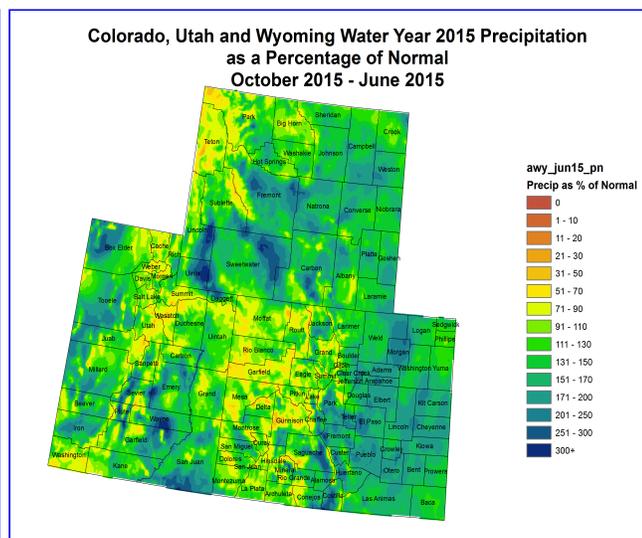
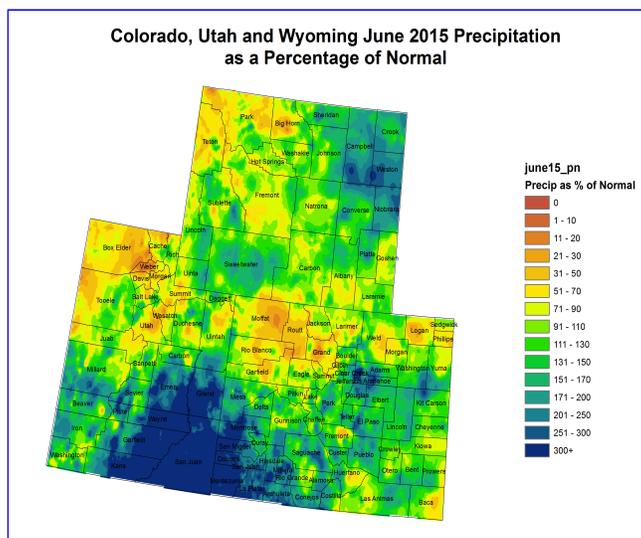
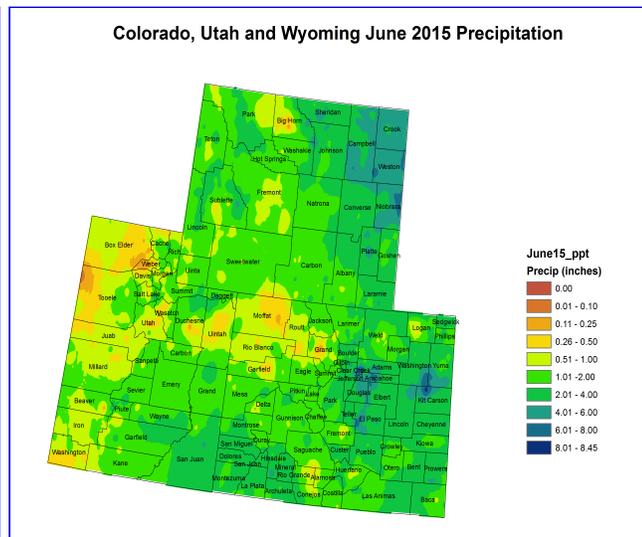
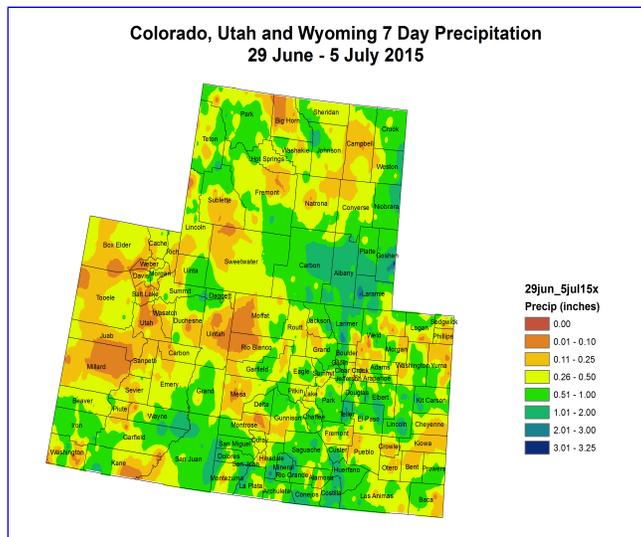


# PRECIPITATION



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.

## Last Week Precipitation:

- Precipitation for the past week across the basin was spotty.
- The Upper Green River Basin in Wyoming was mostly below 0.50 inches. Sublette and Sweetwater Counties receiving less than 0.25 inches. Northern Sublette and eastern Uinta counties saw up to 1.00 inches.
- In northeastern Utah, parts of Summit and Daggett counties received up to 1.00 inches, with the rest of the area seeing less than 0.50 inches.
- Southeastern Utah, Grand and San Juan counties saw up to 1.00

inches over most of the area, with a few spots over 1.00 inch.

- Western Colorado also received less than 0.50 inches over most of the area. An area in western Moffat and Rio Blanco, spilling into Uintah County WY, received less than 0.10 inches.
- East of the divide also saw spotty precipitation last week. Along the northern Front Range, in Larimer, Boulder, Gilpin and Clear Creek counties, totals were up to 1.00 inches, with an area in Larimer County seeing greater than 1.00 inch. El Paso, Elbert, Lincoln and Kit Carson counties were also in the 0.50 to 1.00 inch range. The Sangre de Cristo Mountains in south-central Colorado also saw totals up to 1.00 inch, with some higher totals in the area.
- The rest of eastern Colorado mostly saw less than 0.50 inches, with a few small spotty areas seeing up to 1.00.

### **June Precipitation:**

- June precipitation was not as widespread as May across Colorado and the Upper Colorado River Basin.
- The Upper Green River Basin in Wyoming received at or slightly above normal (100-150% of normal) precipitation in June.
- Northeast Utah saw less precipitation, with the Wasatch Range seeing below normal precipitation, mainly in the 50-70% of normal range. With Wasatch and Utah counties seeing less than 50% of normal. The Duchesne Basin was mainly near normal, with higher elevations of the basin and southern Duchesne Basin seeing below normal precipitation (down to 50%).
- Southeast Utah and southwest Colorado saw another wet month, seeing 300+ percent of normal through the area. This included the Four Corners area and into the San Juan Range.
- Southwestern Colorado in Moffat, Rio Blanco, Garfield, Grand and Routt Counties was dry, seeing less than 50% of normal over much of the area. The rest of western Colorado saw at or above normal June precipitation.
- East of the Divide, June precipitation was mostly at or above normal, with the Denver Metro area seeing 200 to 300+ percent of normal. Larimer, Weld, Morgan, Logan, Phillips, Yuma and Baca counties saw drier than normal precipitation for the month of June.
- The San Luis Valley also saw above average June precipitation.

### **Water Year 2015 Precipitation (Oct-June):**

- The May and early June precipitation helped many areas of the UCRB and Colorado recover nicely, however, there are still some dry spots showing up for the Water Year through June.
- The Upper Green river basin is at or above normal. Eastern Uinta and Lincoln Counties have received over 300% of their normal water year to date precipitation. Eastern Sweetwater County has seen up to 250% of the normal water year precipitation through June. Sublette and central Sweetwater counties have seen at or slightly above normal precipitation.
- Northeastern Utah has seen a mix of above and below normal

precipitation. The higher elevations of the Wasatch and Uintah ranges have seen below normal precipitation, mainly between 50-90% of normal. While the lower elevations, especially in Duchesne, Uintah and Carbon counties, have seen up to 150% of normal.

- Southeastern Utah is now showing at or above normal precipitation for the water year through June.
  - Western Colorado is still showing dryness in parts of Routt, Moffat, Rio Blanco, Garfield, Mesa and Gunnison counties, most areas seeing 50-90% or normal precipitation.
  - The San Juan mountains and along the divide are mostly above normal for the water year.
  - The Rio Grande Basin is now showing at or above normal precipitation for the water year through June.
  - Eastern Colorado is now above average for the water year to date across the area after the wet May and near normal June. A few areas that had a drier June are showing closer to normal water year percent of normal, however these areas are still above normal.
- 

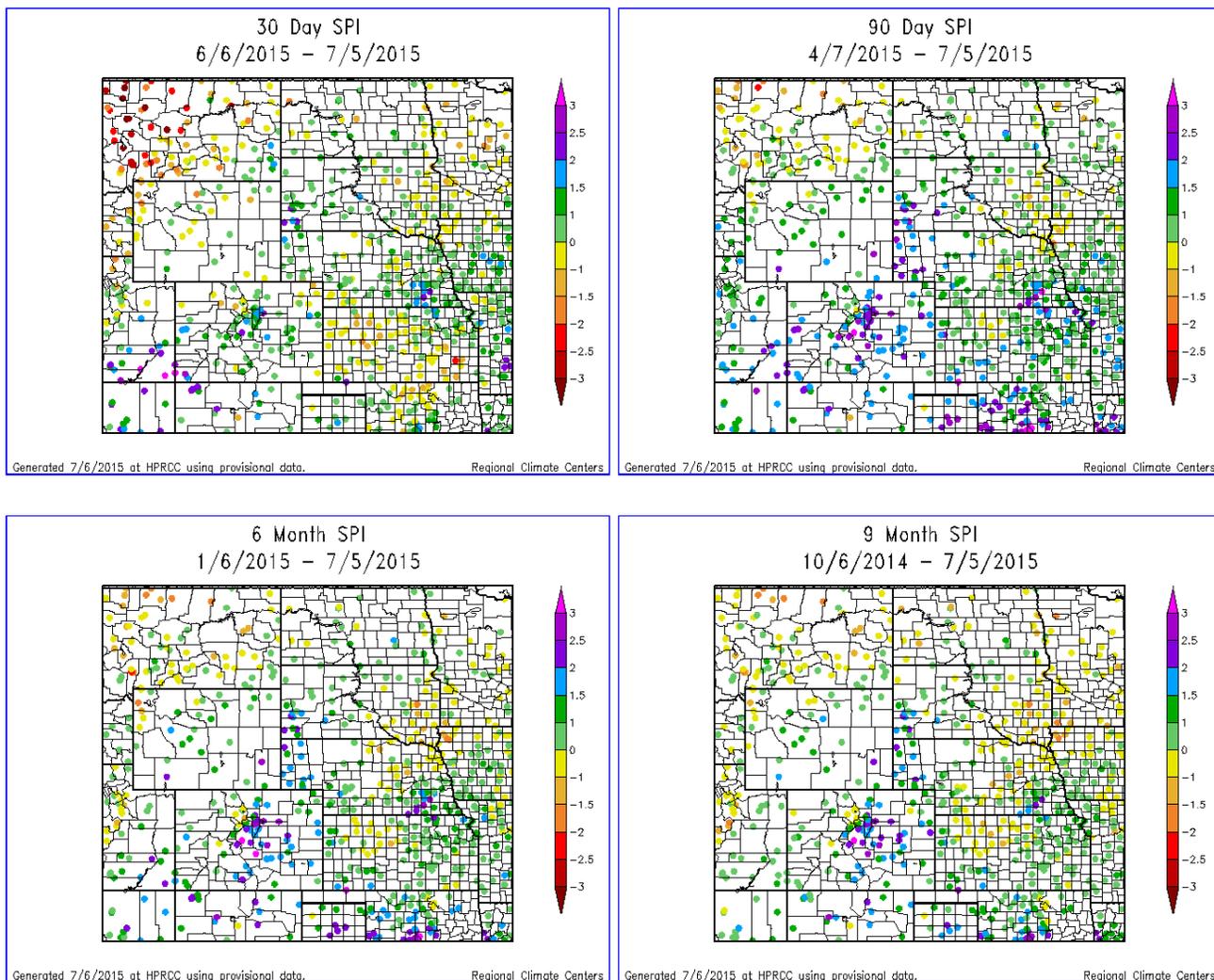
### **SNOTEL Precipitation Percentiles:**

- SNOTEL year to date percentiles across much of the UCRB saw quite a rebound this last week.
- In the Upper Green the percentiles are mostly in the median range between the 32nd to the 59th. Some Snotel sites in eastern Sublette County area a bit lower, down to the 22nd.
- The Wasatch and Uintahs are still showing drier percentiles ranging from the 0 to 63rd, but mostly in the 0-20 range. Many of the percentiles that were the 0th are now in the single digits and teens.
- The northern mountains in Colorado west of the Continental Divide are showing percentiles between the 11th and the 53rd. The Percentiles in the teens and 20s are mainly in eastern Rio Blanco, Garfield and Routt counties.
- The lower elevations of the Colorado and Gunnison are still seeing percentiles below the 39th percentile, however sites along the divide are in the normal range.
- The San Juans are reporting mostly below the 40th percentile, with a number of snotel sites in the northern San Juans above the 50th percentile.
- The Sangre de Cristo mountains in SE Colorado are near average with percentiles ranging from 35th to 69th.
- The South Platte stations are all mainly at or above the median.

### **SWE Timeseries Graphs:**

- All sub-basins are well into the melt season.
  - The peak snowpack was 85% of normal.
  - The peak snowpack was 63% of normal.
  - The peak snowpack was 68% of normal.
  - The peak snowpack was 79% of normal.
  - The peak snowpack was 70% of normal.
  - The peak snowpack was 67% of normal.
- 

## **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):

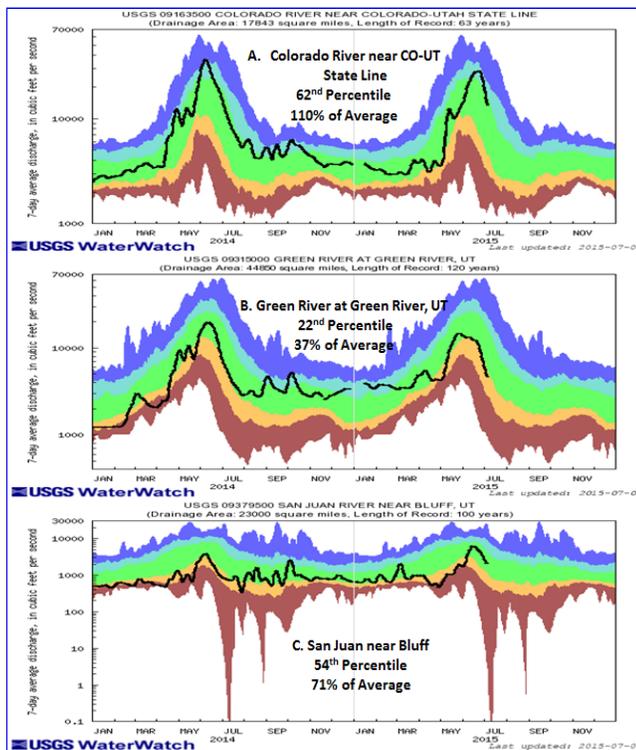
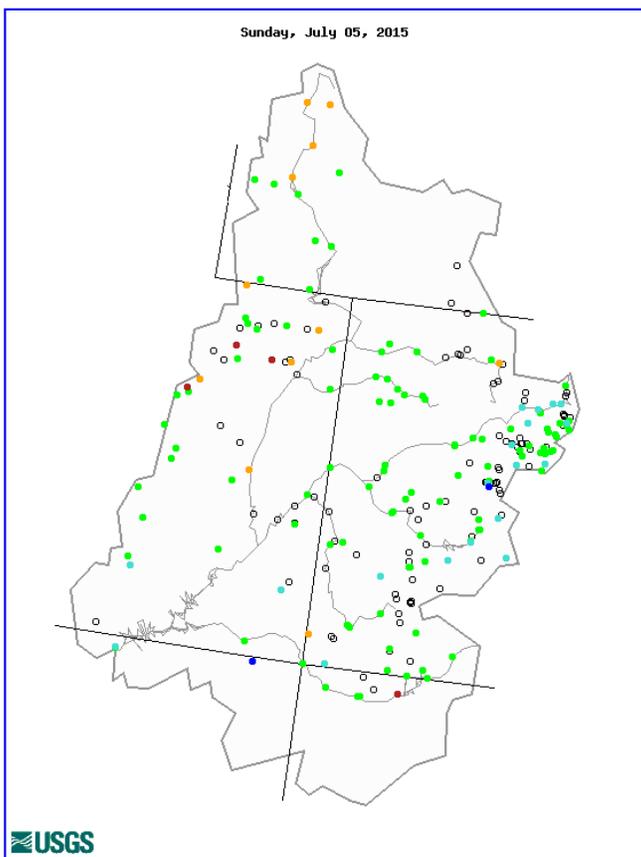
- A few SPIs are starting to show up in the below normal range, but most SPIs are still above normal on the 30-day timescale.
- The Upper Green River basin is showing SPIs near normal between 0 and +1, with two SPIs in northern Lincoln County down to -1.
- Northeast Utah is starting to show SPIs drying, between -2 and +1. The drier SPIs are mainly in the Wasatch Mountains, with an SPI in Duchesne County at -1.
- Southeast Utah is showing very wet SPIs mostly between +1 and +3 or greater.
- Northwest Colorado is also drying out on the 30 Day timescale, with SPIs in Routt and Rio Blanco counties between 0 and -1.5. Garfield and Mesa counties are wet with SPIs between 0 and +2.
- Southwest Colorado is showing very wet SPIs between +1 and +3.
- North central Colorado is showing wet SPIs between 0 and +2. Grand County is showing dry SPIs between -1.5 and 0.

- The San Luis Valley is showing wet SPIs between 0 and +1.5.
- East of the divide, most SPIs are still wet, between 0 and +2.5 on the 30-day timescale. The wettest SPIs are around the Denver Metro area.
- Dry SPIs (0 to -1.5) are showing up in Sedgwick, Phillips, Logan counties in northeast Colorado and Baca County in southeast Colorado.

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

- The 6-month timescale, SPIs are wetter in the UCRB than 1-month timescale.
  - The Upper Green has SPIs ranging from 0 to +2.5.
  - NE Utah shows some longer term dryness with SPIs ranging from -1.5 to +1, with the driest in the Wasatch Range.
  - Southeast Utah is wet with SPIs between +1 and +2.5.
  - Western Colorado is showing SPIs mostly between 0 and +1. One in Mesa County is between +1.5 and +2. Grand, Summit and Gunnison Counties show SPIs between -1 and 0.
  - In central Colorado SPIs are very positive between +1 and +3.
  - Eastern Colorado, all SPIs are wet on the 6-month timescale. They range from 0 to +2.5.
  - The Rio Grande basin is wet at the 6-month timescale with SPIs from +1.5 to +2.5.
- 

## **STREAMFLOW**



Explanation - Percentile classes							
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.

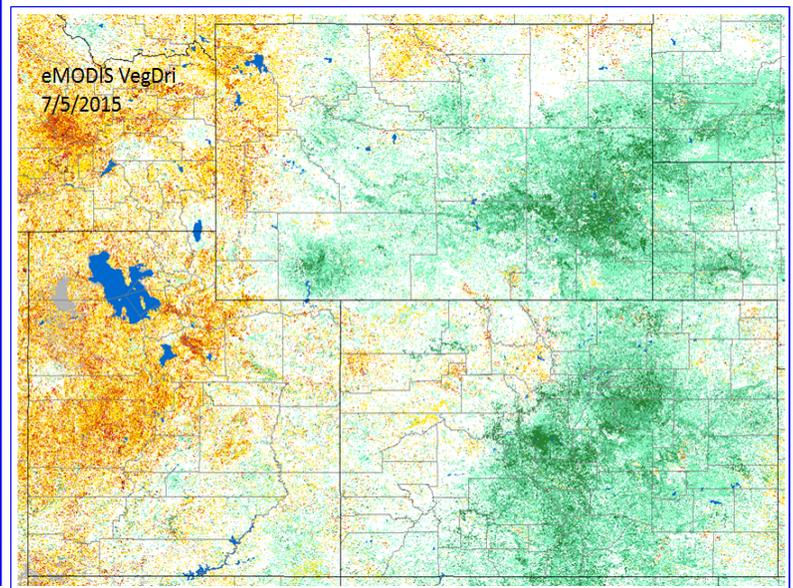
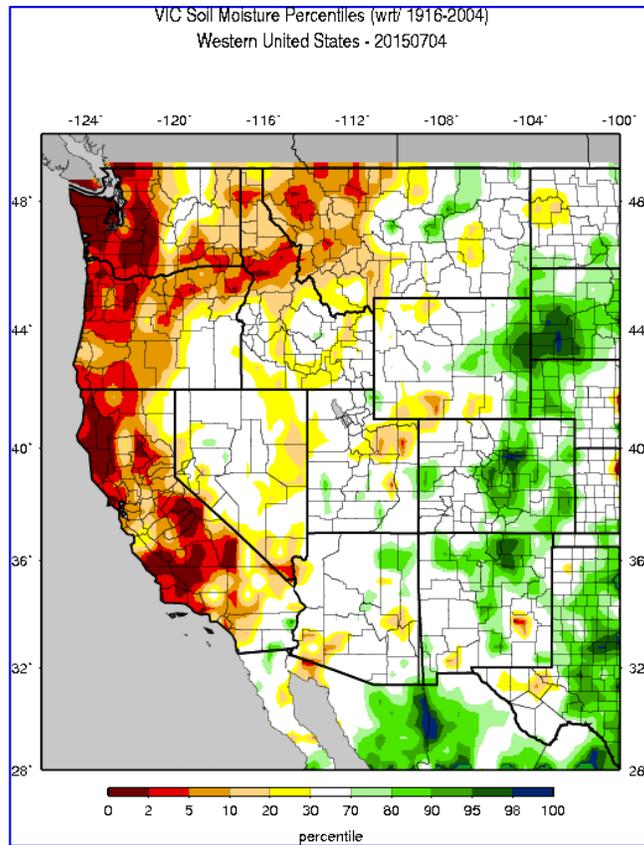
**Streamflow Statistics:**

- Flows are decreasing, but still high in the headwaters of the Colorado and the Gunnison River Basins.
- 88% of the gages in the UCRB are reporting in the normal to much above normal range for 7-day average streamflow. No gages are reporting record high flows.
- Only 11% of the gages are recording below normal for 7-day average streamflow.
- Streamflow on the Colorado River near the CO-UT state line is now at the 62nd percentile, 110% of average. Flows have peaked and are starting to come down, a few weeks later than normal.
- The Green River at Green River, UT is currently is at the 22nd percentile, 37% of average, in the below normal range. Flows appear to have peaked at this site several weeks ago lower than

normal.

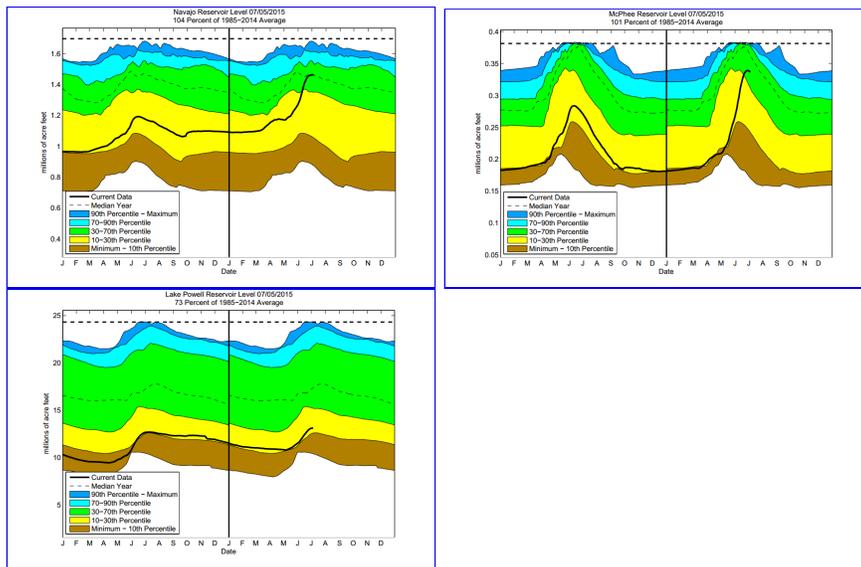
- Flows at the San Juan near Bluff, UT are now at the 54th percentile and 71% of average.

## 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).





## VIC:

- Soils are mostly in the average range in the Upper Green River Basin. Dry soil in the 5th-30th percentile range still shows up in southeastern Sweetwater County. Western Uinta and Lincoln Counties in far southwest Wyoming are above the 70th percentile.
- Soils in northeastern UT are mostly in the average range, with dry soils, below the 30th percentile, in Duchesne and Uintah Counties.
- Southeast Utah is also showing soil moisture mostly in the normal range. Southeast Emery County is showing a dry patch between the 2nd and 30th percentile.
- Western CO soils are in the normal to above normal range. Most of Mesa, Garfield, Delta, and Montrose Counties are above the 70th percentile. Soil moisture is between the 90 and 95th percentile in western Mesa County.
- The San Juan Mountain region is in the normal range.
- The San Luis Valley is mostly normal, showing some wet soils, in the 70th to 80th percentile, on the eastern side of the valley.
- Eastern Colorado is almost completely in wet soil conditions. Northeast Colorado has dried from above the 98th percentile back to the normal range. Southeast Colorado is also mostly in the 70-90th percentile range with central Crowley County all the way back in the normal range.
- The wettest remaining soils are mostly along the northern Front Range and Palmer Divide. Jefferson, Adams, Arapahoe, and Douglas Counties all still show soils above the 98th percentile.

## VegDri:

- VegDri shows moist conditions over central and western Sweetwater County.
- The Upper Green River Basin shows mostly normal vegetative health conditions with some areas of pre to moderate drought along the northwest flank of the basin.
- The Wasatch Mountains are depicted in pre to moderate drought,

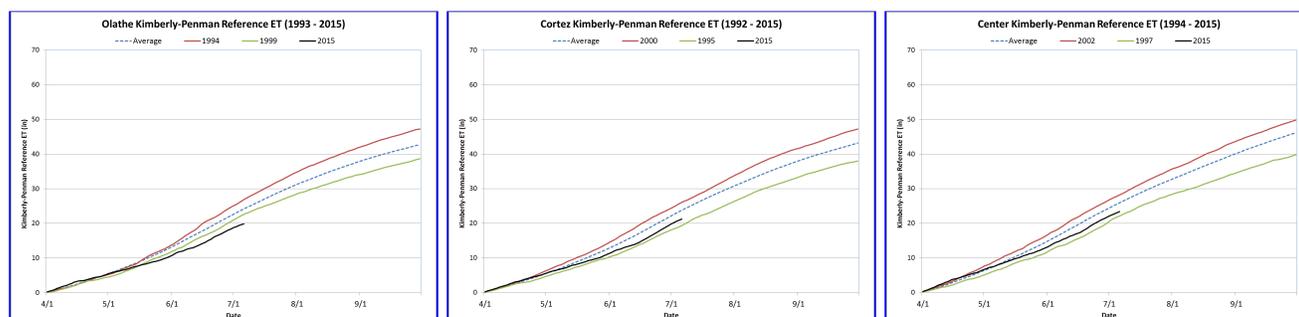
with more moderate drought showing up than previous weeks. The Uintah Mountains are doing better now, but are still holding on to a fair amount of pre-drought, especially in the western portion of the range.

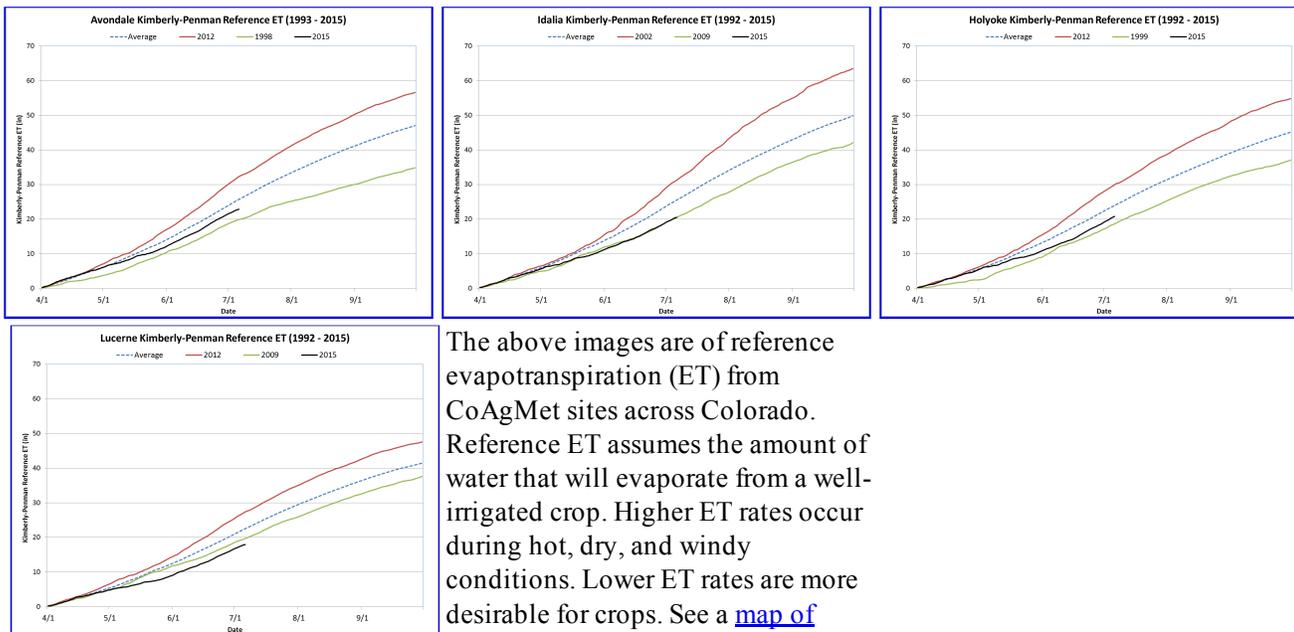
- The VegDRI indicates a mixed bag of drought to moist conditions in the Duchesne River Basin, with more pre to moderate drought in the basin.
- In southeast Utah vegetative health is depicted with pre-drought to slightly moist conditions. This area doesn't have a lot of vegetation.
- Most of western Colorado is showing pre-drought to some slightly moist conditions, with moist conditions in the southern counties. The driest area is in Rio Blanco and Garfield counties. Grand County is now starting to show pre-drought vegetative conditions.
- The high mountain valleys in central Colorado are depicted as extremely moist. This includes Chaffee, Park, Teller, Fremont, and Custer Counties. This area of very moist vegetation extends onto the Front Range mainly along the Palmer Divide into El Paso, Elbert, Douglas, Jefferson, Adams, and Arapahoe Counties.
- Northeastern Colorado is primarily showing moist vegetation with the exception of isolated areas in Sedgwick, Phillips, Yuma and Washington counties where conditions are shown as pre-drought to normal.
- In southeast Colorado conditions are now mostly moist now. Baca County is starting to show normal to pre-drought conditions.

### Reservoirs:

- Flaming Gorge is at 108% of its July average.
- Green Mtn is 106% of the July average.
- Lake Granby is at 116% of its July average. Lake Granby has been releasing water to avoid spilling.
- Blue Mesa is 116% of the July average, 99% full.
- Navajo has recovered to 103% of its late July average.
- McPhee has made a very nice recovery over the last month to 107% of its July average.
- Lake Powell is now at 69% of the July average, 54% full.

## EVAPOTRANSPIRATION



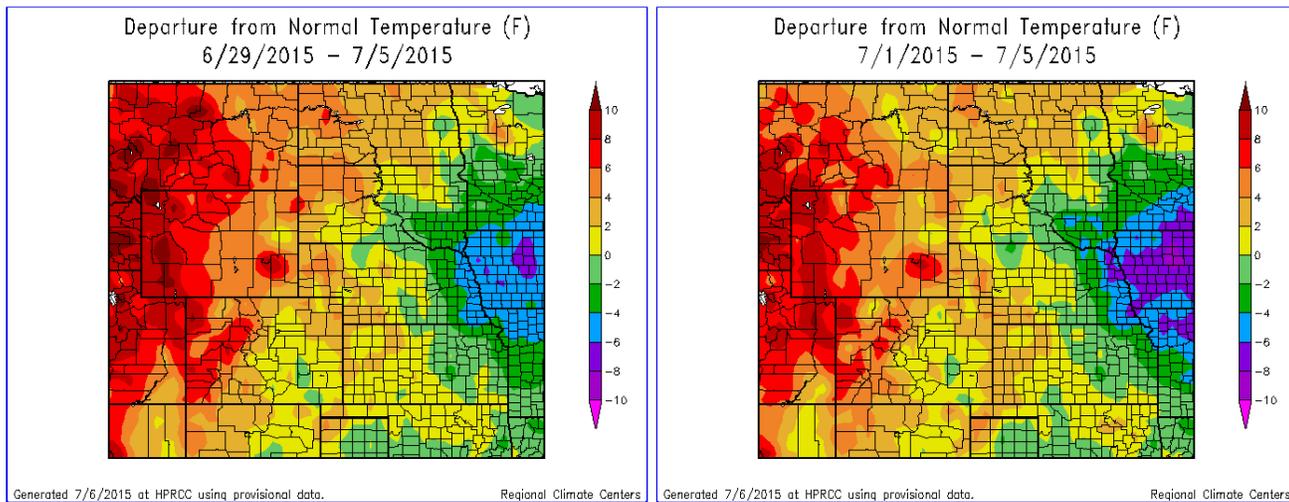


The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of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

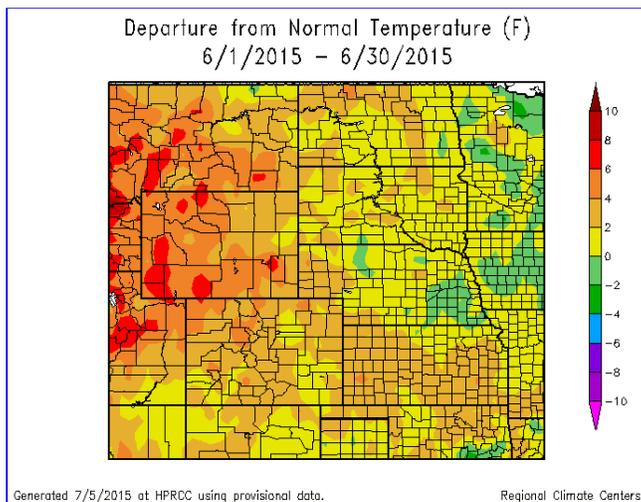
### Reference Evapotranspiration:

- Olathe: ET started the growing season at higher than average ET rates and since mid May has been tracking below the lowest reference ET year of 1999.
- Cortez: ET began a little above normal, but has been tracking below normal since early May.
- Center: Early season ET was higher than the tack taken during the record year, but has slowed considerably, and is now tracking below average.
- Avondale: ET began just above average, but has slowed to below normal.
- Idalia: ET started near average, but with cooler and cloudier conditions is now tracking alongside the record low ET year of 2009.
- Holyoke: ET started around normal and has dropped below normal since the second week of May.
- Lucerne: ET has been tracking lower than the previous record low year in 2009 since the second week of May.

## 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:

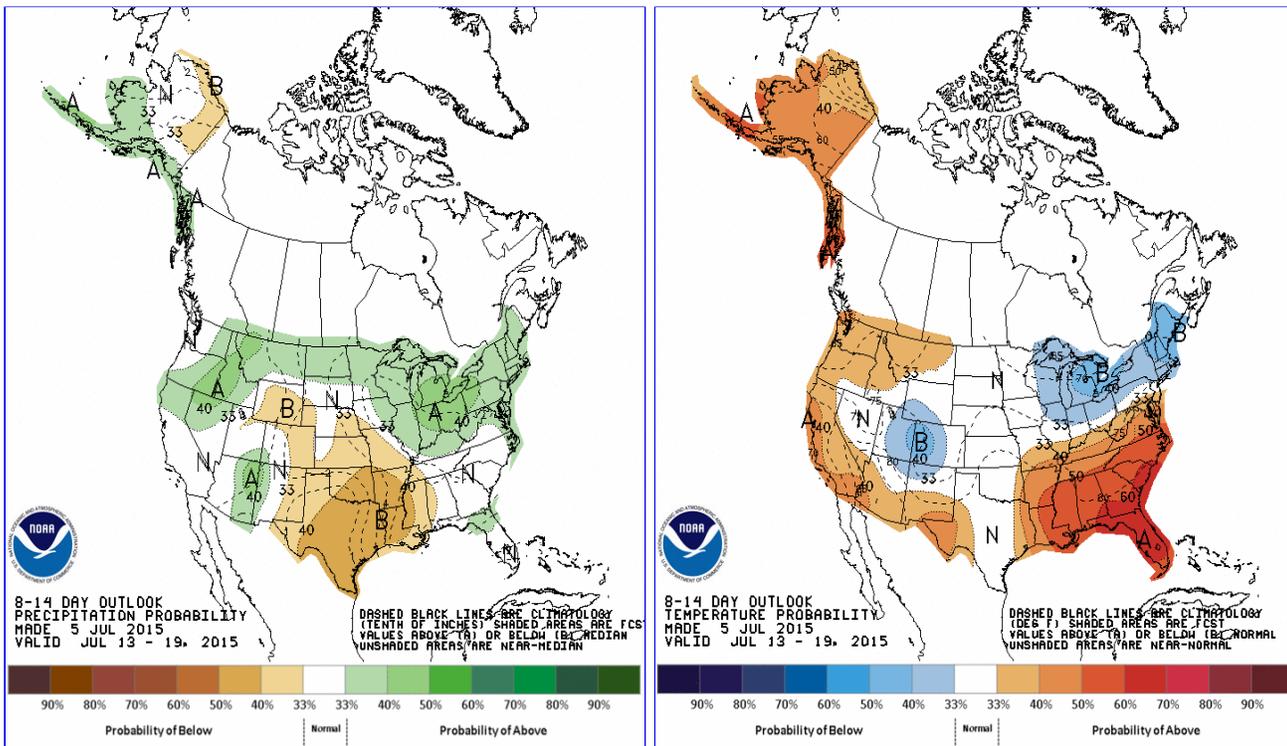
- It was another above average week for the UCRB, especially in the northern and western portions of the basin.
- The Upper Green Basin saw temperatures 8 to 10 degrees above normal with most of Sublette County into western Sweetwater county 10+ degrees above normal.
- Northeastern Utah also saw temperatures 8 to 10 degrees above normal, with a few spots 6 to 8 degrees warmer than normal.
- Southeastern Utah saw closer to normal temperatures, but was still 2 to 8 degrees warmer than normal. The closer to normal temperatures were farther south.
- Western Colorado saw temperatures at least 4 degrees warmer than average. Moffat and Rio Blanco counties saw temperatures 8 to 10 degrees warmer than normal in the western part of the counties. From the Four Corners area up to the Colorado River headwaters saw a swath of 6 to 8 degrees above normal.
- East of the Divide saw temperatures mainly in the 0 to 2 degrees above normal range. Northeastern Colorado was warmer with 2 to

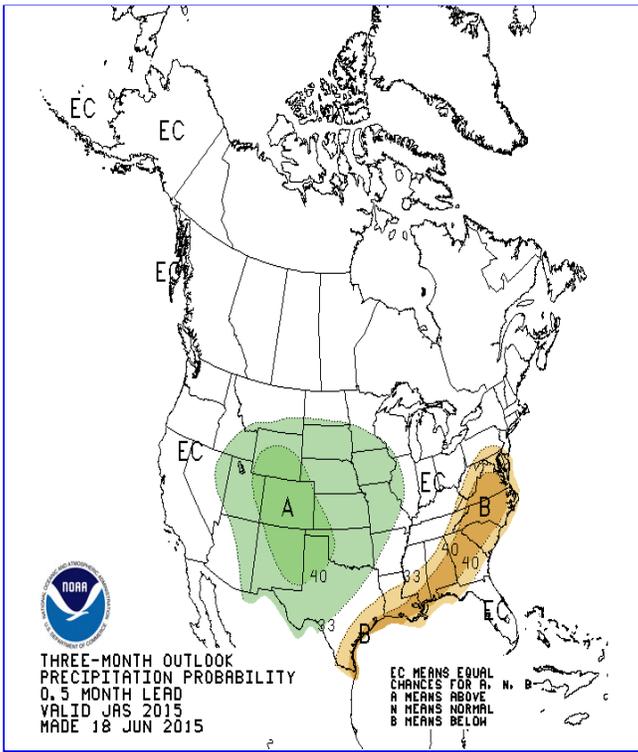
4 degrees above normal. An area in eastern Las Animas, Crowley and Otero counties 0 to 2 degrees below normal.

## June Temperatures:

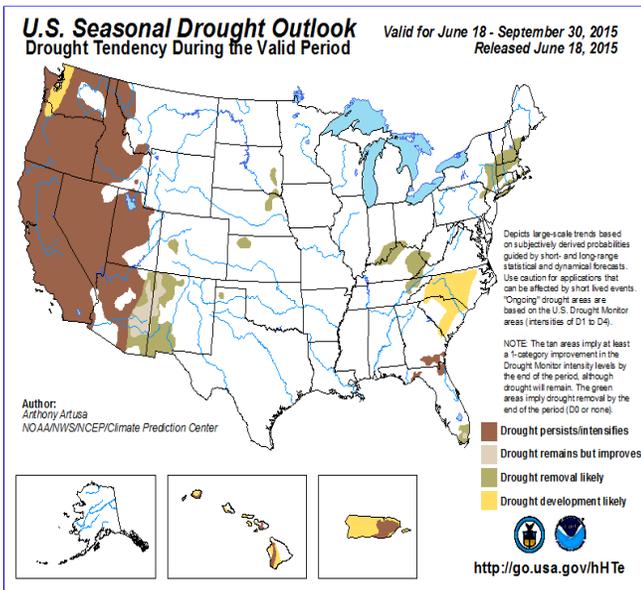
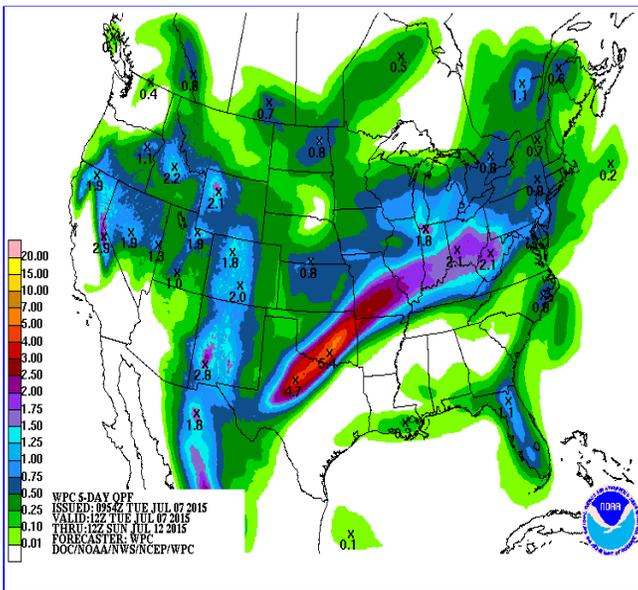
- The month of June saw above normal temperatures across the UCRB and Colorado.
- Sublette, southern Lincoln and Uinta counties were 6 to 8 degrees above normal, with the rest of the Upper Green Basin and much of northern Utah 4 to 6 degrees above normal for the month.
- The southern Wasatch Range saw temperatures 6 to 8 degrees above normal, while Grand and Emery counties were 2 to 4 degrees above normal, and San Juan County, Utah 0 to 2 degrees warmer than average.
- Western Colorado was 2 to 4 degrees above normal for the month over most of the area. Moffat and Rio Blanco counties, with a portion of Grand and Eagle counties 4 to 6 degrees above normal.
- Southwestern Colorado saw a mix 0 to 2 degrees and 2 to 4 degrees above normal for June.
- East of the Divide temperatures for the month of June were 0 to 4 degrees above normal, with areas in Weld, Adams, Arapaho and Elbert were 0 to 2 degrees above normal. Portions of the middle Arkansas River Basin in southwest Colorado also saw 0 to 2 degrees above normal for June.

## FORECAST AND OUTLOOK





The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the 3 months Precipitation outlook. 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.



**Short Term: (7/7)**

- Currently, temperatures across the UCRB are well below average. A low pressure circulation is tracking across the Four Corners, and cloud cover dominates the region.
- An upper-level low is expected to remain over the southwest United States over the next several days, and funnel in some monsoonal

moisture. Over half an inch of rainfall is forecast over the next three days for most of western Colorado, the Upper Green Basin, and the Uintah Range. There will be plenty of moisture east of the divide, but storm coverage is likely to be less ubiquitous.

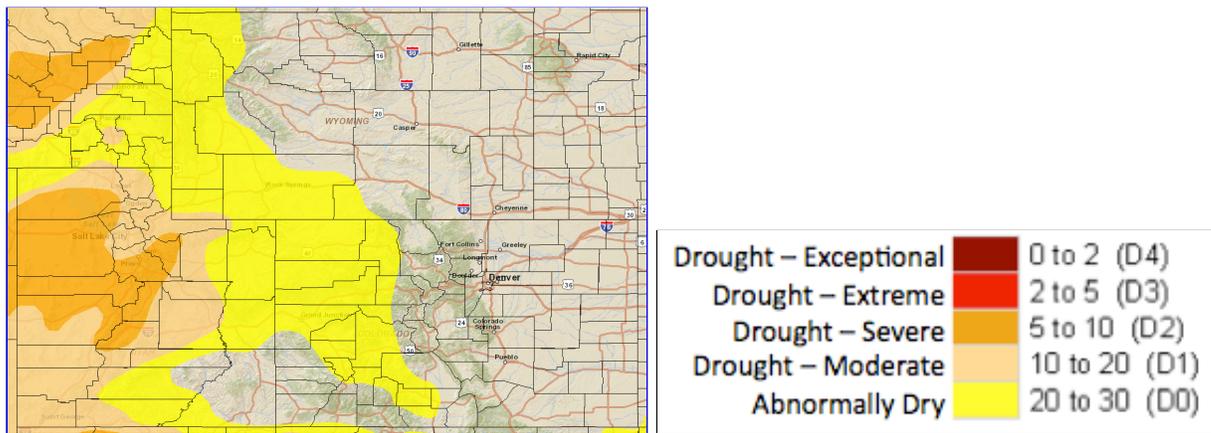
- There is a high pressure ridge currently centered over Texas, which is a feature fairly characteristic of this time of year. This ridge access looks to shift west on Wednesday evening. This will result in a shut-off of access to monsoonal flow for the region through Saturday, and lead to warmer, drier weather.
- Early next week another cooling trend is expected, especially for the northern portion of the UCRB. Wetter weather is likely to make a brief return as well for parts of the UCRB. Over the Sunday evening to Tuesday evening time frame next week southern and central Colorado are forecast over a quarter of an inch of rain.

### **Longer Term:**

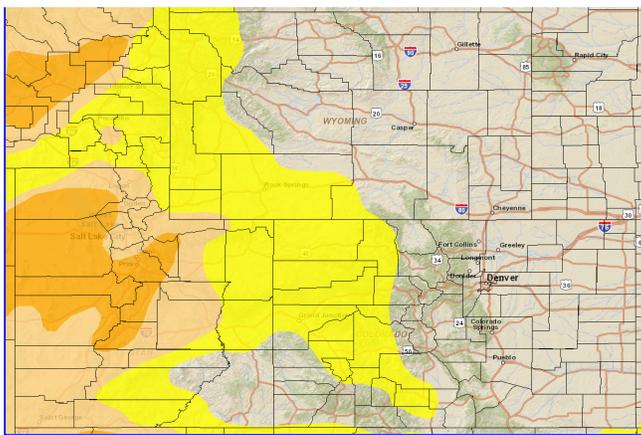
- The 8-14 day precipitation outlook shows increased chances for above normal precipitation for the extreme south-central portion of the UCRB in the Four Corner Region. This outlook shows increased chances of below normal precipitation for the Uintah Range, the eastern portion of the Upper Green River Basin, extreme northwest Colorado, and all of eastern Colorado.
- The 8-14 day temperature outlook shows increased chances of below normal temperatures for the Upper Colorado River Basin. These chances are most highly enhanced in far western Colorado and far eastern Utah. Colorado east of the divide is depicted as having equal chances of above and below average temperatures.
- The Climate Prediction Center 3-month precipitation outlook shows increased chances for above normal precipitation for the entirety of the UCRB, and the area in Colorado east of the divide for the July to September period. These chances are forecast above 40% for most of the UCRB and Colorado east of the divide. The likelihood of above average precipitation is forecast slightly lower in the southwest portion of the UCRB, and for extreme northeast CO.
- The seasonal drought outlook indicates that drought is expected to persist or intensify in the western portion of the UCRB through the end of September, but drought development is not likely for the eastern portion of the basin, or for Colorado east of the divide.

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## **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 for July 7, 2015:

June saw warmer than average temperatures through the Upper Colorado River Basin and eastern Colorado. Precipitation was a mix of below normal and above normal precipitation in the Basin, with northwestern Colorado and northeastern Utah seeing below normal precipitation, and the rest of the basin above normal. Eastern Colorado saw mostly above normal precipitation for the month, with a few areas drier than normal.

The last week in the Basin was a mix of some areas dry and other areas seeing some rain, with the entire basin seeing above normal temperatures. There are concerns about some of the smaller reservoir levels in southwestern Utah being low. This area will be monitored, however based on precipitation data, this area is still in a good situation. Eastern Colorado once again saw spotty precipitation. Temperatures on the plains the past were above average as well.

After June finished, it looks like some of the D0 in southern Colorado and Utah could be wiped out, however, the bulk of this precipitation fell at the beginning of the month, after a low snowpack season and some longer term dryness. June is also a climatologically drier month for this area, so it takes little rain to be above average. The thought is to wait and see what happens in the following weeks before trimming the D0.

**Recommendations:**

**UCRB:** status quo, with monitoring for removal of D0 south of Garfield County.

**Eastern CO:** status quo