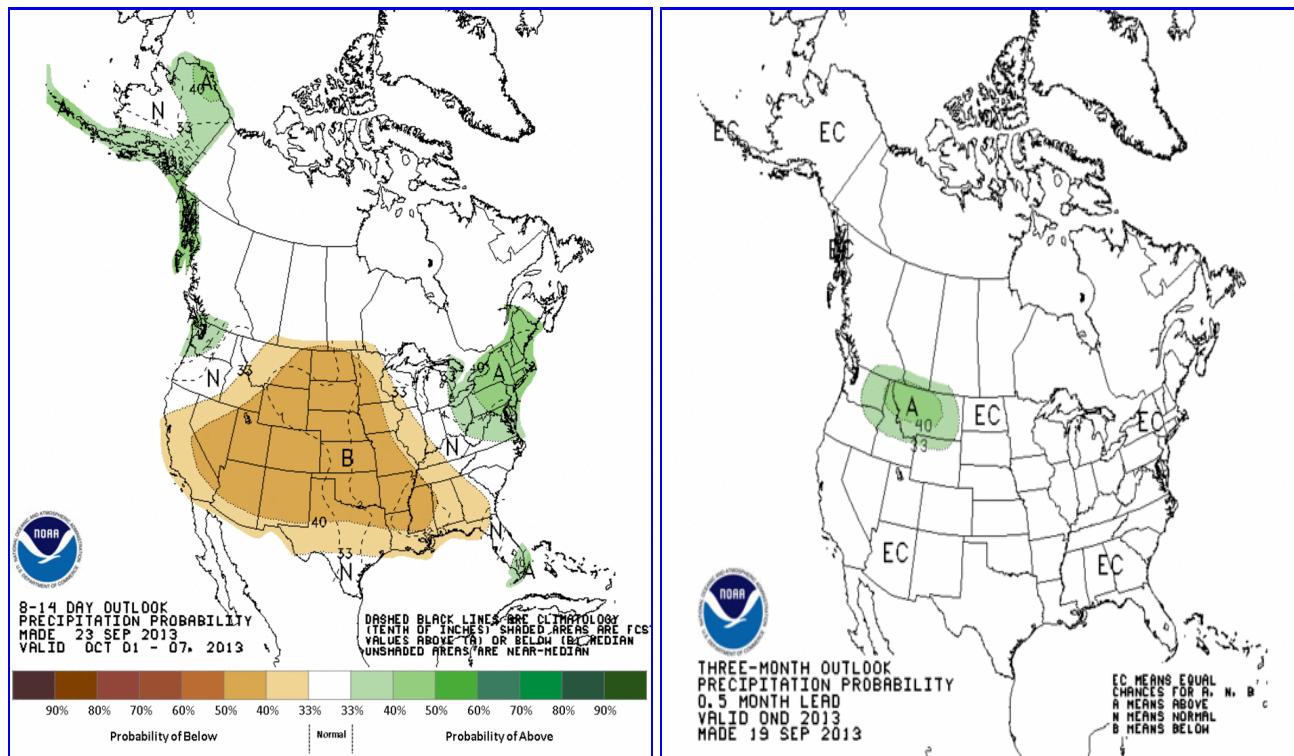
- Most of the basin saw warmer than average temperatures last week
- Northern UT and the Four Corners saw temperatures 2 to 4 degrees warmer than average with temperatures 0 to 2 degrees above average elsewhere
- Eastern WY saw temperatures 2 to 6 degrees warmer than average
- Most of eastern CO saw temperatures 0 to 4 degrees above average for the week

## Last Month Temperatures:

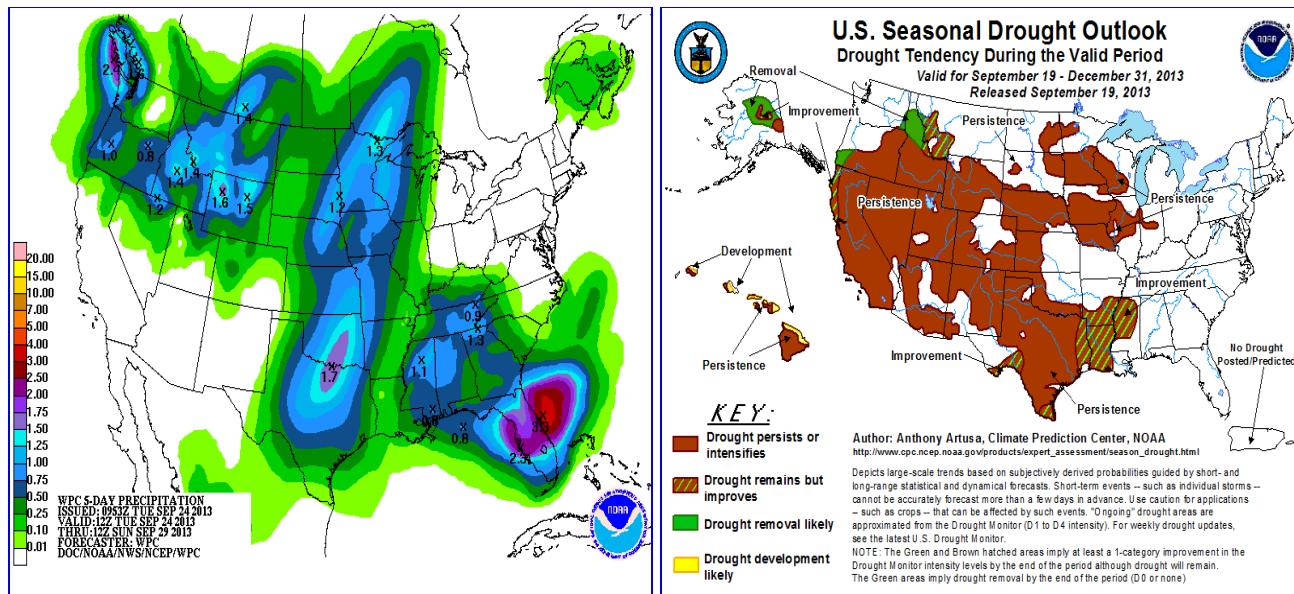
- The northern portion of the basin saw warmer than average

- 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 0 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.



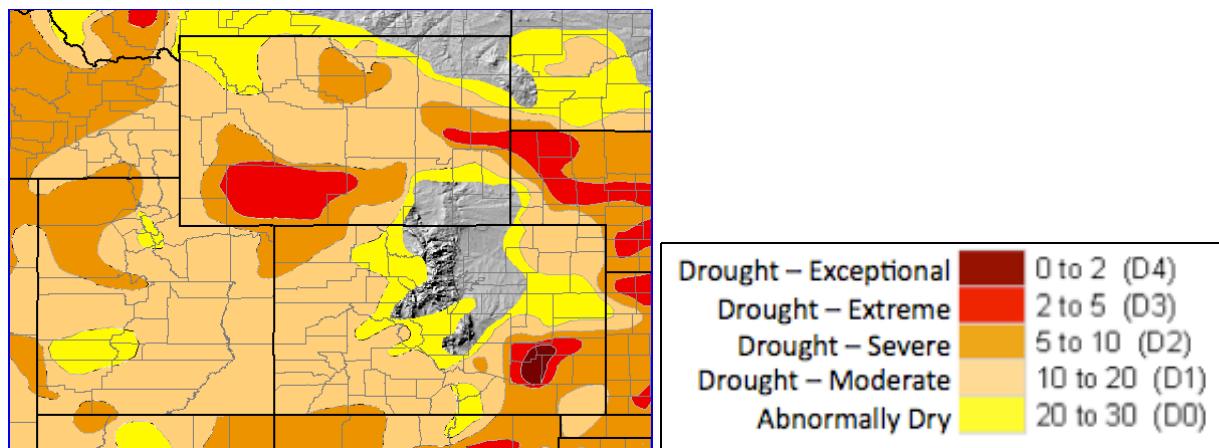
## This Week:

- Warm and dry conditions expected Wednesday through Thursday, with windy conditions possible with the advancement of a trough into the region
- A quick moving disturbance could bring scattered showers to the northern part of the basin and just east of the Continental Divide
- Heaviest accumulations are forecast for the Upper Green basin in WY
- Snow accumulations are expected for the higher elevations

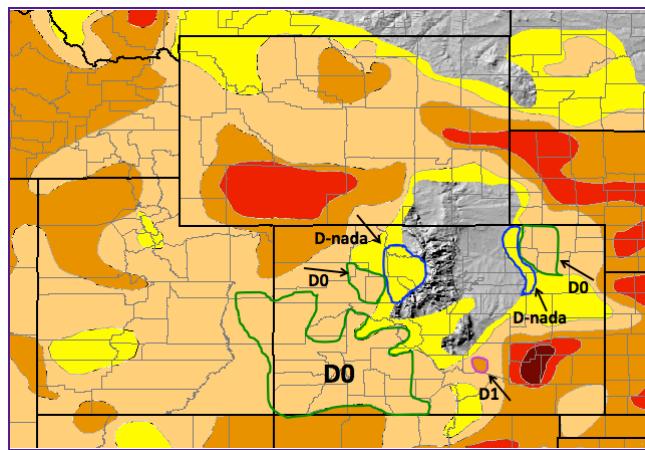
## Longer Term:

- The 8-14 day outlook shows a good chance of near normal temperatures across the region with the possibility of warmer temperatures in WY. Below average precipitation is expected for the region
- The three month outlook shows equal chances for wet, dry, or normal conditions for the region
- The drought outlook shows drought persistence across the entire region for the fall

## 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 24, 2013

More generous precipitation fell in the southern part of the UCRB last week. Streamflow, water supply, and soil moisture are vastly improved across most of the basin this month. Our first snow has been seen for the season and additional snowfall can be expected in the higher elevations this coming week. However, conditions will be windier and drier than the past couple of weeks.

## Recommendations\*\*

**UCRB:** Widespread precipitation fell across much of western CO. So much rain has fallen in the last couple weeks, it is difficult to determine where to draw the lines between D0 and D1. Therefore, a reduction of D1 to D0 (green shape) was drawn and is recommended based on a combination of last week's precipitation, water-year-to-date precipitation percent of average, and VegDRI depictions. The current U.S. Drought Monitor author has already reduced the D2 to D1 in southern CO. Also, a further reduction of D0 to D-nada is recommended for the Colorado mainstem region (blue shape) where

streamflows are high, reservoirs are recovering and WYTD precipitation is near or above average.

**Eastern Colorado:** Reports from northeast CO are that conditions are good, and an excellent storm passed through the area on Monday (not shown on our precipitation maps). CoCoRaHS does show good amounts falling in Logan and Washington counties, so it is recommended that the D1 in the area be trimmed down to D0 (green shape). The D0 can also be trimmed based on last week's precipitation (blue shape). In southeast CO, the small area of D2 in western Pueblo County has seen additional greening, so it is recommended that it be removed (purple shape).