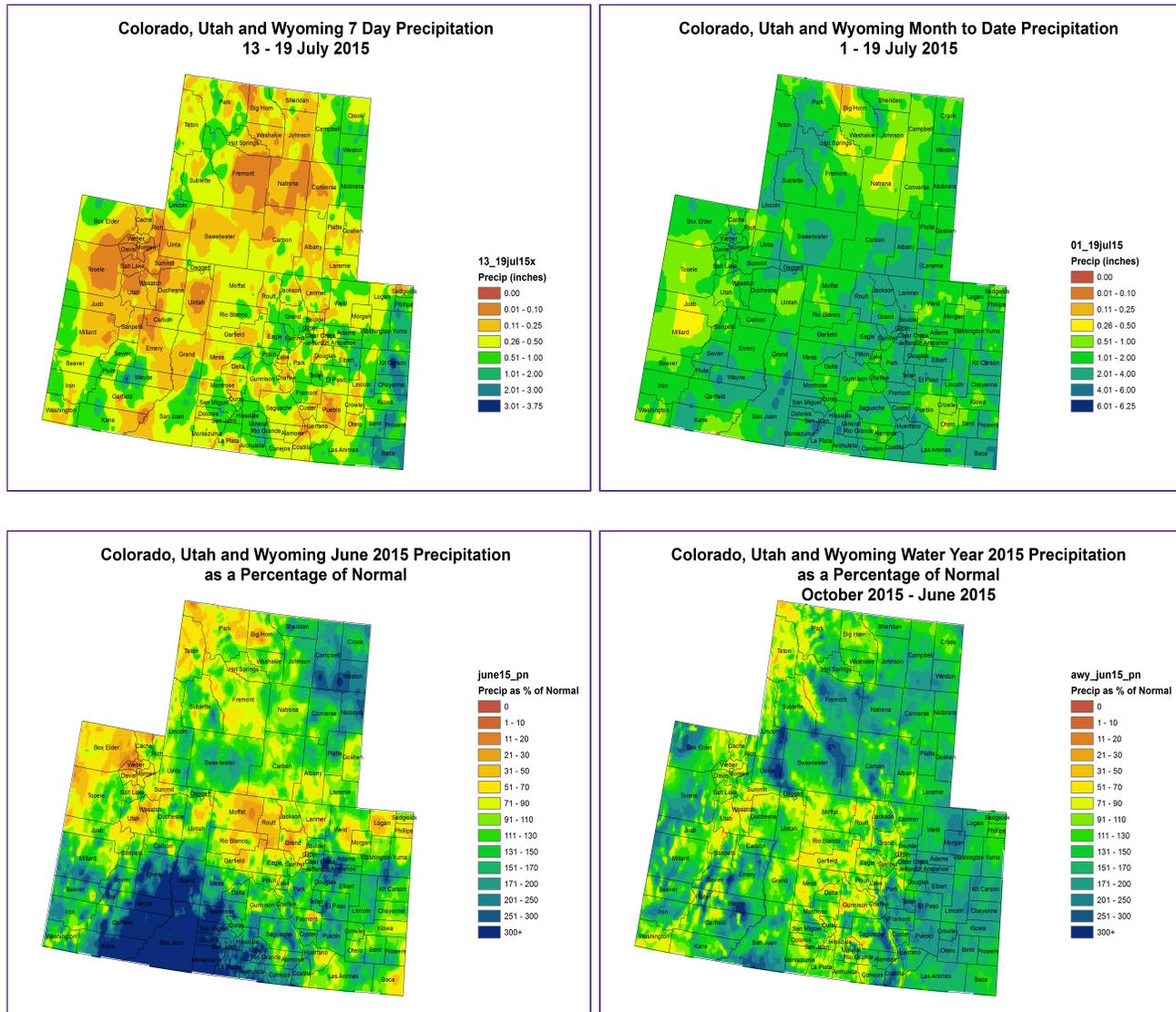


PRECIPITATION



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:

- Most of the UCRB experienced a fairly dry week with some patchy exceptions. East of the divide, there were some stronger thunderstorms close to the Colorado-Kansas border, and the Colorado-Oklahoma border. Totals near the foothills were lower.
- The Upper Green River Basin in Wyoming was mostly in the 0.10-0.50" range. Totals across Sweetwater County and Uinta County were primarily below a quarter of an inch. Central Lincoln County experienced over half an inch of rainfall.
- Northeast Utah was mostly on the drier side. Totals were below half

an inch almost across the board with the exception of a few small blips in Daggett and Carbon Counties. Large portions of the Wasatch Range and the Duchesne Basin received less than a tenth of an inch.

- Southeastern Utah fared a little better than the northeast part of the state. Totals were once again mostly between 0.10 and 0.50". Some thunderstorms in northeast San Juan County and southeast Grand County brought widespread totals above 0.50" with isolated areas picking up over an inch.
- Western Colorado saw a precipitation pattern much more stratified in accordance with elevation than was the case farther west. The San Juan and Central Rocky Mountains received over half an inch of rain with patches in the 1.00-2.00" range. Lower elevations were generally in the 0.25-0.50" range.
- The San Luis Valley picked up 0.10-0.50" of moisture.
- East of the divide, the best moisture by far was far east out on the plains. Central Kit Carson County received over 3.00" of rainfall. Areas that picked up over two inches of moisture include parts of Baca, Bent, Prowers, Cheyenne, Kit Carson, and Yuma Counties. Most of the far eastern counties received over half an inch of rain. Sedgwick County was drier, and for the most part received less than a quarter of an inch of rainfall.
- Thunderstorms propagating off the foothills were hit or miss along the Front Range, so precipitation amounts were a mixed bag from almost nothing up to an inch.

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.
-

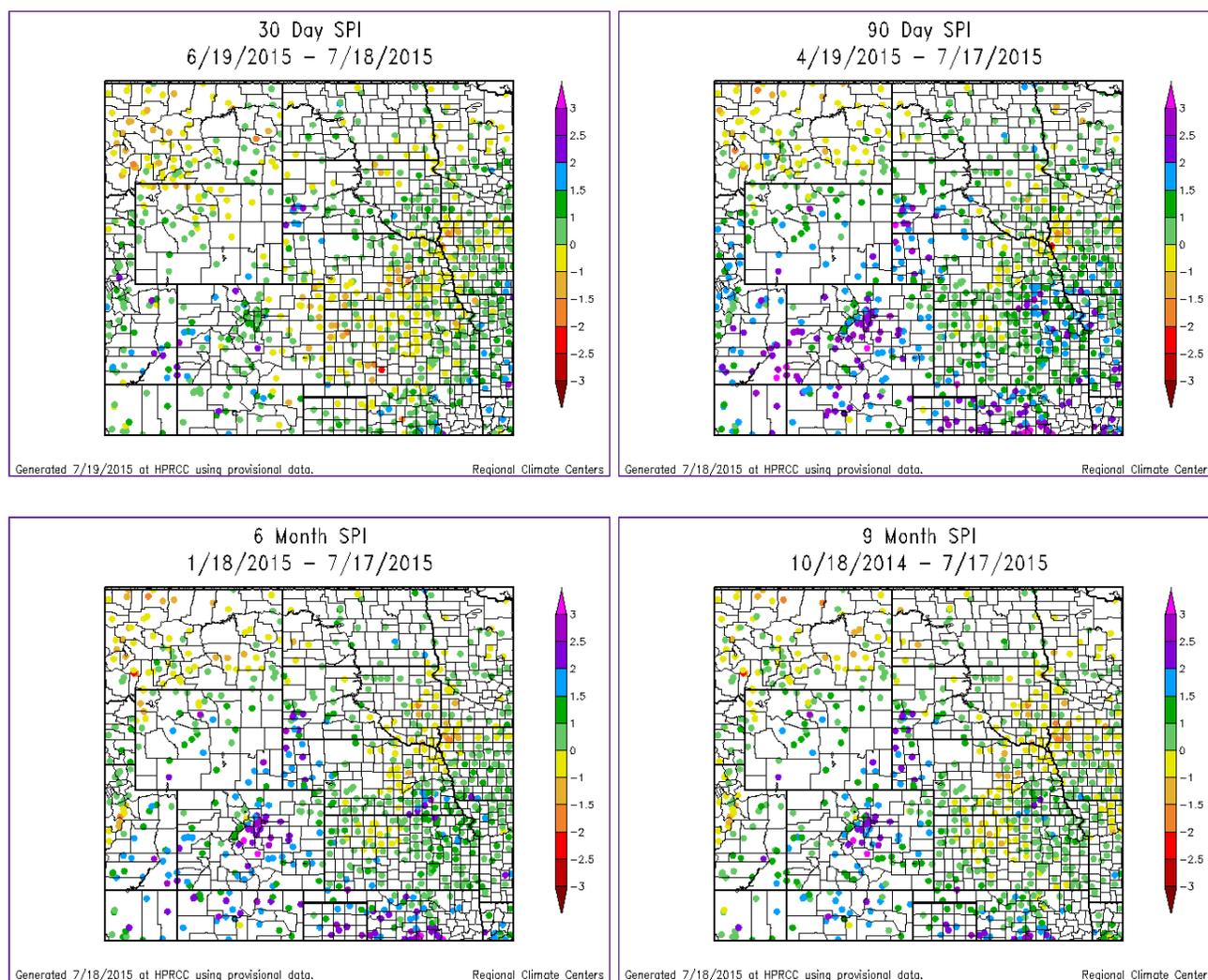
SNOTEL Precipitation Percentiles:

- 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):

- 30-day SPIs are still primarily above normal, or well above normal for the UCRB. SPIs are a little less encouraging east of the divide,

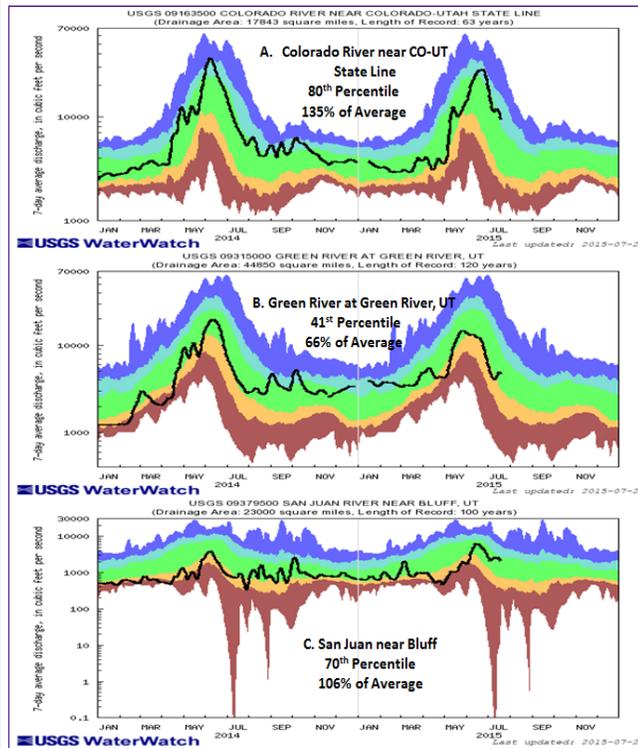
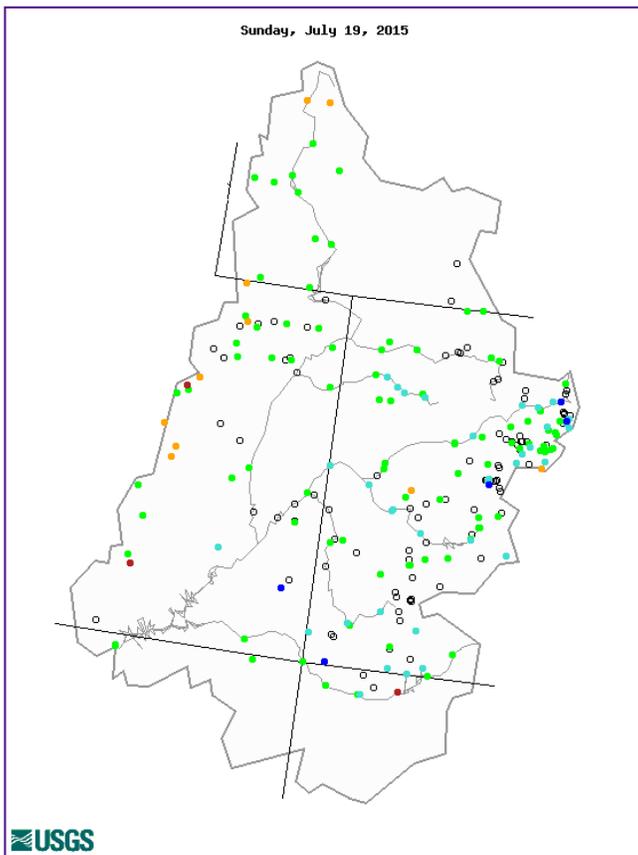
especially out near the border, with most SPIs in the area now between 0 and -1.5.

- The Upper Green River basin is showing SPIs slightly above normal between 0 and +1.
- In northeast Utah SPIs are primarily between 0 and +1. There is one SPI between +2 and +2.5, and another between -1 and 0. Curiously, these SPIs are next to each other in Duchesne County.
- Southeast Utah is showing wet to very wet SPIs mostly between 0 and +2.5
- Northwest Colorado SPIs is also above normal at the 30-day timescale. SPIs range from 0 to +2.5.
- All SPIs in southwest Colorado are between 0 and +2 for one in the -1 to 0 range in Gunnison County.
- SPIs across central Colorado are still above 0 all the way from the northern to the southern border. Grand and Fremont Counties are showing SPIs between +2 and +2.5.
- East of the divide an elevation gradient is present. SPIs along the foothills and Front Range are still primarily between 0 and +1.5. Farther east they are primarily from 0 to -1.5.

Long Term (6-month):

- On the 6-month timescale, SPIs are wet for the UCRB with the exception of the far western border of the basin.
- The Upper Green has SPIs ranging from 0 to +2.5.
- NE Utah shows some longer term dryness with SPIs ranging from -2 to +2, 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 +1.5. Mesa County is between +1.5 and +2.5. Grand County still shows some long-term dryness in the -1 to 0 range.
- In central Colorado SPIs are exceptionally wet on the 6-month timescale. Most SPIs are in the +2 to >+3 range.
- Eastern Colorado, all SPIs are still 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 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		

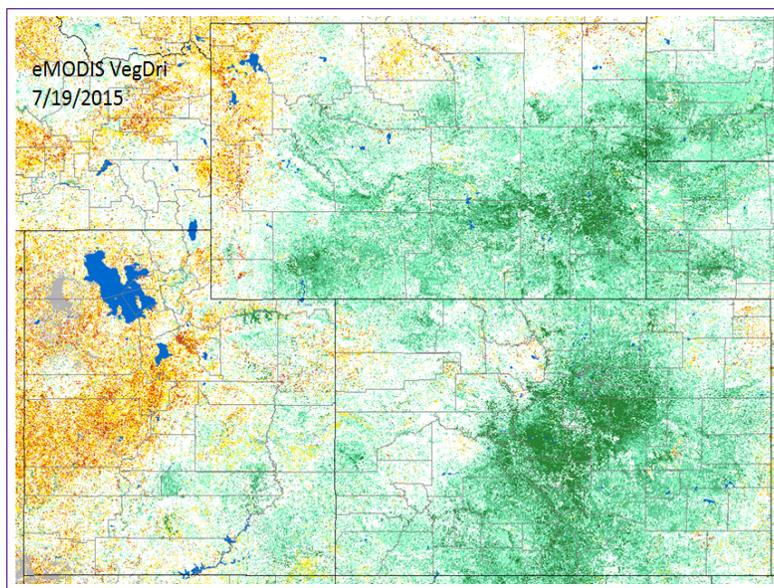
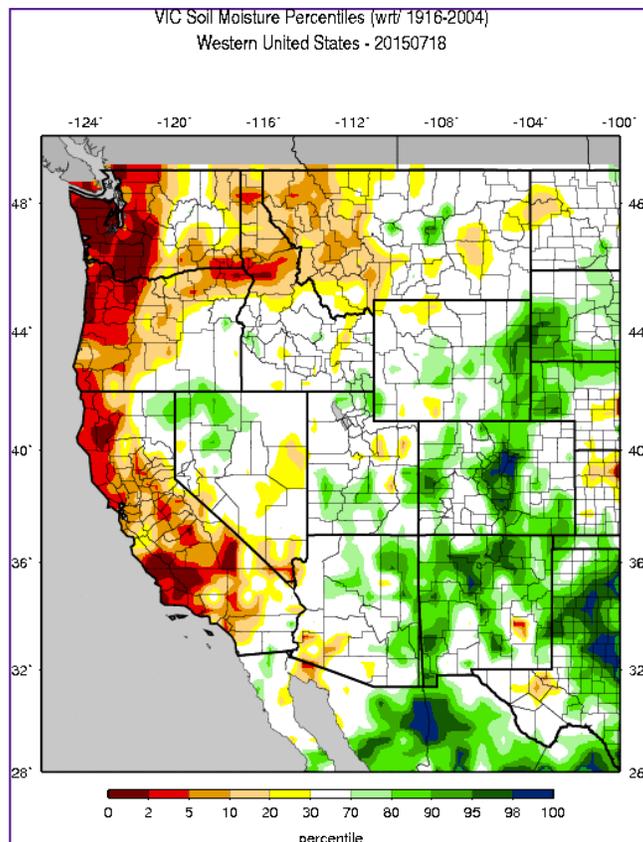
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

Streamflow Statistics:

- Streamflows across the UCRB are trending down now as is the seasonal norm, but continue to beat climatological averages in most locations.
- 92% of the gages in the UCRB are reporting in the normal to much above normal range for 7-day average streamflow. There aren't any gages recording record high flows.
- Only 8% of the gages are recording below normal for 7-day average streamflow. None are reporting a record low.
- Streamflow on the Colorado River near the CO-UT state line is now at the 80th percentile, 135% of average.
- The Green River at Green River, UT is currently is at the 41st percentile, 66% of average, in the below normal range. Flows have still been increasing over the past week in response to the moisture

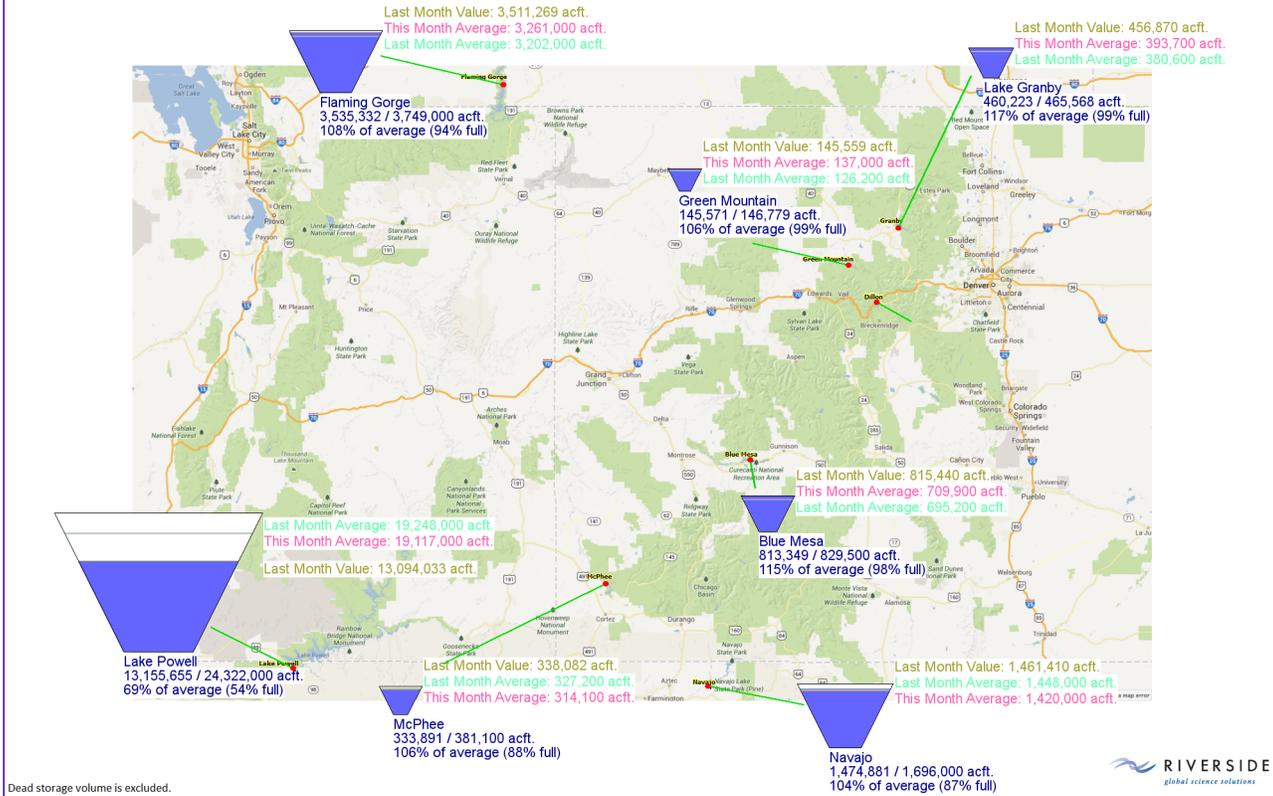
- that fell 7-14 days ago.
- Flows at the San Juan near Bluff, UT are now at the 70th percentile and 106% of average.

SURFACE WATER



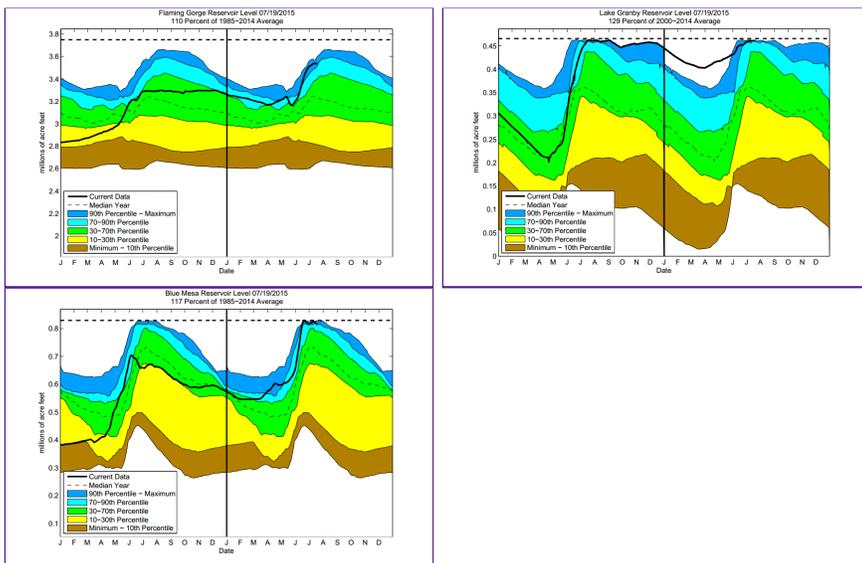
The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

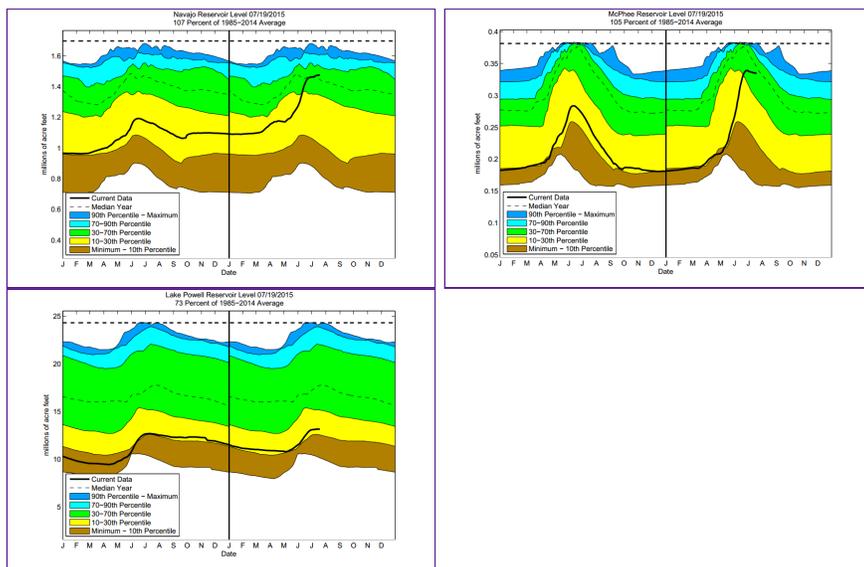
2015/07/20



The above image shows last month's and this month's current volumes of the major reservoirs in the UCRB, with percent of average and percent of capacity.

The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir levels observed over the past 30 years. The data are obtained from the Bureau of Reclamation. Some of the reservoir percentiles don't line up at the new year due to differences in reservoir levels at the beginning of 1985 and the end of 2014. Dead storage has been subtracted. Note: Lake Granby data are obtained from the Colorado Division of Water Resources, and only goes back to the year 2000.





VIC:

- Soils are mostly in the average range in the Upper Green River Basin. The southeast portion of Sweetwater County is in the 10-30th percentile range. Far west Uinta and Lincoln Counties are above the 70th percentile.
- Soils in northeastern UT are mostly in the average with a couple dry patches remaining. The driest areas are in Duchesne and Uintah Counties where there are remaining patches of soil in the 10-30th percentile range.
- Southeast Utah is also showing soil moisture mostly in the normal range. Southeast Emery County is showing a dry patch between the 10th and 30th percentile. Northeast San Juan and eastern Grand Counties are above the 70th percentile.
- Western CO soils are in the normal to above normal range. Most of Mesa, Garfield, Delta, Rio Blanco, and Montrose Counties are above the 70th percentile. Soil moisture is between the 90 and 98th percentile in central Mesa County.
- The San Juan Mountain Range is mostly in the normal range with a narrow north-south transect above the 70th percentile.
- The San Luis Valley is mostly normal, and is showing some wet soils in the 70th to 80th percentile on the eastern side of the valley.
- The Upper Arkansas River Basin is holding onto some very wet soils. Much of Chaffee, Park, Lake, Fremont, and Custer Counties are showing soil moisture above the 90th percentile.
- 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 95th percentile. Root zone soil moisture is above the 70th percentile all the way up and down the i25 corridor in Colorado.
- Farther east out on the plains soils are primarily back in the normal range, but the southeast corner of the state is still holding enough water to remain in the 70-90th percentile range.

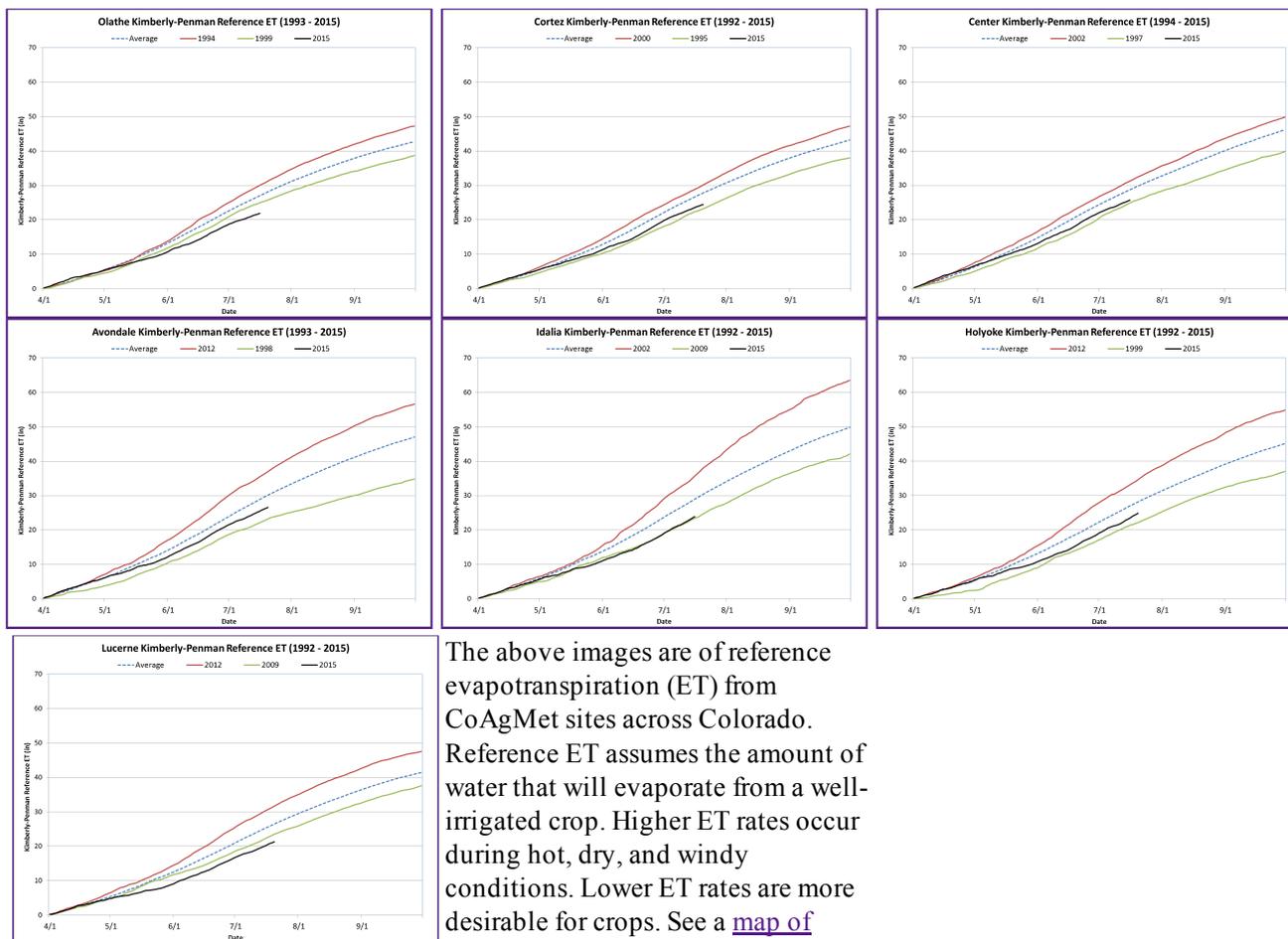
VegDri:

- 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, but the depiction looks a little better than it did two weeks ago. 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 primarily in the normal range with some larger patches of moist vegetation showing up now. This area doesn't have a lot of vegetation.
- Most of western Colorado is in the normal to slightly moist range. Pre-drought still prevails in western Moffat and Rio Blanco Counties.
- The San Luis Valley is showing moist vegetative health 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. This has been the case for over a month now.
- Northeastern Colorado is primarily showing moist vegetation, but a west to east gradient has manifested with drier conditions farther to the east. Sedgwick, Phillips, Yuma and Washington counties show conditions are shown as pre-drought to normal.
- In southeast Colorado conditions are now mostly moist. Very isolated pre and moderate drought still is depicted in the far southeast corner of the state.

Reservoirs:

- Flaming Gorge is at 108% of its July average.
- Green Mtn is 106% of the July average.
- Lake Granby is at 117% of its July average. Lake Granby has been releasing water to avoid spilling.
- Blue Mesa is 115% of the July average, 98% full.
- Navajo is 104% of its July average.
- McPhee is now at 106% of its July average.
- Lake Powell is now at 69% of the July average, 54% full.

EVAPOTRANSPIRATION

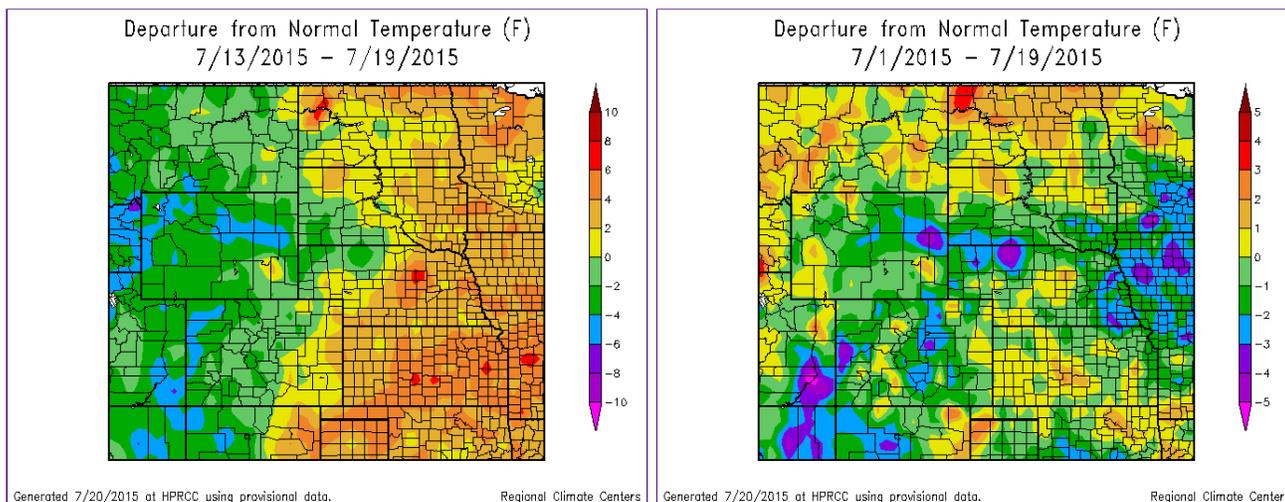


The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of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

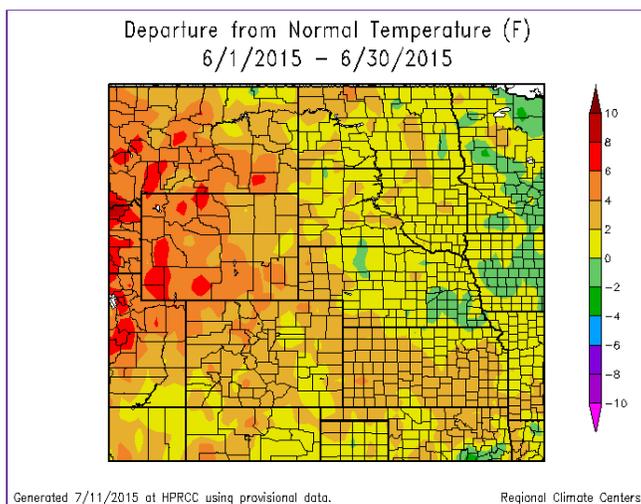
Reference Evapotranspiration:

- 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 track 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, but is starting to gain some ground on the record low year.

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:

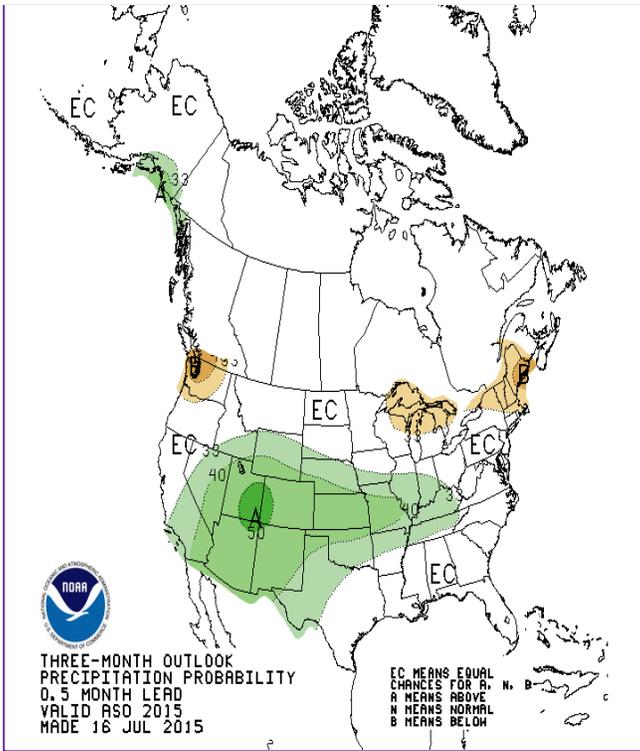
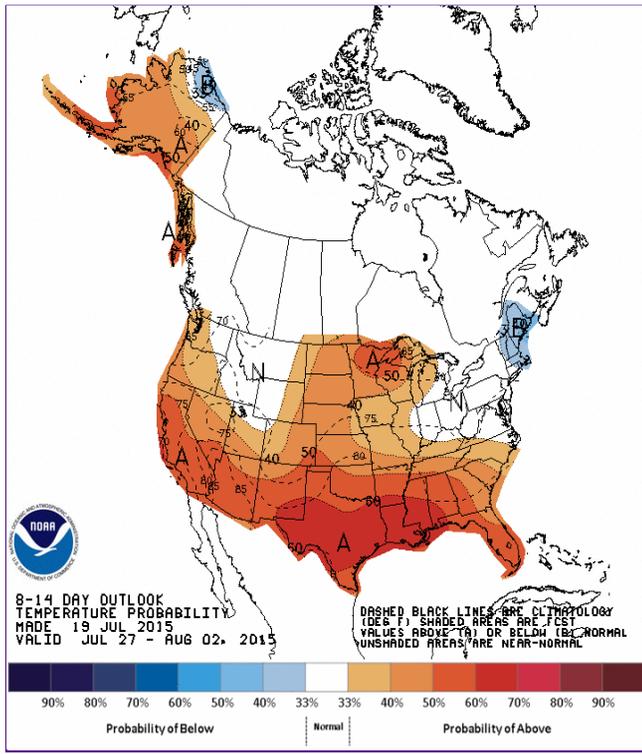
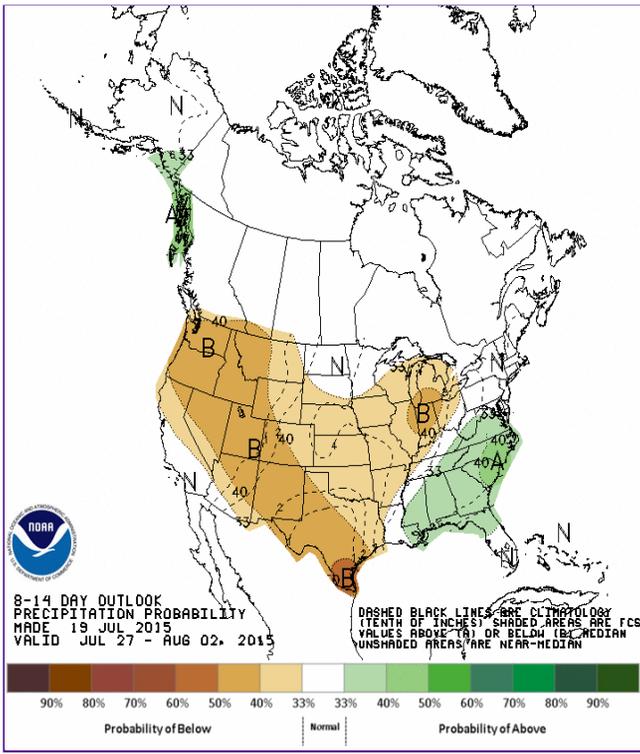
- The UCRB experienced another week of cooler than average temperatures. Most of Colorado east of the divide experienced warmer than average temperatures except of the northern Front Range.
- The Upper Green Basin saw temperatures 2 to 4 degrees below normal for the most part. Western Sublette County only saw temperatures 4 to 6 degrees below normal.
- Northeastern Utah experienced temperatures 2 to 4 degrees below normal for the week as well. Farther west along the Wasatch Range temperatures were only 0-2 degrees below normal.
- Southeastern Utah has had some of the most negative temperature anomalies for two weeks straight now. This area was 2-6 degrees below normal for the most part with a little bit of San Juan County showing up 6-8 degrees cooler than normal.
- Northwest Colorado was mostly 2-6 degrees cooler than normal. The most negative temperature anomalies were up against the Utah border in Moffat, Rio Blanco, Mesa, and Montrose Counties.

- The southwest portion of Colorado was mostly 2-4 degrees cooler than average over the last week.
- The San Luis Valley was primarily just 0-2 degrees cooler than average over the past week.
- The northern Front Range and western Crowley and Otero Counties were 0-4 degrees cooler than average over the past week, but the rest of Colorado east of the divide was warmer than average. Most of eastern Colorado was 0-2 degrees warmer than average. Eastern Yuma, Kit Carson, Cheyenne, and Kiowa Counties were 2-4 degrees above average.

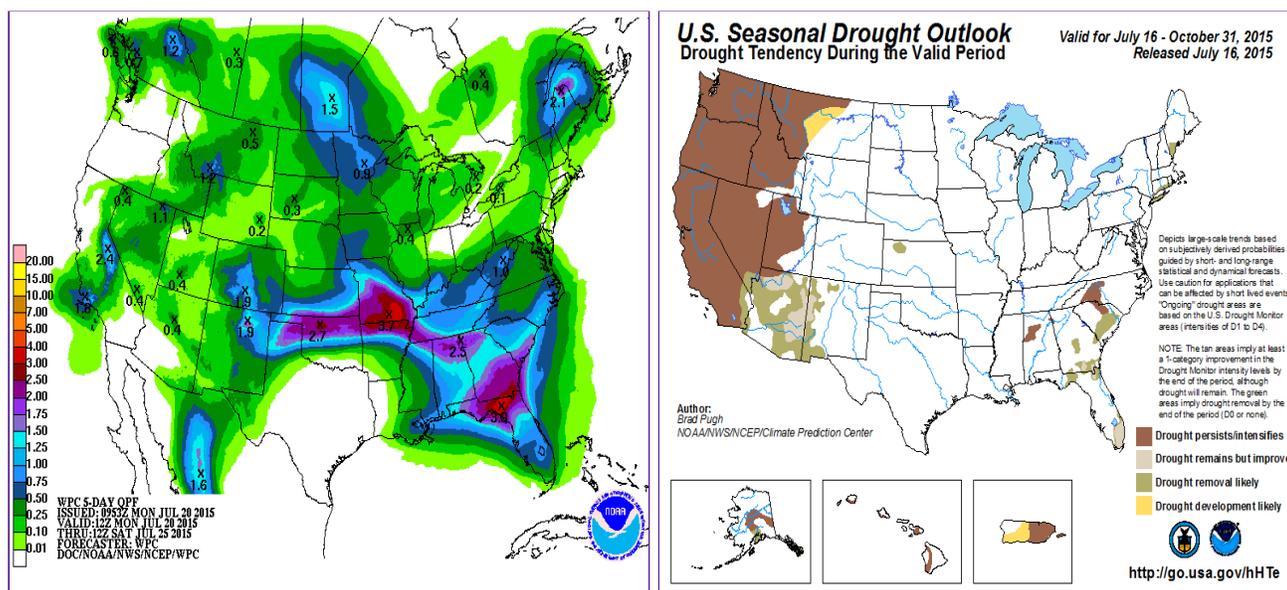
June Temperatures:

- 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: (7/21)

- As was the case last week, the best chances for precipitation across the UCRB and eastern Colorado will be this afternoon and evening. There is currently a shortwave low pressure system working its way into the region from the southwest. As is the climatological expectation, the best channel of moisture is in eastern Colorado. Today will be cooler than average with development of thunderstorms around midday propagating straight west to east. Widespread totals of over a quarter of an inch are expected for the eastern plains of Colorado. The mountains and foothills will see totals this high and higher in some areas, but precipitation coverage will be much more patchy. Probability of precipitation has a secondary maximum near Rabbit Ears Pass. Higher elevations in the Wasatch and Uintah Ranges will see some light precipitation as well.
- Starting Wednesday, a low-level drying and upper-level warming trend is expected. This will make for warmer temperatures, and more stable air. Thus, a lower than average week of precipitation is expected for the UCRB. Temperatures will still be close to average across the UCRB. Higher temperature anomalies are to be expected east of the divide.
- The best chances for precipitation outside of this afternoon and evening will come for northwest Colorado tomorrow, but totals are mostly expected to be below a tenth of an inch.
- Some very modest moisture may channel into southeast Colorado from the Friday to Sunday morning time frame. Once again, these totals are expected to be primarily under a tenth of an inch. It looks like this drying trend is going to stick around for a while.

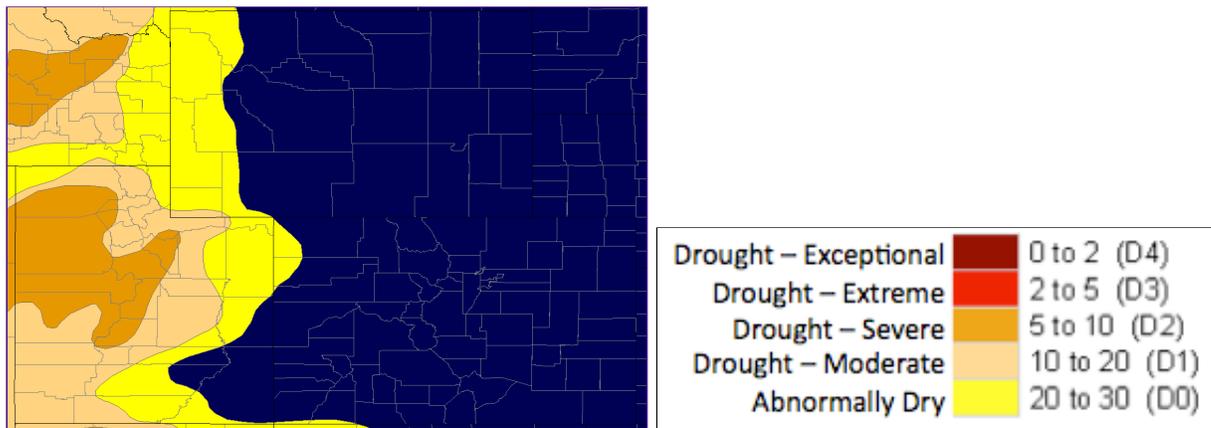
Longer Term:

- The 8-14 day precipitation outlook shows increased chances for below normal precipitation for the entirety of the UCRB and

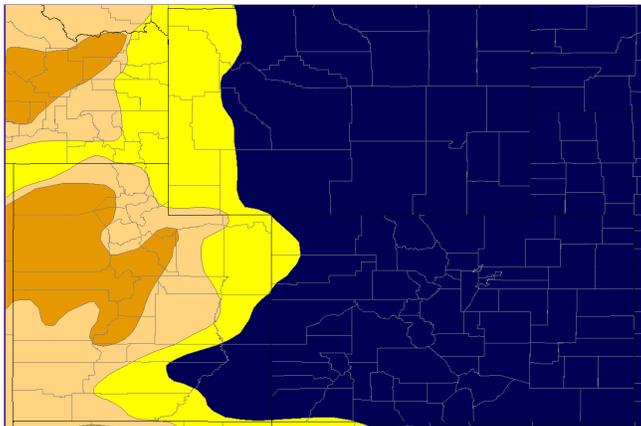
Colorado east of the divide. These chances are higher in the UCRB and the San Luis Valley than other areas of Colorado east of the divide.

- The 8-14 day temperature outlook shows increased chances for above normal temperatures for the majority of the UCRB. The Upper Green River Basin is still on track for normal temperatures over this time frame. Chances for above average temperatures are higher farther south in the basin. East of the divide, the 8-14 day outlook predicts above average temperatures even more strongly than for the UCRB. These chances maximize in the southeast corner of the state.
- The Climate Prediction Center August through October precipitation outlook shows increased chances for above average precipitation across the entirety of the UCRB and Colorado east of the divide. These chances are maximized at low elevations in the southern portion of the basin.
- The seasonal drought outlook indicates that drought is expected to persist or intensify in the western portion of the UCRB through the end of October, but drought development is not likely for the eastern portion of the basin, nor for Colorado east of the divide.

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 21, 2015:

This appears to be a good week for no reaction from the drought monitor in the UCRB or Colorado east of the divide. With another cooler than average week, streams, reservoirs (except Lake Powell), soils, and plants appear to be in fairly good shape across most of the UCRB. The Wasatch Range is still struggling to keep up as is currently depicted. Even though it was a cooler week there weren't any areas in the UCRB currently in drought that received widespread precipitation totals greater than half an inch, or heavier, more isolated convective relief, so improvements would seem hasty.

Despite some good moisture from MCSs in eastern Colorado, 30-day SPIs are showing a disturbing drying trend for the area. 50% of SPIs in the northeast corner of the state are now between -1 and -1.5 on the 30-day timescale. Given a warming, drying trend is expected for the area, possibly for the next two weeks, we will watch this area closely for flash drought onset. All indications from CoAgMet reference ET stations and land surface models are that evaporative demand is still running a little below average for the area, and that northeast Colorado is still reaping the benefits of a wet late Spring in lieu of the short-term dryness.

Recommendations:

UCRB: Status Quo

Eastern CO: Status Quo