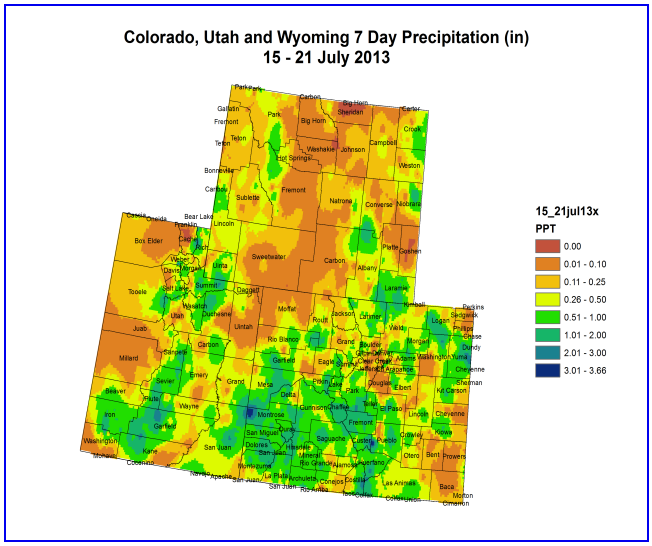
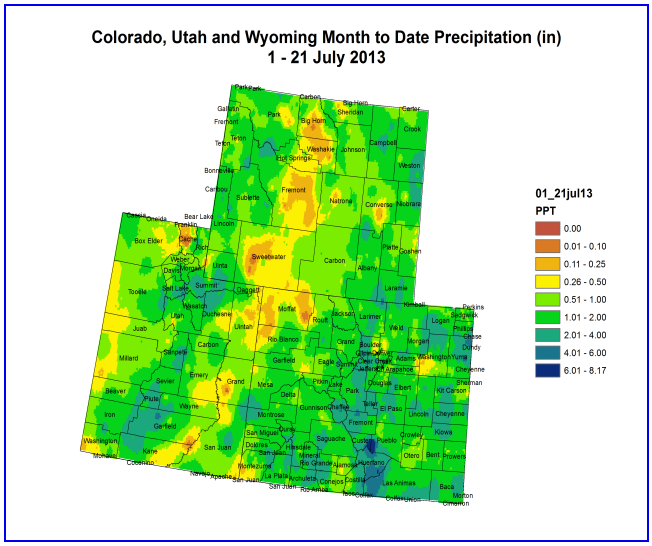
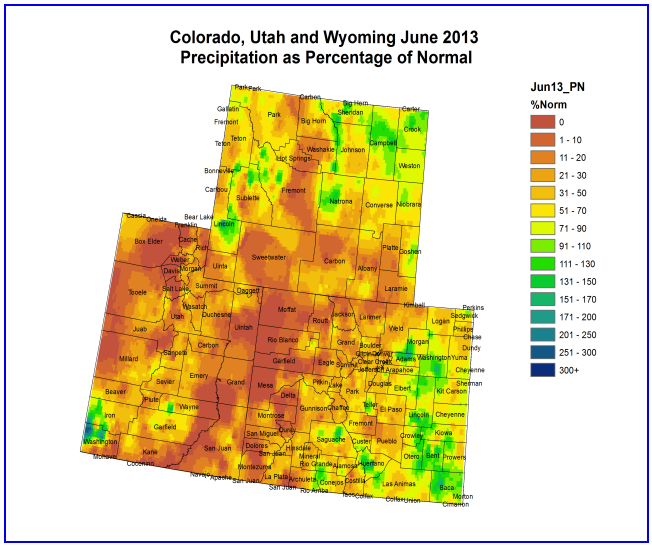
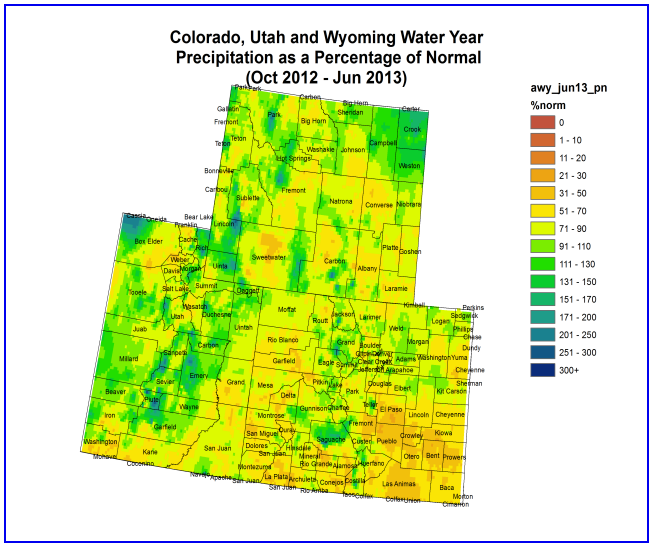
PRECIPITATION









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
- Eastern UT and western CO have received between 50% and 90% of average precipitation for the water year, with slightly drier conditions in southwest CO
- The northern and central CO mountains are near average
- Northeast CO is near to slightly below average with some drier patches around Washington and Yuma counties

- Southeast CO and the San Luis Valley are below 70% of average with many areas lower than 50% of average

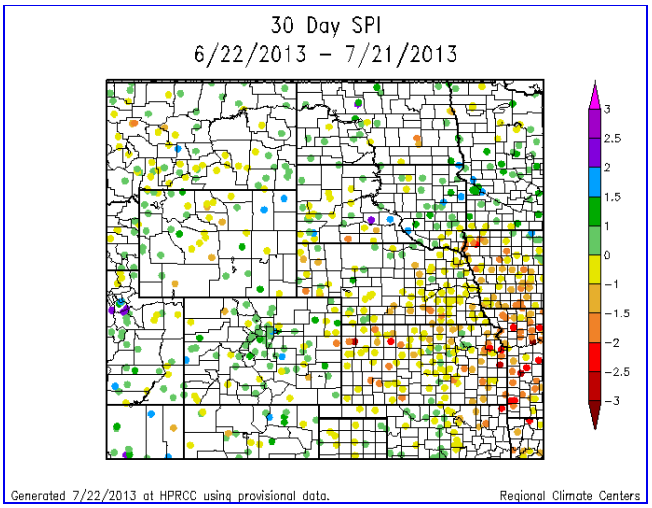
June Precipitation:

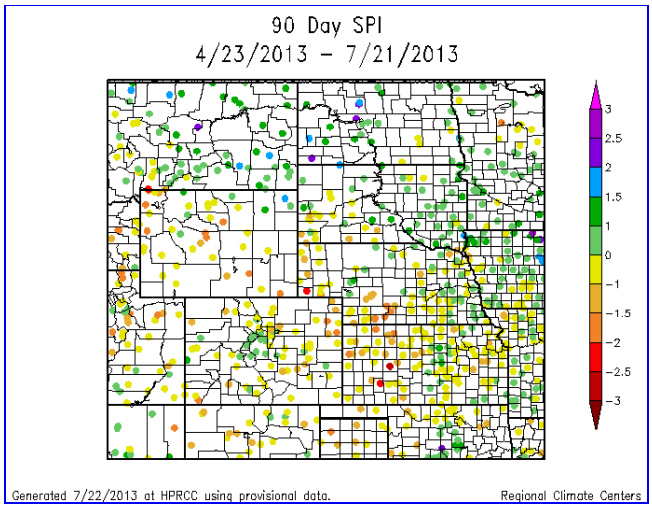
- Most of the UCRB received less than 20% of average precipitation for the month of June
- A couple of isolated areas in the San Juans in southern CO and the higher elevations in western WY received more than 50% up to near average moisture for the month
- Much of northern CO and southern WY were very dry, receiving less than 50% of average precipitation
- Many parts of eastern CO received near average moisture for the month, though some spots (the Front Range mountains in Fremont and Pueblo counties, many parts of the Urban Corridor, and the San Luis Valley) were much drier than average

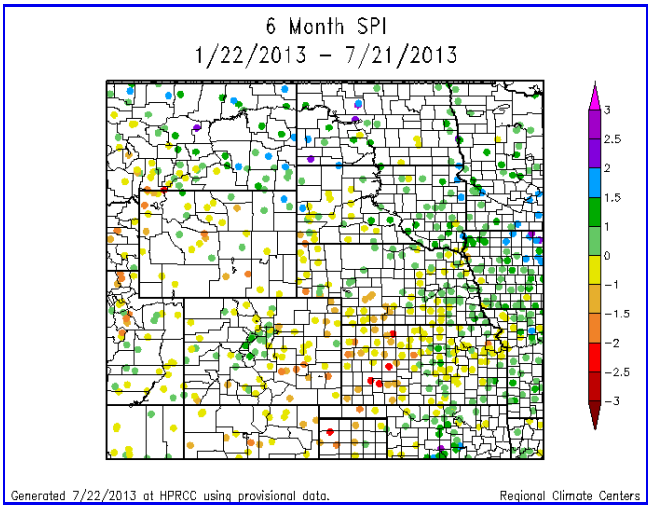
Last Week Precipitation:

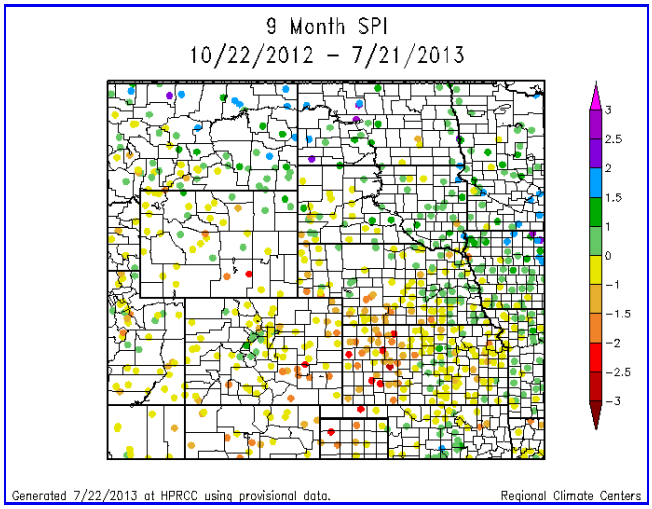
- The southern portion of the UCRB continued to receive beneficial moisture over the past week with widespread amounts of 0.50 - 1.00 inches with isolated areas reporting 2+ inches.
- The northern portion of the UCRB dried out over they past week and saw 0.01 - 0.50".
- The Wasatch and Uintahs saw slightly higher amounts of 0.50 - 1.00 inches with isolated areas up to 2 inches.
- Precipitation on the eastern plains remained spotty but active over the past week. NE plains saw variable precipitaiton of 0-3.00". Logan, northern Washington, Yuma and Kit Carson saw the most generous amounts of 0.5 to 3 inches.
- In the Arkansas basin, Chaffee, Fremont, Custer, Pueblo, Huerfano, eastern Costilla and western Las Animas saw widespread amounts of 0.5 to 2 inches with isolated areas receiving up to 3 inches. Otero, Bent, Prowers and Baca counties remained dry over the past week.

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.

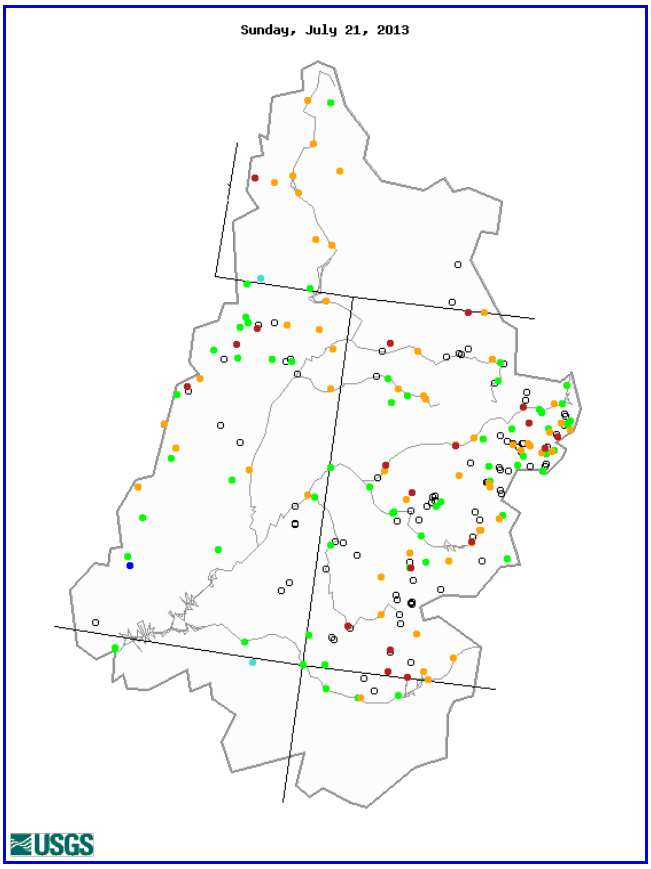
Short Term (60-day):

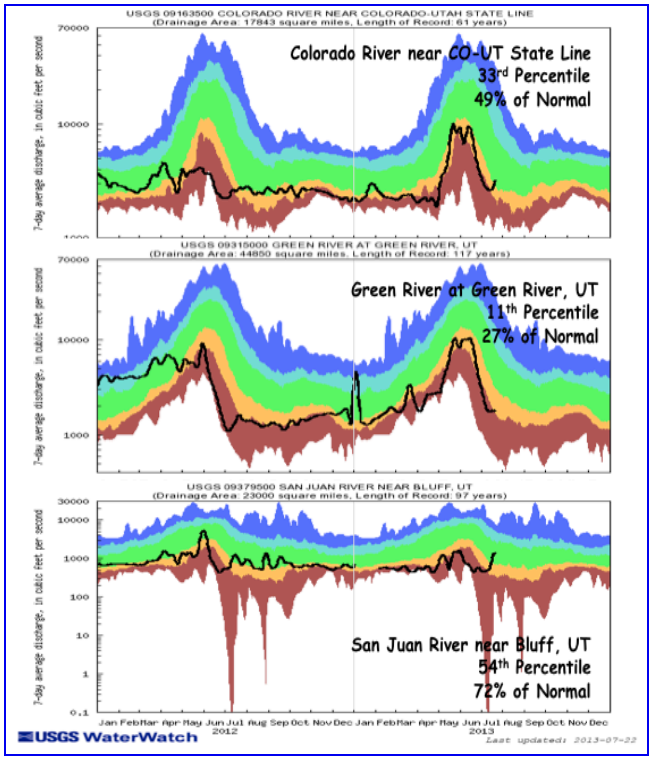
- The northern portion of the UCRB is showing SPI's from 0 to -2, with the driest in the Upper Green.
- The 4 corners area is showing near normal SPI's ranging from +1 to -1.5, driest in Montezuma county, CO.
- The northern mountains in CO are showing lower SPI's than the central mountains.
- Some stations in the Arkansas basin on the Eastern Plains of CO are now indicating wet conditions with SPI's up to +1 with the majority in the short term between 0 and -1.
- The northeastern plains are slightly drier with SPI's between 0 and -2.
- The Rio Grande basin is near normal on the short term ranging from +1 to -1.

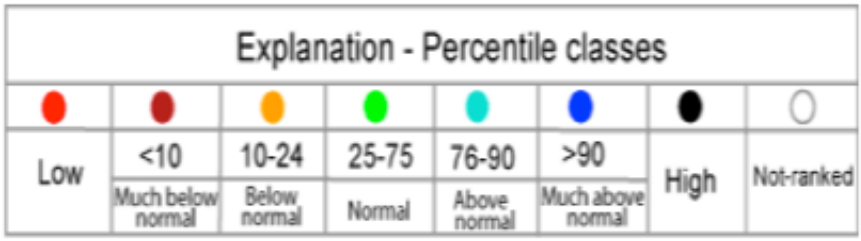
Long Term (6-month):

- Most SPIs between +1 and -1 for the majority of the UCRB
- Northern Utah is showing dry SPI's of 0 to -2, the Upper Green River in Wyoming is also drier with SPI's from 0 to -2.
- NE Colorado SPI's range from 0 to -1.5 on the longer time scale.
- The Arkansas basin continues to have long term deficits with the longer term showing SPI's of 0 to -2 predominating much of that basin.
- The Rio Grande basin is showing slightly drier conditions on the longer term with SPI's of 0 to -1.

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		

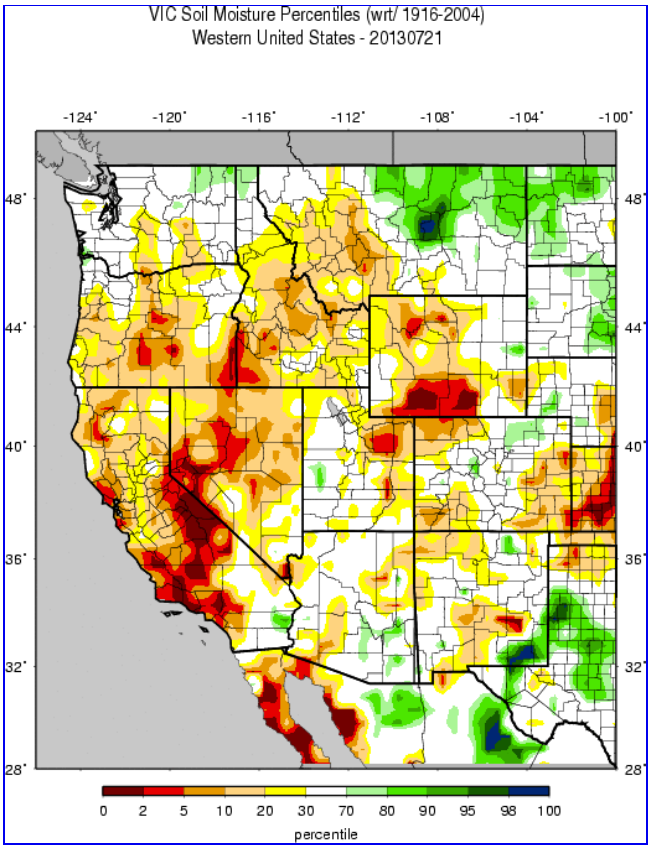
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green

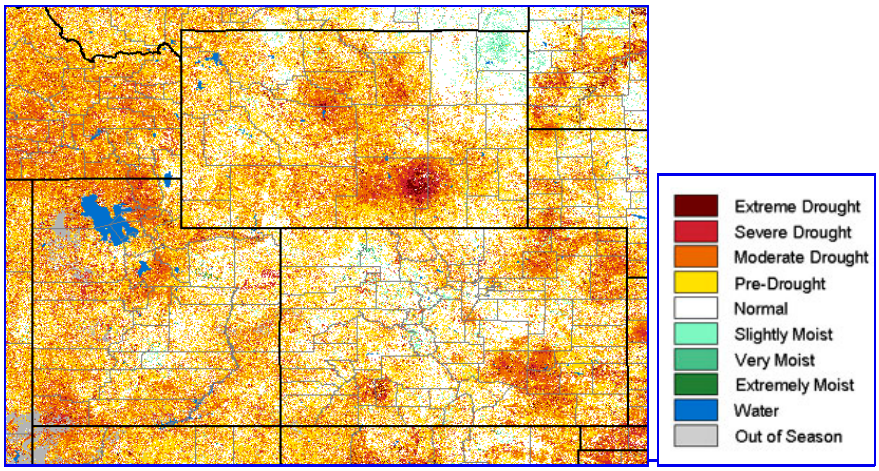
River, UT; and the San Juan River near Bluff, UT. All streamflow data provided by United States Geological Survey.

Streamflow Statistics:

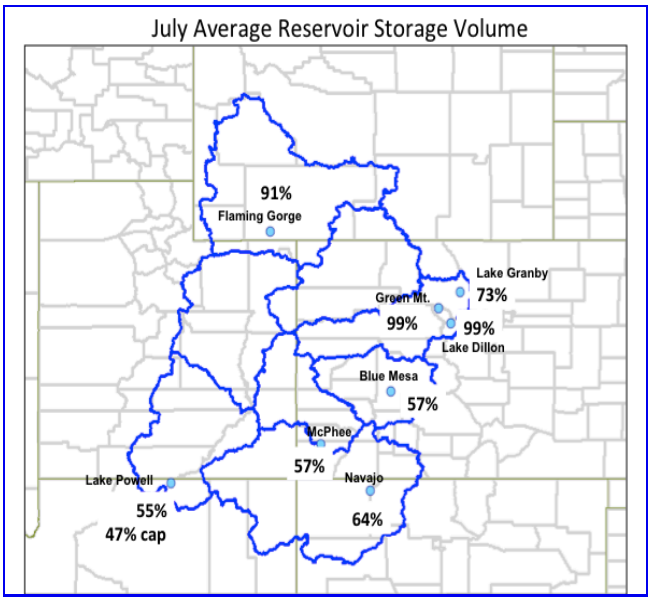
- 47% of gages recording normal to much above normal 7-day average streamflows
- 14% of gages recording much below normal 7-day average streamflows and 39% are recording below normal.
- Overall, an increase in streamflows across the basin last week (or a slowing of the return to baseflows) mostly due to increased widespread precipitation
- The San Juan River is showing vast improvement, partly due to precipitation, but also partly due to releases from Navajo Reservoir
- Three key gages around the basin all showed improvement since last week
- The Colorado at the CO-UT state line saw an increase in flows and is reporting in the 36th percentile (51% of average)
- The Green River at Green River, UT saw the decline to baseflow slow slightly but is reporting in the 11th percentile (27% of average). This basin did not benefit as much from the monsoonal moisture as did the southern portion of the basin.
- The San Juan river near Bluff, UT saw a large increase in flows and is now reporting in the 53rd percentile (68% of average). This increase is in part due to the moisture and releases from Navajo Reservoir.
-

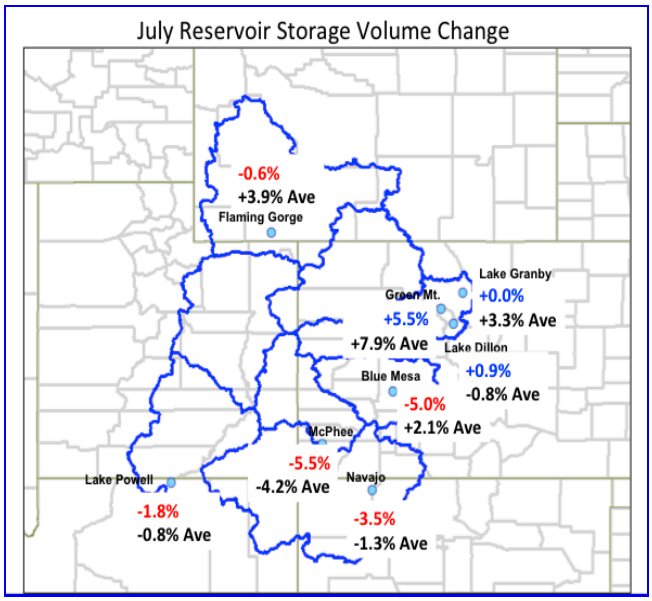
SURFACE WATER





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:

- Very dry soil moisture conditions (0 to 5th percentile) are widespread through Sweetwater and Carbon counties in Wyoming.
- NE Utah also is showing dry soil moisture conditions in the 2nd to 10th percentiles.
- The Four Corners area is showing soil moisture percentiles between the 5th and 20th percentiles.
- The Arkansas basin showed improvement over the past week. The far eastern plains in the Arkansas are reporting soil moisture percentiles in the range of the 2nd to 30th percentiles. The driest areas are shown along the CO/KS border.
- NE Colorado is showing moist soil percentiles through Weld, Morgan and Logan counties.
- Southern Washington and Yuma counties show a distinct drying down through Lincoln, Kit Carson and into the Arkansas basin.

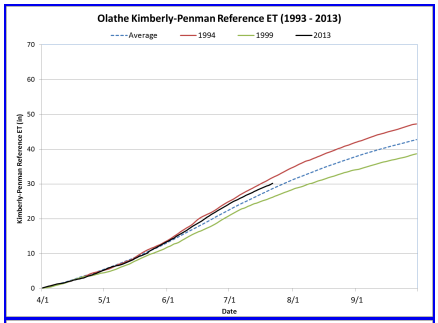
VegDRI:

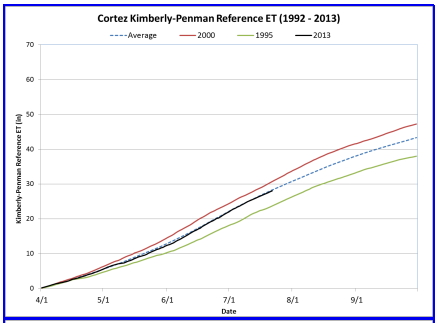
- VegDri is showing dry vegetation conditions in the Wasatch and Uintahs in Utah, in the pre- to moderate drought category.
- Much of southern Wyoming is showing pre to moderate drought with the worst conditions on the Carbon/Albany county line (not in UCRB). The Upper Green is showing widespread pre to moderate drought.
- The Four Corners are area remains in pre to moderate drought conditions as well with some slight improvements with recent moisture.
- The Arkansas basin continues to indicate moderate to severe drought through Pueblo, Crowley, Otero, Bent, Las Animas, Prowers and Baca counties. Some of those areas have recovered to pre-drought in the VegDri product.
- The NE plains of Colorado through Eastern Weld, Morgan, Logan, Washington, Yuma, Phillips and Sedgwick counties indicate moisture in the pre to severe drought categories.

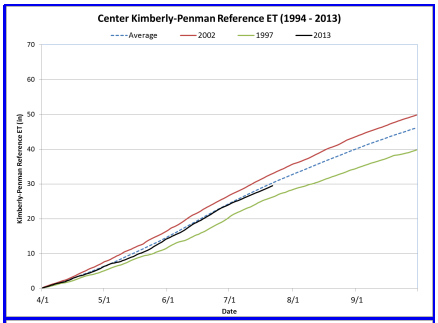
Reservoirs:

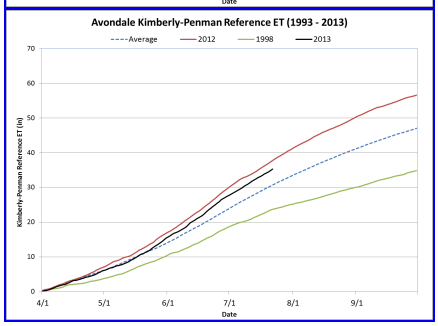
- Flaming Gorge, Blue Mesa, McPhee, Navajo, and Lake Powell have been decreasing in volume since the beginning of July. This is normal for the southern reservoirs, though decreases are still larger than average
- Green Mountain and Dillon continue to increase in volume, while Granby has begun decreasing in the past week.
- Green Mountain and Dillon are very close to their July averages
- Flaming Gorge is 91% of average, and the rest of the reservoirs range from 55% (Lake Powell) to 73% (Granby)
- Lake Powell is currently at 47% of capacity and is seeing much below average daily inflows into the reservoir

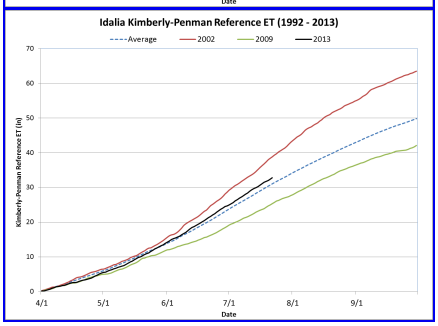
EVAPOTRANSPIRATION

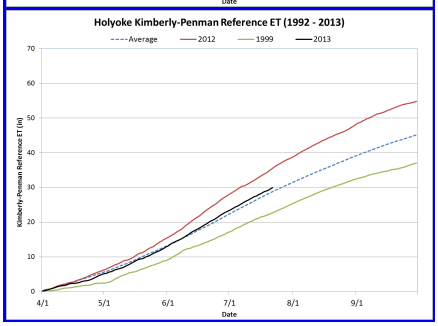


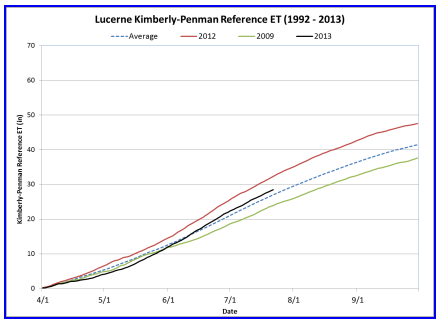










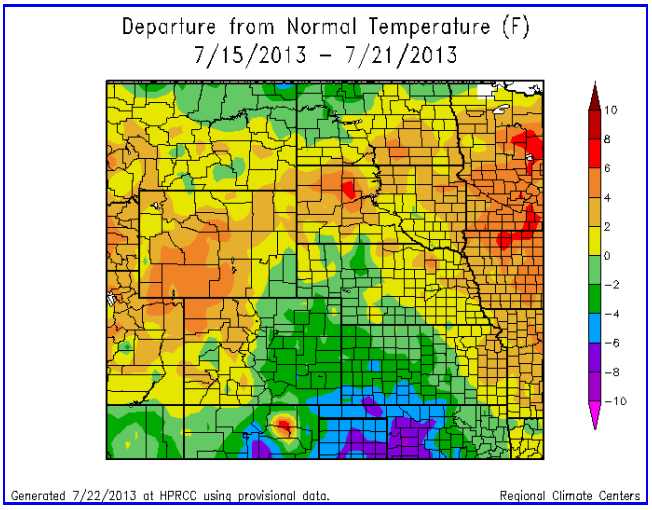


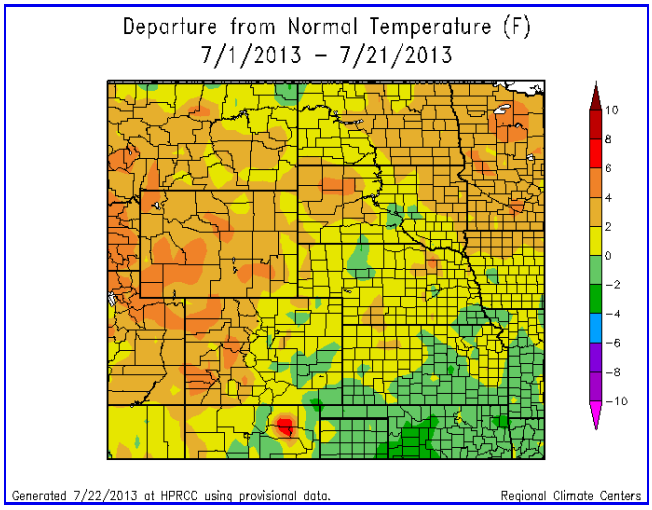
The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a map of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

Reference ET:

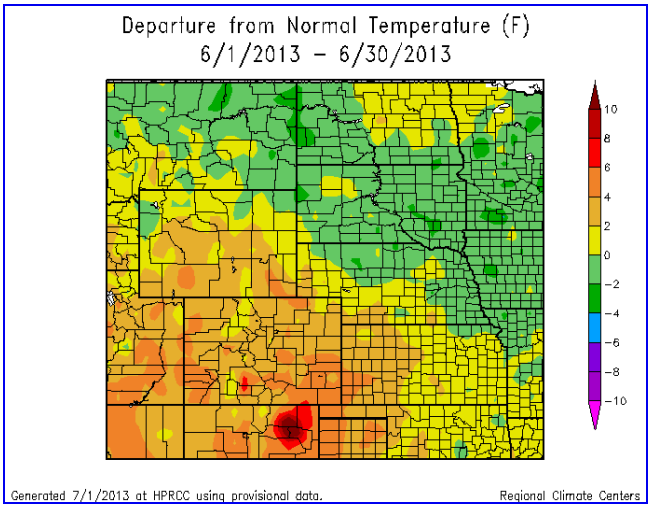
- Olathe: Above average ET since the beginning of the growing season, approaching the high year.
- Cortez: Near normal growing season ET to date
- Center: Slightly below normal ET, rates had increased in June but with the monsoon arrival ET rates have dropped off.
- Avondale: For most of May, ET was near average but ET rates remain high even with the arrival of the monsoon. ET is approaching the high year of 2012.
- Idalia: Below average ET for most of April and May, increased and is now showing above average ET rates
- Holyoke: ET was slightly below average for April but has been slightly above average since early June
- Lucerne: ET has been lower than the previous minimum year of 2009 for much of April and May but has ramped up, and is now above average.

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 Upper Green through the Wasatch, Uintahs, Yampa and White rivers saw temperatures 2-6 degrees above normal over the past week.
- The San Juan, Colorado and Rio Grande river basins were closer to normal temperatures.
- East of the divide in Colorado saw temperatures 0 to 6 degrees below normal.

Last Month Temperatures:

- Most of the basin saw temperatures 2 to 6 degrees warmer than average for the month of June

- Southeast WY, northeast CO, and the Front Range urban corridor experienced temperatures 2 to 4 degrees above average
- Southeast CO was warmer, seeing temperatures 4 to 6 degrees above average

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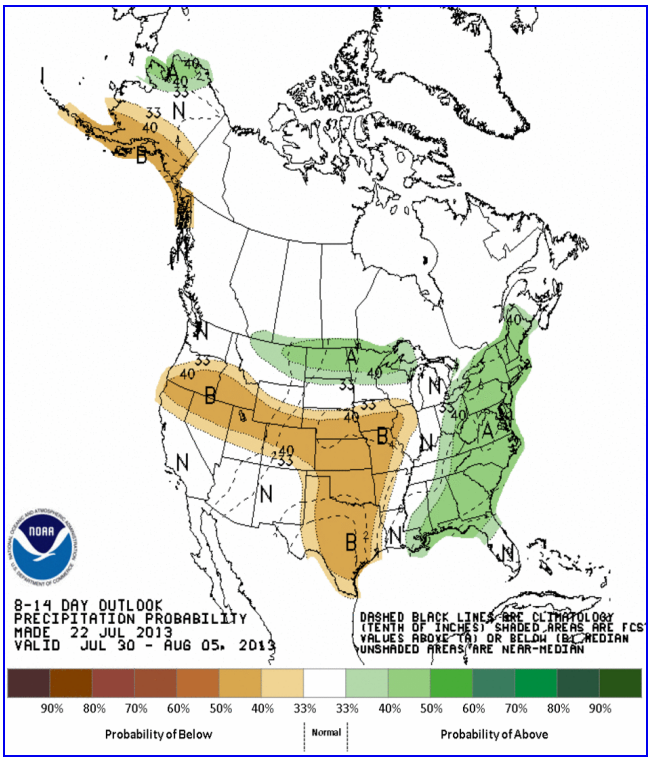
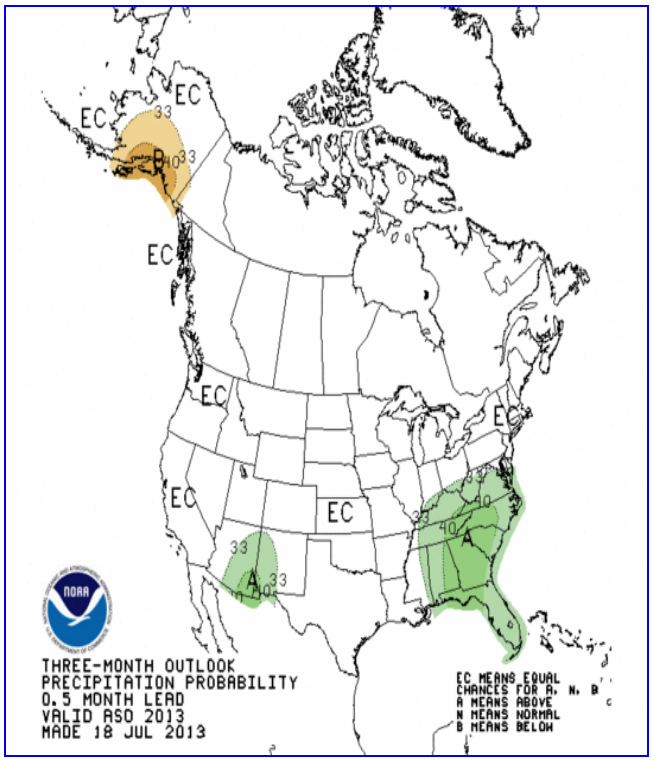
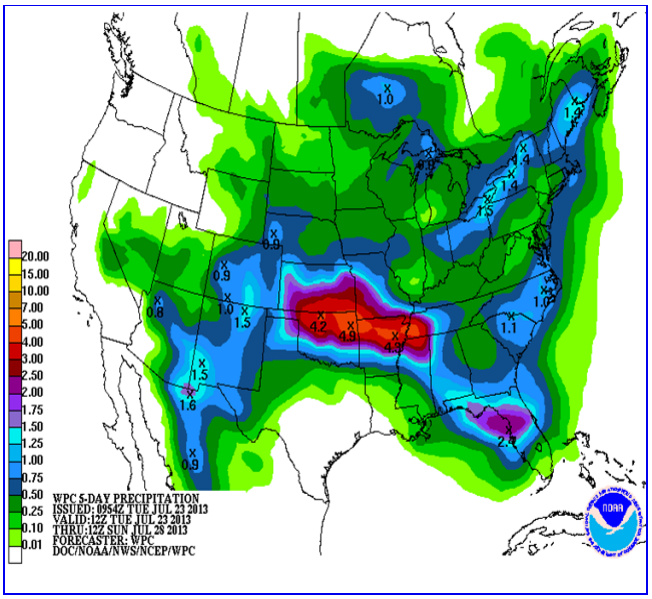
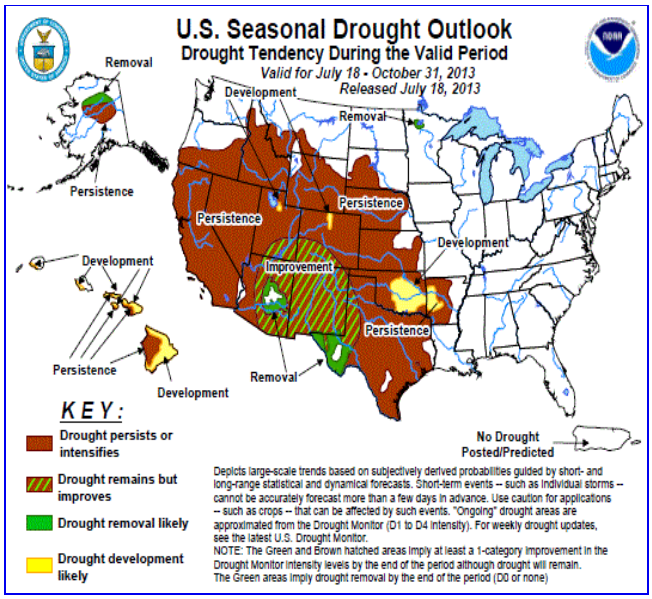
FORECAST AND OUTLOOK





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:

- Scattered showers are expected over the mountains throughout the week
- The plains will be drier, mid-week, but should see an increased chance of showers into the weekend
- The HPC QPF shows the best chances of larger accumulations throughout the southern portion of Colorado with slightly more predicted for the SE plains.

Longer Term:

- The 8-14 day outlook suggests that the monsoon pattern will continue through next week
- The three month outlook shows equal chances for wet, dry, or normal conditions for the region
- The drought outlook shows the possiblity for some drought improvement in southern CO with drought persistence throughout the rest of the region

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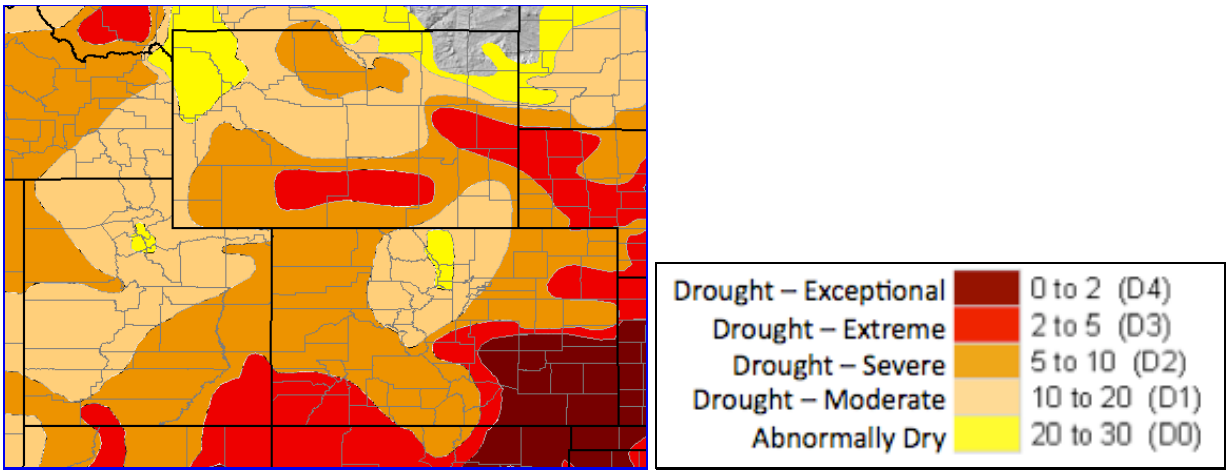
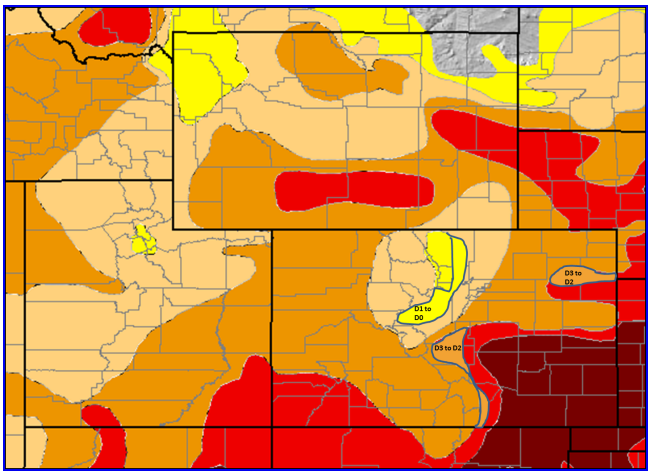
U.S. DROUGHT MONITOR



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: July 23, 2013

Monsoonal moisture continued to flow into Colorado over the past week bringing some high precipiation amounts to mainly the southern portion of the UCRB as well as the foothills and eastern plains of Colorado.

Recommendations**

UCRB: Status quo is recommended.

Eastern CO: Improvement from D1 to D0 for Lake county is recommended due to SPI's and snotel precipitation percentile rankings in that area. Further expansion of the D0 slightly eastward in Larimer county and south into Park county is recommended due to SPI's and general greeness of the area. Reservoirs for Denver and other Front Range communities are in good shape.

A reduction from D3 to D2 in Fremont, Custer, Huerfano and Las Animas

counties is also recommeded. Portions of this area have received over 6" of moisture for July to date.

In northeast Colorado, a reduction of the northern edge of the D3 in Yuma and Washington counties is recommended due to recent rains. Ground reports indicate improved crop conditions farther north into Phillips and Sedgwick counties, however at this point only the 30 day SPI has recovered and it is recommended that area remain in D2 until further improvements are realized.