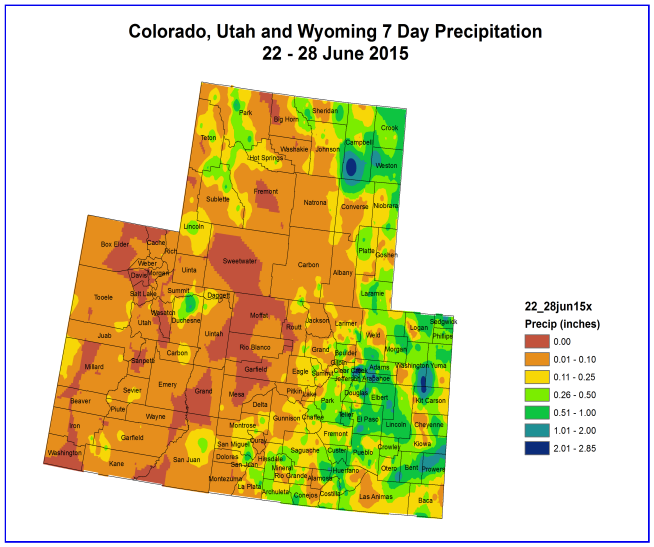
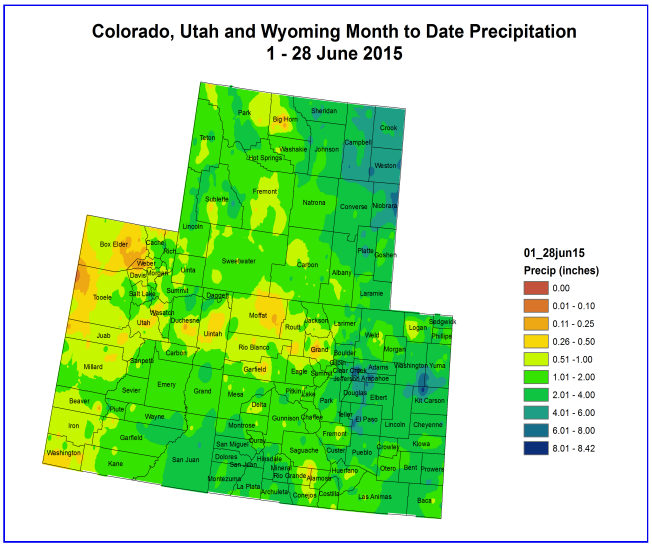
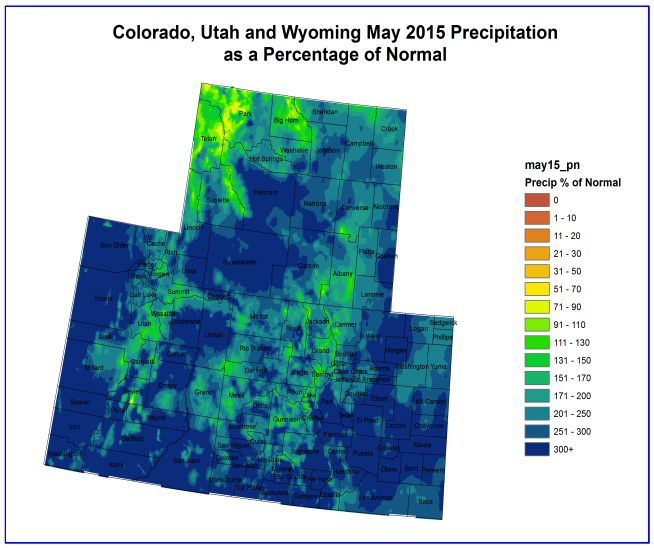
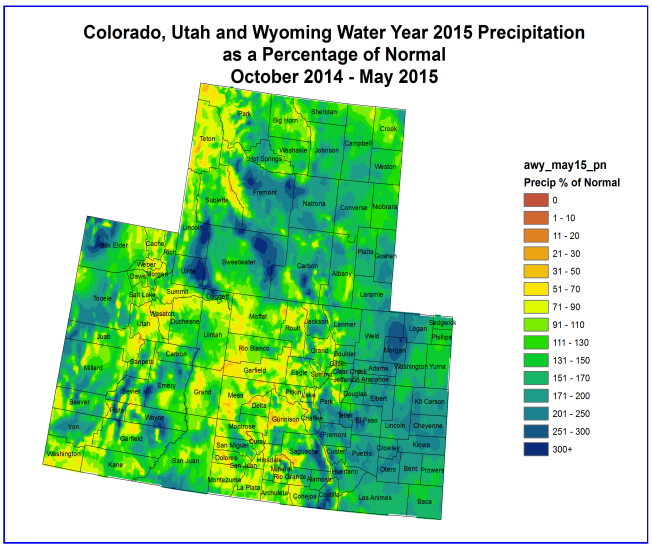
PRECIPITATION









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 was low again, with much of the basin receiving less than 0.10 inches.
- Spotty areas in the Upper Green Basin in northern Sublette and Lincoln counties saw up to 0.50 inches, while the remainder of the Upper Green saw less than 0.10 inches.
- Northern Duchesne County saw an area with totals up to 1.00 inches, with the rest of Utah seeing less than 0.10 inches.
- Western Colorado also saw less than 0.10 inches over most of the area. The San Juan Mountains did receive up to 0.50 inches.

- East of the divide saw higher totals than the basin, however the precipitation was from convective thunderstorms and was hit and miss in the area. Most of northeastern Colorado saw between 0.25 and 1.00 inches, with the Denver Metro area, and parts of Arapaho, Washington, Yuma and Kit Carson counties seeing storms that totaled up to over 2.00 inches for the week.
- Larimer, central Weld, eastern Boulder, Cheyenne, Las Animas and Baca counties were all drier with less than 0.25 inches for the week.

May Precipitation:

- May was a very wet month across the entirety of Colorado and the Upper Colorado River Basin.
- There was less of an elevation gradient in precipitation than is climatologically normal. The high elevations of the Wasatch, Uintah, and Rocky Mountain Ranges picked up between 90 and 150 percent of their May average places, but lower elevations were above 300 percent of May average precipitation in many areas.
- The Upper Green River Basin in Wyoming received mostly above normal May precipitation. Higher elevations were between 90 and 150 percent of normal. Lower elevations were generally 150-300+ percent of normal for the month.
- Eastern Utah was nearly unanimously way above normal for the month of May. Higher elevations in the Wasatch and Uintah Ranges as well as parts of Grand and Emery County received a smaller fraction of their average precipitation than other areas in eastern Utah, but were still between 90 and 200% of May normals. The bulk of Duchesne, Uintah, and San Juan Counties were over 300 percent of normal for the month of May.
- Western Colorado percents of normal decrease with elevation, and increase from north to south. The San Juans picked up over 300 percent of normal for May across most of the range. In northwest Colorado May percents of average were more typically between 150 and 250 with isolated areas higher or lower.
- The central and north central Rockies received lower precents of May average precipitation than surrounding areas. In Lake and Summit Counties precipitation was between 70 and 200 percent of normal.
- The Rio Grande Basin received by and large over 300% of their average May precipitation.
- East of the Divide, precipitation percentages of normal were over 200 pretty much across the board. This is especially impressive as May is one of the wettest months across eastern Colorado, and the wettest month climatologically in some areas. Parts of Douglas, Jefferson, Boulder, and Larimer Counties that are a little higher in elevation only picked up 150-200% of May average precipitation.

Water Year 2015 Precipitation (Oct-May):

- Following a very wet May in which lower elevations in the UCRB and eastern Colorado picked up lots of precipitation, and following

a dry winter, the water year to date precipitation map looks similar to a topography map. This is because, for the most part, higher elevations have not received as high a fraction of their normal precipitation for the water year to date as low elevations.

- The Upper Green river basin shows a very mixed bag of conditions. Eastern Uinta and Lincoln Counties have received over 300% of their normal water year to date precipitation. Northeast Sublette County and northwest Lincoln County, however, have only received 50-70% of their normal water year to date precipitation.
- Over northeastern Utah the Wasatch and Uintah Mountain Ranges have by and large received only 50-90% of their normal water year to date precipitation. Lower elevations of eastern Utah show a wider variety of conditions all the way from western Grand County, which has picked up 70-90% of normal precipitation for the water year to date to southcentral Wayne County, which has picked up over 250% of normal precipitation for the water year to date. The most common percents of normal for the water year to date in eastern Utah are 90-150.
- Much of Western Colorado is still on the dry side with the most area in the 70-90% of normal range. Some of the areas that still show up very dry are in western Gunnison County, northern Delta County, and northern Mineral County where only 30-50% of normal precipitation for the water year to date has been received. There are wet areas as well such as eastern San Miguel County, which has had 170-200% of normal precipitation for the water year to date.
- Much of Western Colorado has seen below normal precipitation, with much of the area in the 50%-70% of normal range, and some spots through the basin seeing less than 50% of normal. Portions of Moffat, Routt, and Rio Blanco counties are near or slightly above normal.
- The Rio Grande Basin is still on the dry side at higher elevations. The Sangre de Cristo Range is hovering in the 50-90% of average ballpark for the water year to date, but the valley in western Costilla County is above 200% of average.
- Eastern Colorado is now above average for the water year to date across the board following a very wet May. Most of the region is between 130 and 200 percent of the normal for the water year to date. Morgan County is at over 250 percent of average for the water year to date following record rains in May. The driest area of eastern Colorado with respect to average is Phillips, northern Yuma, and eastern Washington Counties where only 110-130 percent of normal precipitation has been received for the water year to date.

SNOTEL Precipitation Percentiles:

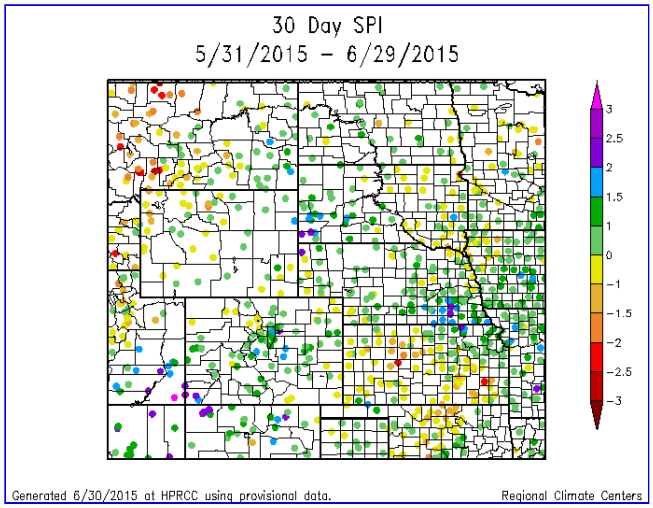
- SNOTEL year to date percentiles across much of the UCRB saw quite a rebound this last week.
- In the Upper Green the percentiles are mostly in the median range between the 32nd to the 59th. Some Snotel sites in eastern Sublette County area a bit lower, down to the 22nd.

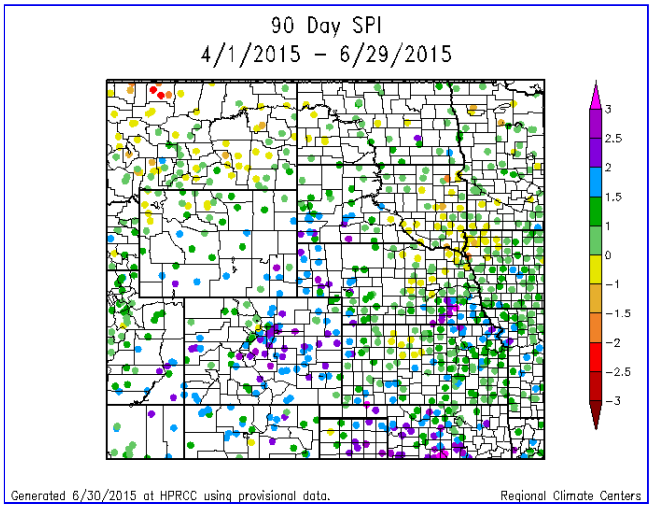
- The Wasatch and Uintahs are still showing drier percentiles ranging from the 0 to 63rd, but mostly in the 0-20 range. May of the percentiles that were the 0th are no in the single digits and teens.
- The northern mountains in Colorado west of the Continental Divide are showing percentiles between the 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.

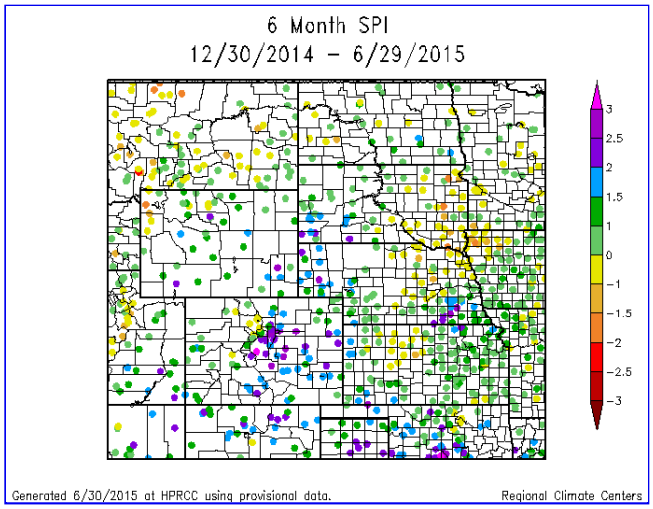
SWE Timeseries Graphs:

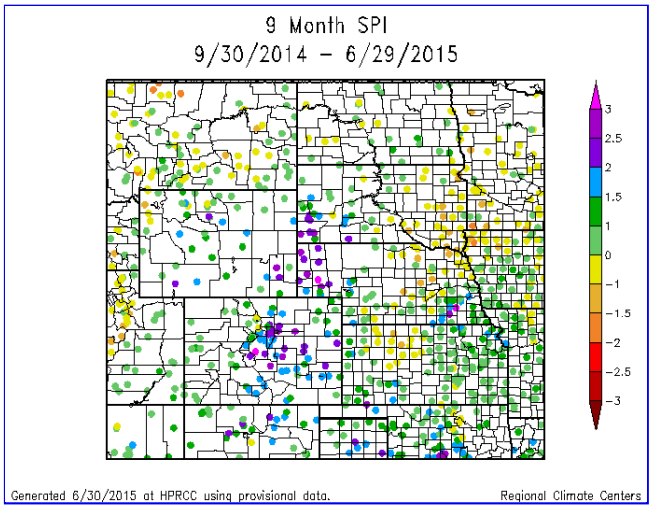
- All sub-basins are well into the melt season.
- The peak snowpack was 85% of normal.
- The peak snowpack was 63% of normal.
- The peak snowpack was 68% of normal.
- The peak snowpack was 79% of normal.
- The peak snowpack was 70% of normal.
- The peak snowpack was 67% of normal.

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):

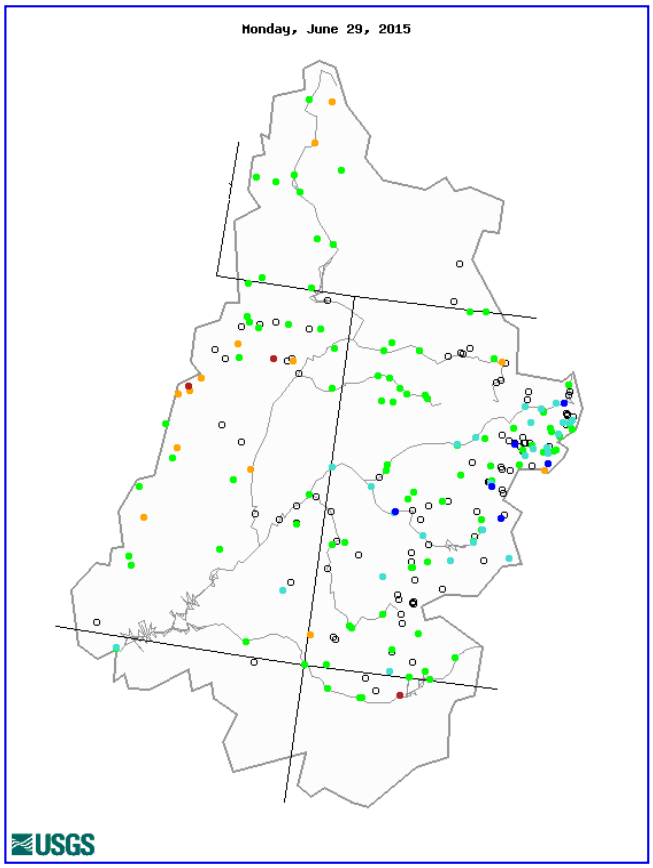
- A few SPIs are starting to show up in the below normal range, but most SPIs are still above normal on the 30-day timescale.
- The Upper Green River basin is starting to dry a bit, showing SPIs near normal between -1 and +1.
- Northeast Utah is starting to show SPIs drying, between -2 and +1. The drier SPIs are mainly in the Wasatch Mountains.
- 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 between -1 and +1.
- 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 starting to dry out with SPIs between -1 and 0.
- South central Colorado is showing wet SPIs between 0 and +2.
- 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.
- Slightly dry SPIs (0 to -1) are showing up in Sedgwick, Phillips, Logan counties in northeast Colorado and Kiowa, Prowers, Baca and Las Animas Counties.

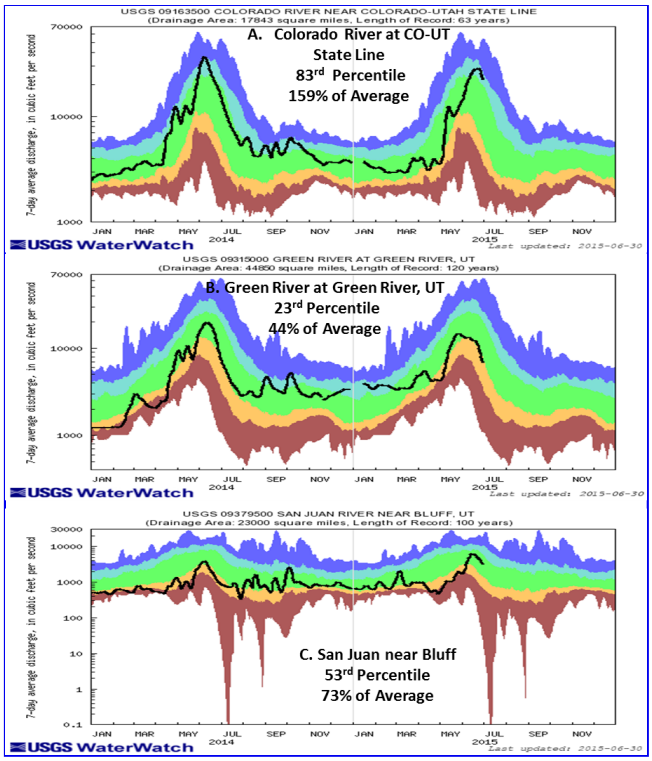
Long Term (6-month):

- 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, Routt 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





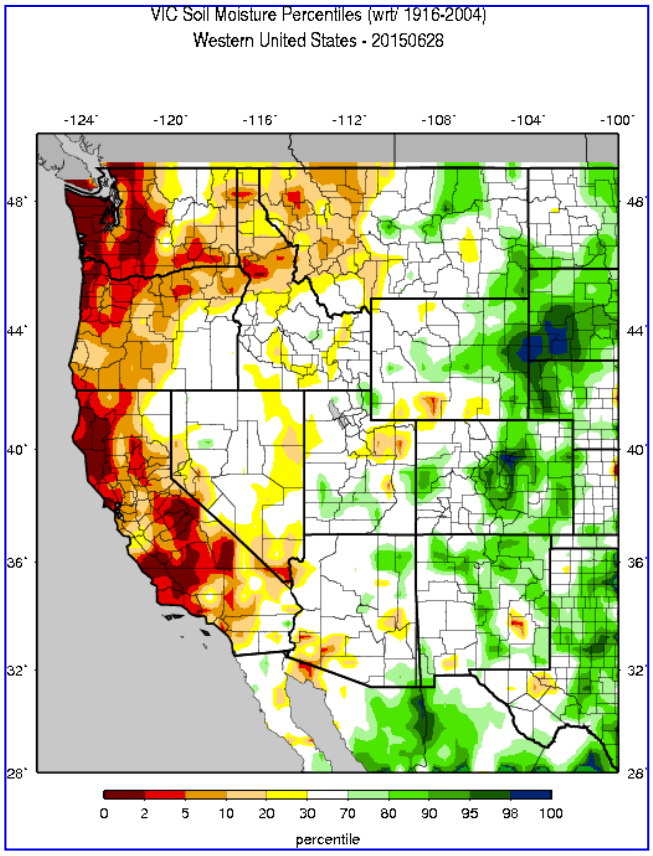
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

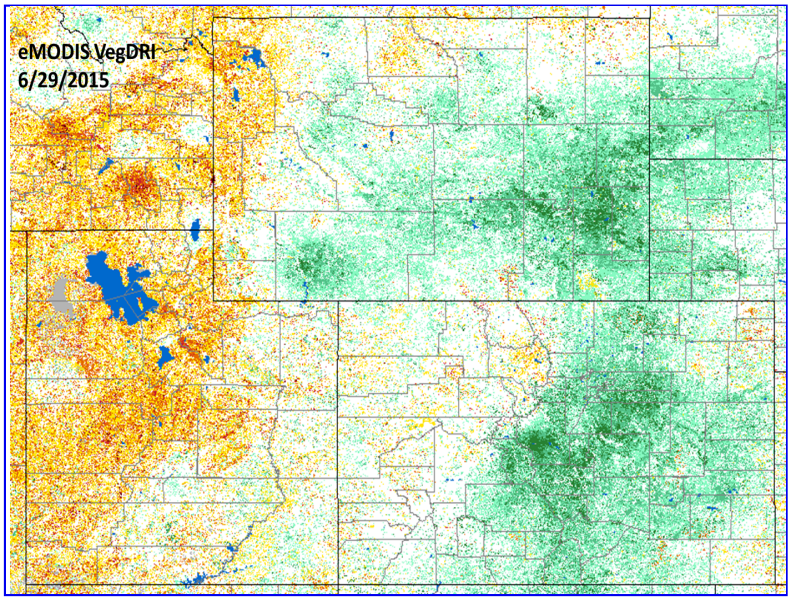
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

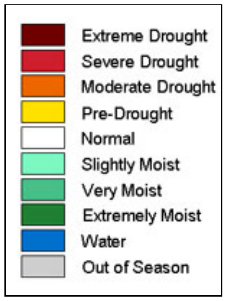
Streamflow Statistics:

- Flows are decreasing, but still high in the headwaters of the Colorado and the Gunnison River Basins.
- 89% 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 for the last 7 days.
- 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 83rd percentile, 159% 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 23rd percentile, 44% 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 53rd percentile and 73% of average.

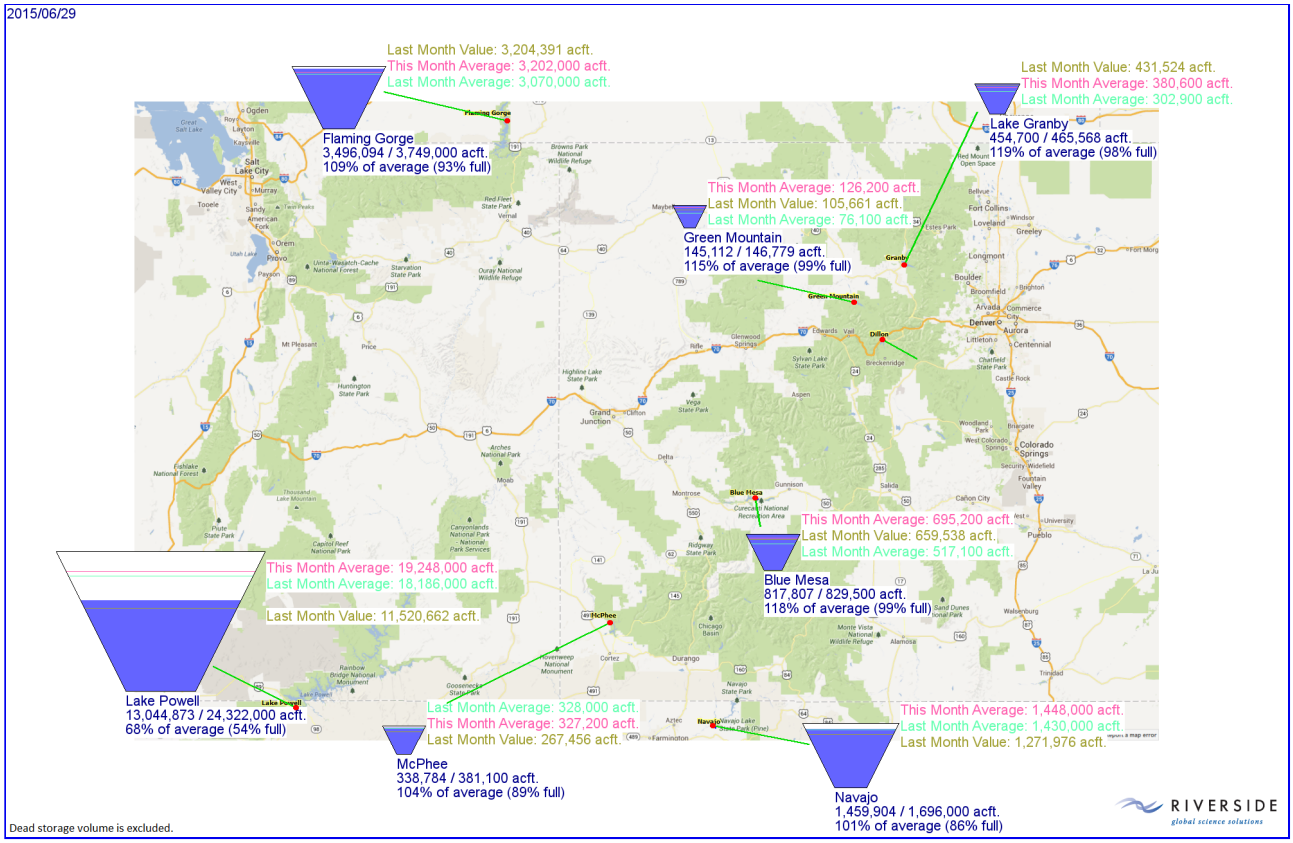
SURFACE WATER



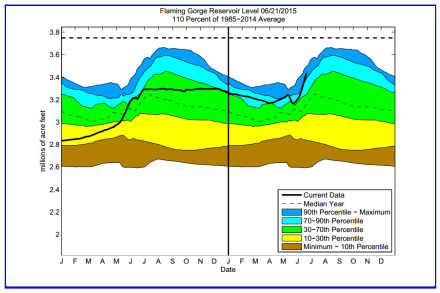


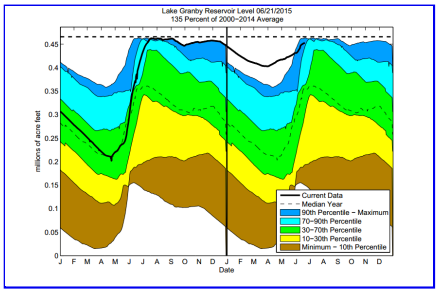


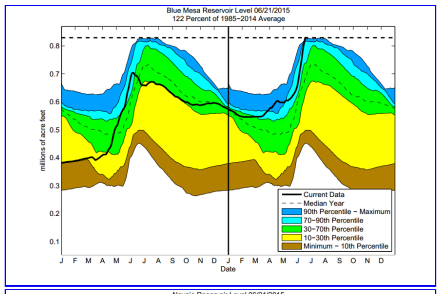
The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

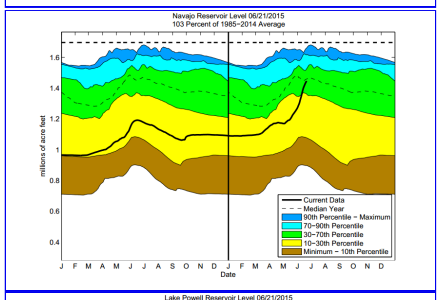


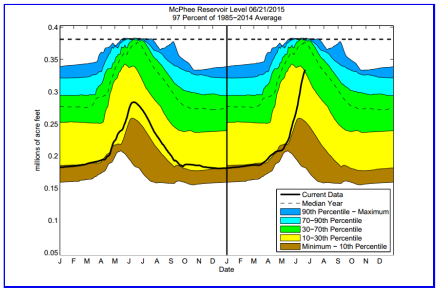
The above image shows last month's and this month's current volumes of the major reservoirs in the UCRB, with percent of average and percent of capacity.
The graphs shown belo are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic 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.

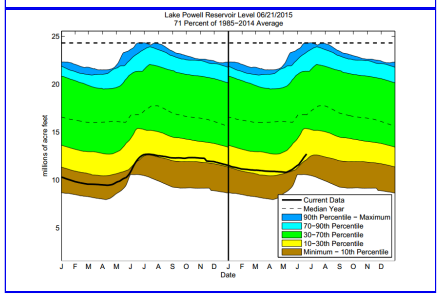












VIC:

- Soils are mostly in the average range in the Upper Green River Basin. 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 10th 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.

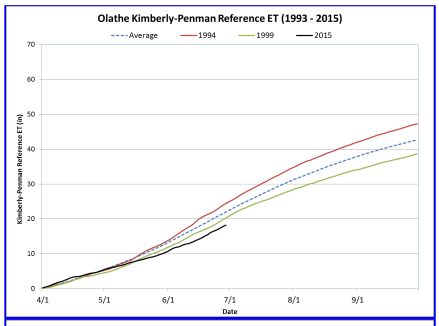
VegDri:

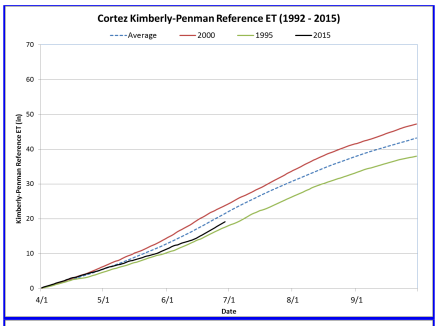
- VegDri shows moist conditions over central and western Sweetwater County.
- The Upper Green River Basin shows mostly normal vegetative health conditions with some areas of pre to moderate drought along the northwest flank of the basin.
- The Wasatch Mountains are depicted in pre to moderate drought.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

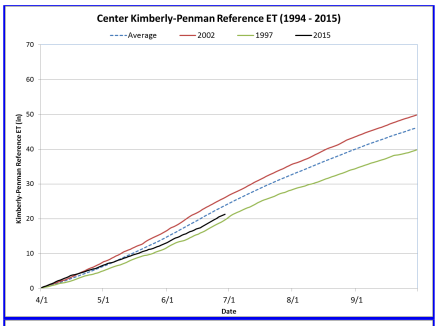
Reservoirs:

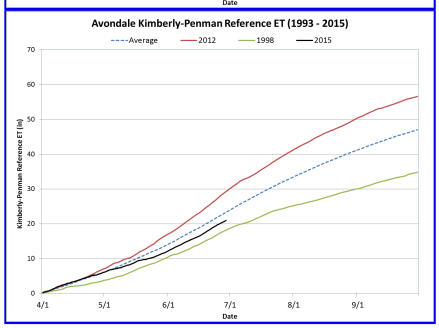
- Flaming Gorge is at 109% of its June average.
- Green Mtn is 115% of the June average.
- Lake Granby is at 119% of its June average, down from 135% in the last few weeks. Lake Granby has been releasing water to avoid spilling.
- Blue Mesa is 118% of the June average, 99% full.
- Navajo has recovered to 101% of its late June average.
- McPhee has made a very nice recovery over the last month to 104% of its late June average.
- Lake Powell is now at 68% of the June average, 54% full.

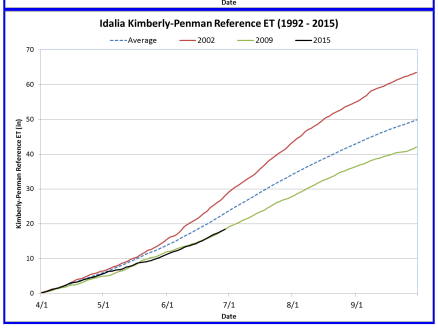
EVAPOTRANSPIRATION

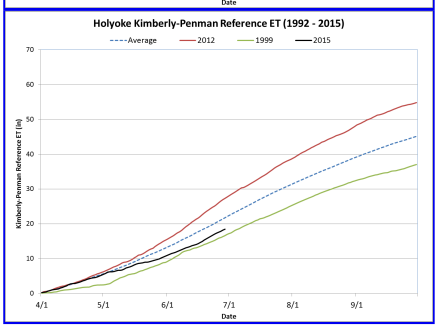


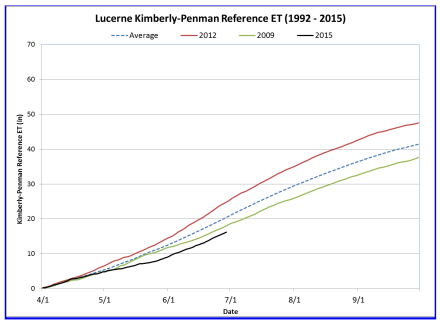










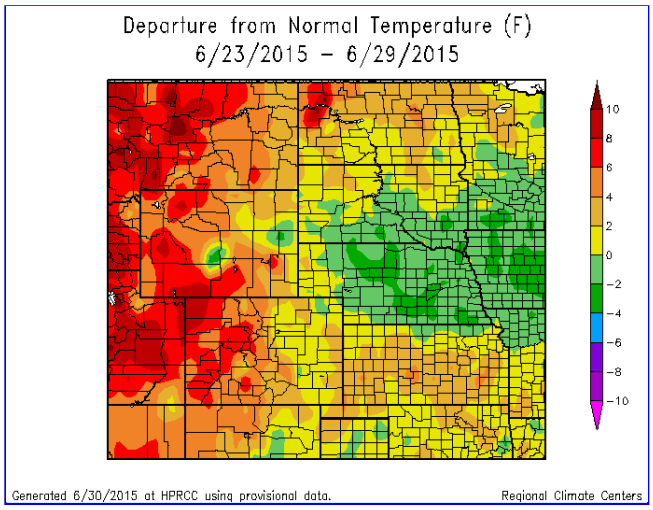


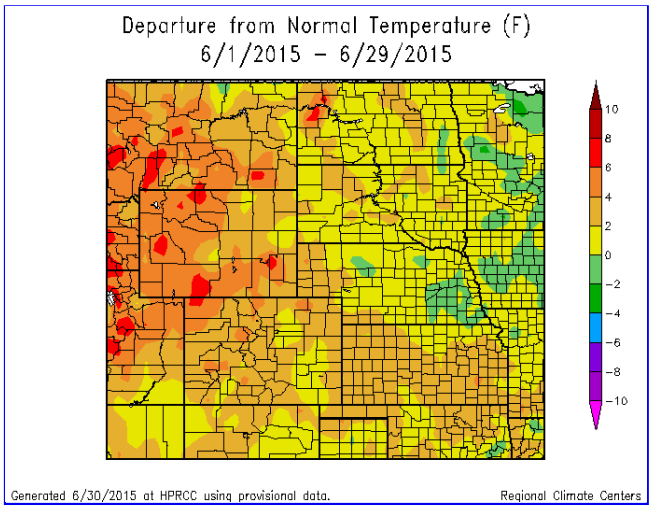
The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a map of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

Reference Evapotranspiration:

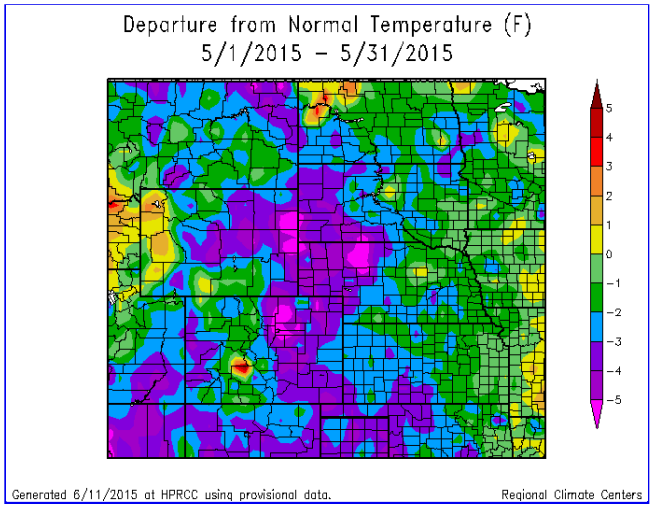
- Olathe: ET started the growing season at higher than average ET rates and since mid May has been tracking below the lowest reference ET year of 1999.
- Cortez: ET began a little above normal, but has been tracking below normal since early May.
- Center: Early season ET was higher than the tack taken 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:

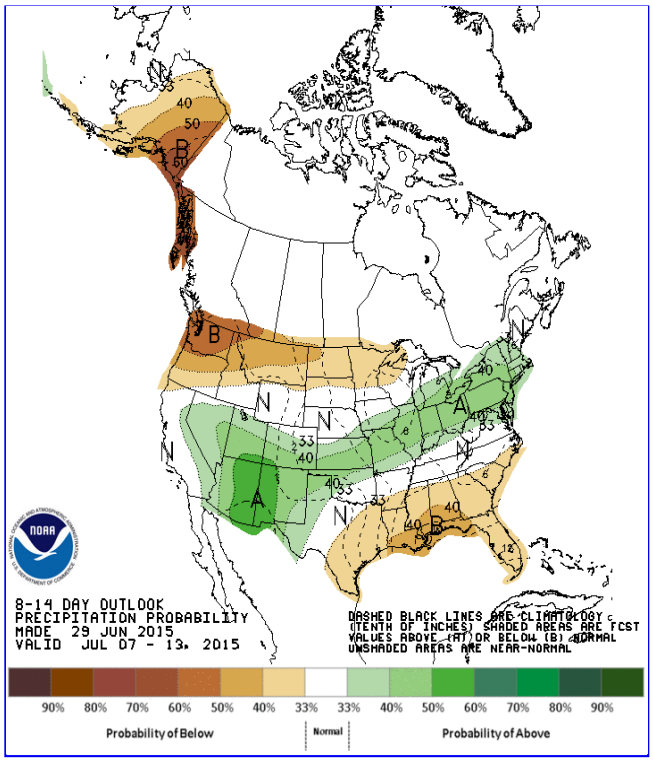
- It was another above average week for the UCRB, especially farther to the west.
- The Upper Green Basin saw temperatures 6 to 8 degrees above normal. Central Sublette and southern Sweetwater counties were 8 to 10 degrees above normal.
- Eastern Utah was well above normal for the week with temperatures 6 to 10 degrees above normal, with the Four Corners area seeing 4 to 6 degrees warmer than normal.
- Western Colorado saw temperatures at least 4 degrees above normal for the week. The western counties, along the CO-UT border saw the most above average temperatures, 6 to 8 degrees, with western Moffat and Rio Blanco counties seeing 8 to 10 degrees warmer than normal. Closer to the Divide, temperatures were 4 to 6 degrees above normal.
- The San Luis Valley was 4 to 6 degrees above normal for the week.
- East of the Divide saw temperatures closer to average, but still above normal.

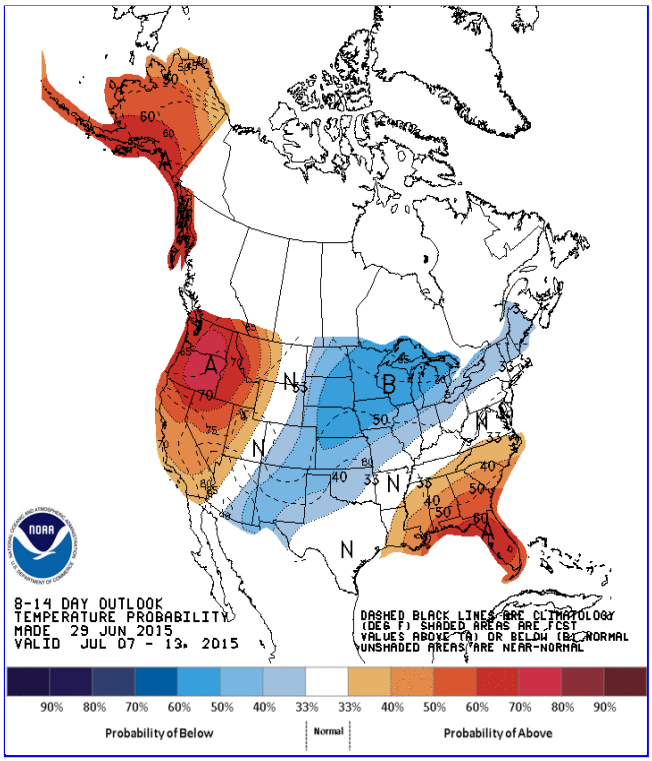
- Along the Front range, temperatures were 2 to 6 degrees warmer than normal. Most of the eastern plains were 0 to 2 degrees warmer than normal, with 2 to 4 degrees above normal along the CO-KS border.

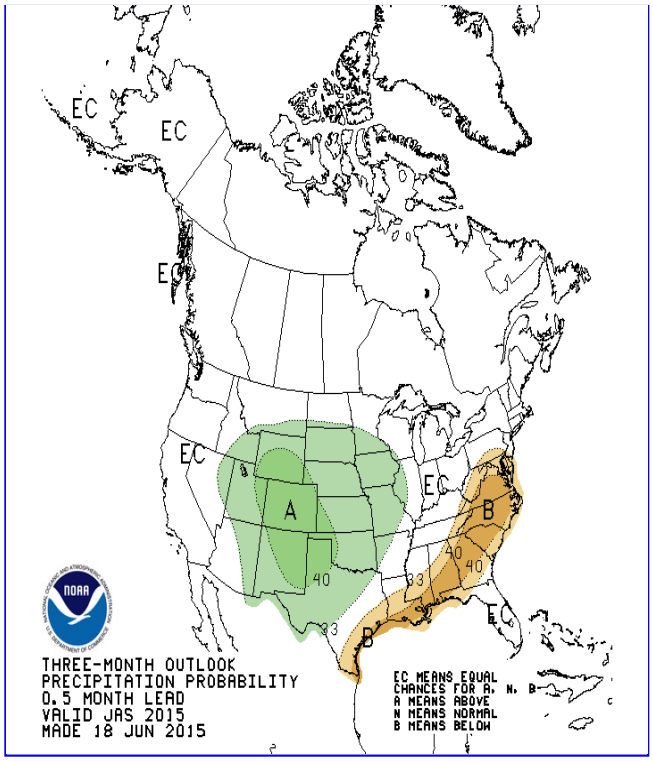
May Temperatures:

- The month of April saw mostly below normal temperatures across the UCRB. Sublette County, and northern Lincoln County were 0 to 2 degrees above normal, but the rest of the basin was below normal.
- Eastern Utah experienced temperatures 0 to 4 degrees below normal for the month of May. Temperatures were closest to normal in the far west of the basin along the Wasatch Range. A small area of eastern Utah near Lake Powell was 4-6 degrees below normal for the month.
- Western Colorado was 0-4 degrees below normal for the month of may with temperatures closes to normal close to the continental divide.
- East of the Divide temperatures for the month of May were 2-6 degrees below normal. The coolest temperature anomalies were along the northern Front Range and in Crowley and Otero Counties in southeastern Colorado.
- There is one area in southern Gunnison and northern Saguache Counties that is showing above average temperatures for the month of May. This is believed to be caused by a malfunctioning weather station.

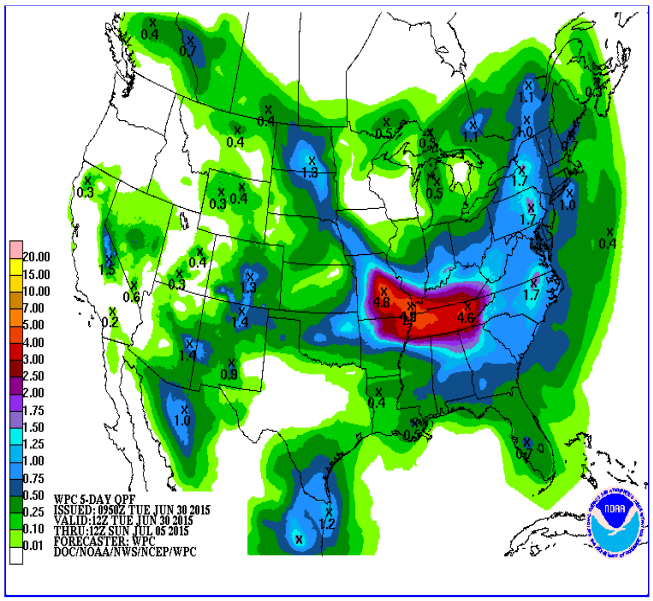
FORECAST AND OUTLOOK

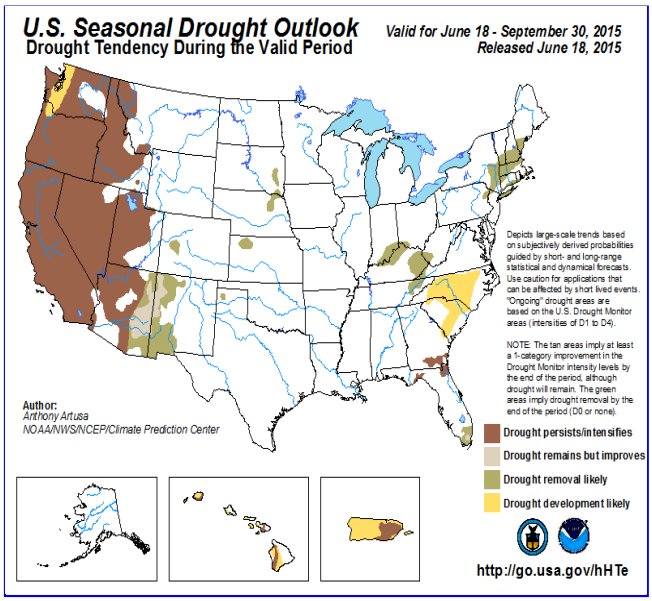






The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the 3 months Precipitation outlook. The bottom left image shows the Hydrologic Prediction Center's Quantitative Precipitation Forecast accumulation for the five days between 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: (6/30)

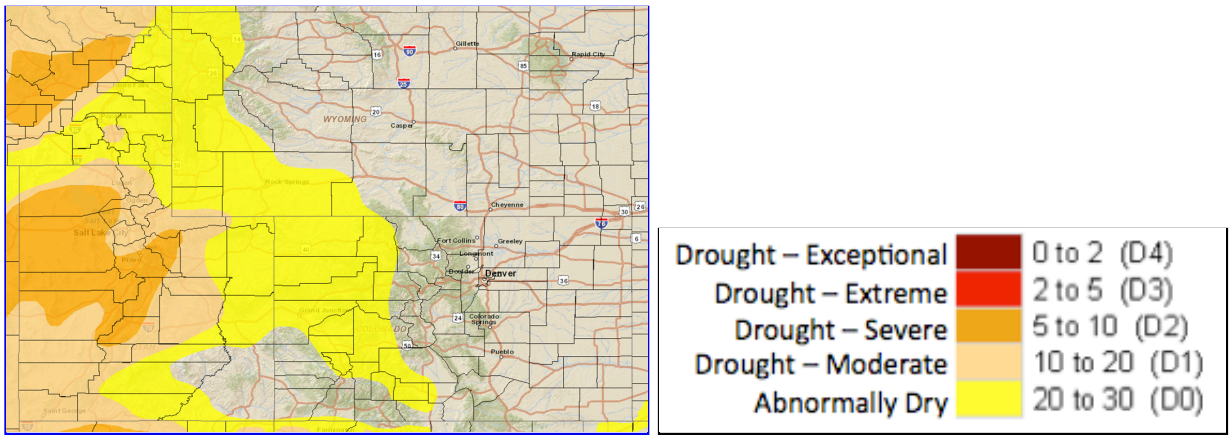
- A hot and dry start to the week will dominate Colorado and the UCRB, with possible late day storms.
- Thunderstorms will pop up through the basin and Colorado Wednesday and early Thursday, as a disturbance moves through. Precipitation should have higher coverage and temperatures will be closer to normal.
- A drier flow will then set up for the later part of the week, resulting in spottier storms for Thursday and Friday. Independence Day weekend will be dry and hot. Moisture should return to the region early next week.

Longer Term:

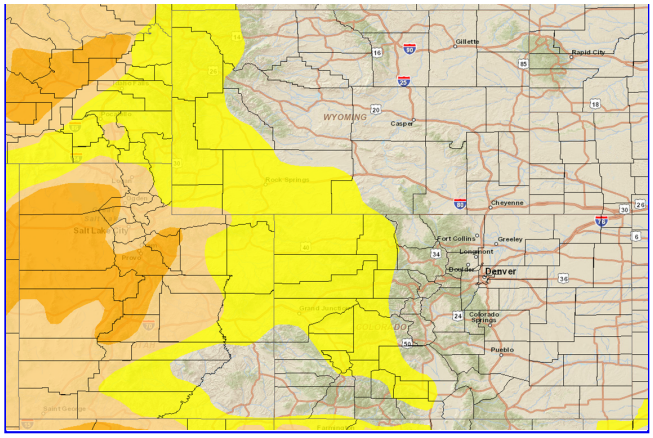
- The 8-14 day precipitation outlook shows increased chances for above normal precipitation for the Upper Colorado River Basin, with the exception of the Upper Green Basin in Wyoming (equal chances). These chances increase towards the Four Corners Region. Eastern Colorado is also in the increased chance of above normal precipitation.
- The 8-14 day temperature outlook shows increased chances of above normal temperatures western Wyoming and Utah. Northwestern Colorado is in the normal chance of above or below, with the rest of Colorado having increased chances of below normal 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.

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 June 30, 2015:

After another hot, dry week for the Upper Colorado Basin and Colorado, June will end with warmer than average temperatures. Precipitation will be split between below normal through much of the Upper Green Basin and above normal through much of the southern portion of the Basin. The last week in the Basin was dry and hot. Eastern Colorado saw the typical convective storms during the month, bringing spotty totals east of the Divide for the month, and the last week. Temperatures on the plains the past were above average, with areas seeing the 90s and low 100s.

Even with the dryness for the past few weeks, May's much above normal precipitation should hold the area for a few more weeks, so no degradations should be needed. No improvements are warranted either since areas that have a drought classification did not receive enough, if any, precipitation to make a difference.

Recommendations:

UCRB: status quo

Eastern CO: status quo