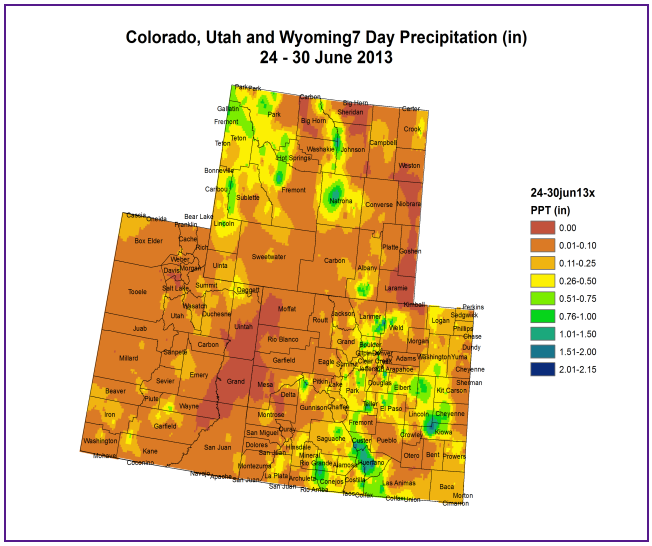
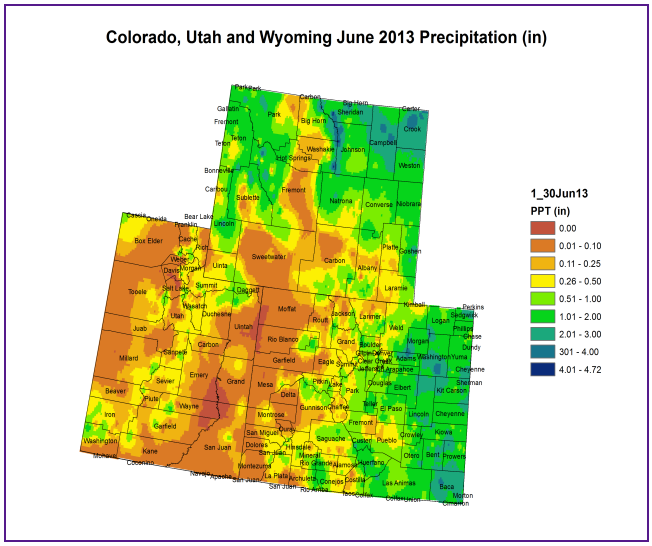
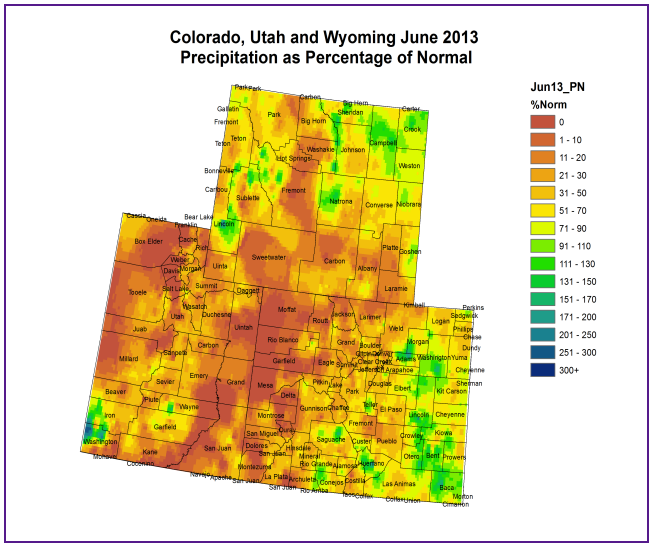
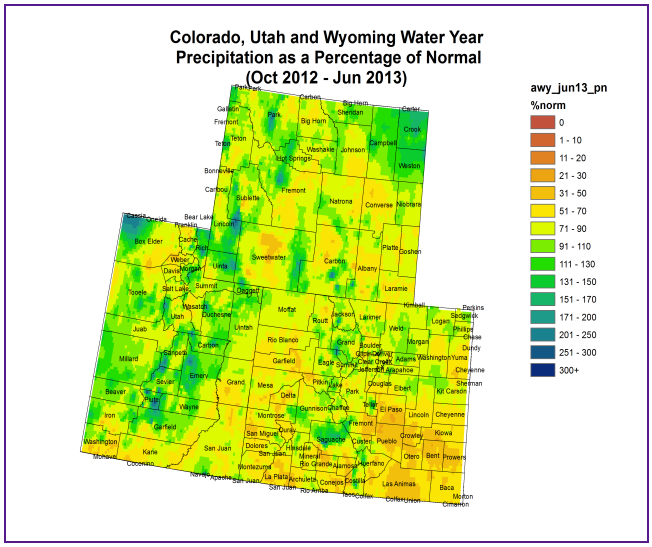
PRECIPITATION









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:

- Very little precipitation fell across most of the basin. The highest amounts were confined to the northern fringes of the basin, in WY, where accumulations ranged between .25 and .75 inches
- The majority of the UCRB received less than .10 inches, though a few isolated areas did receive between .10 and .25 inches for the week
- The southern CO mountains (the San Juans and Sangre de Cristos) received between .25 and 1 inch of precipitation
- Most of the rest of CO received less than .25 inches of moisture for the week, though a few isolated areas did receive between .25 and 1 inch of moisture

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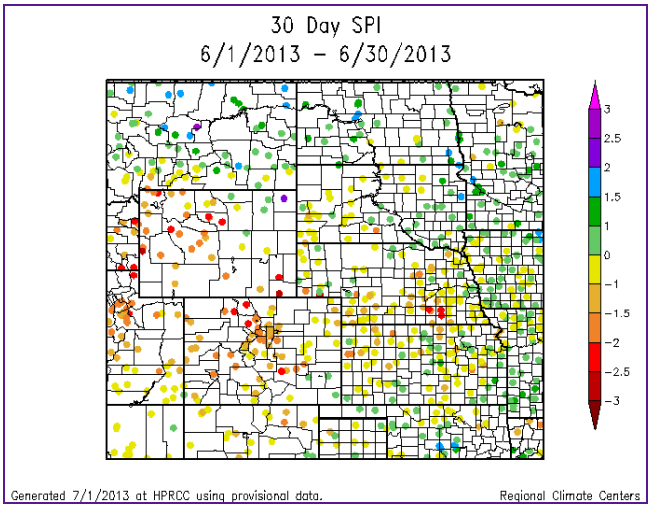
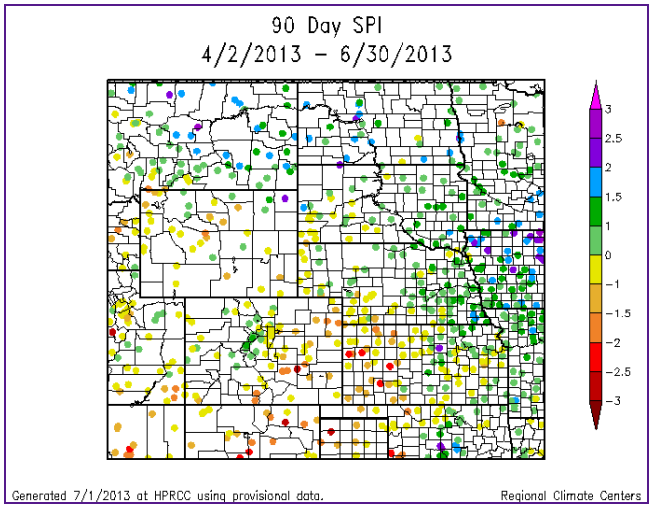
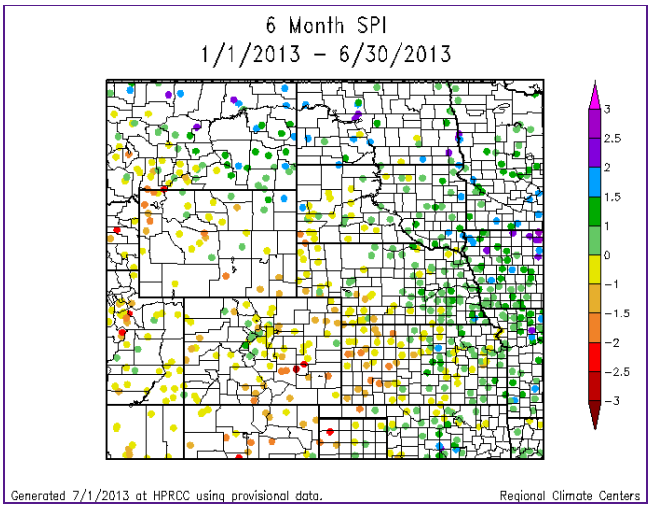
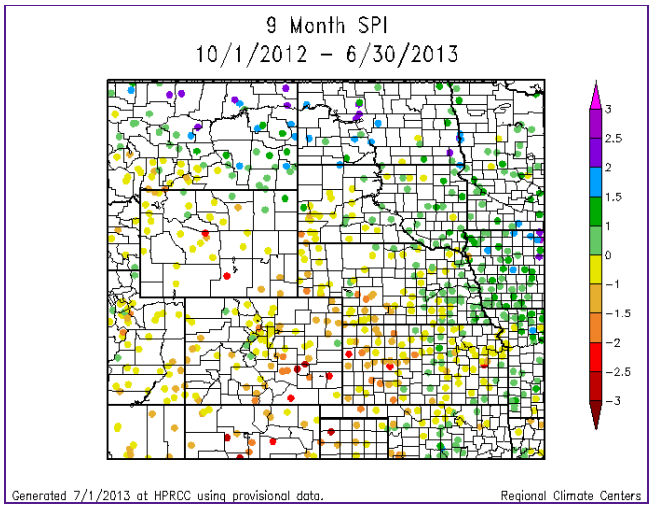
STANDARDIZED PRECIPITATION INDEX









Standardized Precipitation Index standardizes precipitation accumulations for a specified time period into percentile rankings. -1.0 to -1.5 is equivalent to a D1 to D2. -1.5 to -2.0 is equivalent to a D2 to D3. -2.0 and worse is equivalent to a D3 to D4. 30- and 60-day SPIs focus on short-term conditions while 6- and 9-month SPIs focus on long-term conditions. SPI data provided by High Plains Regional Climate Center.

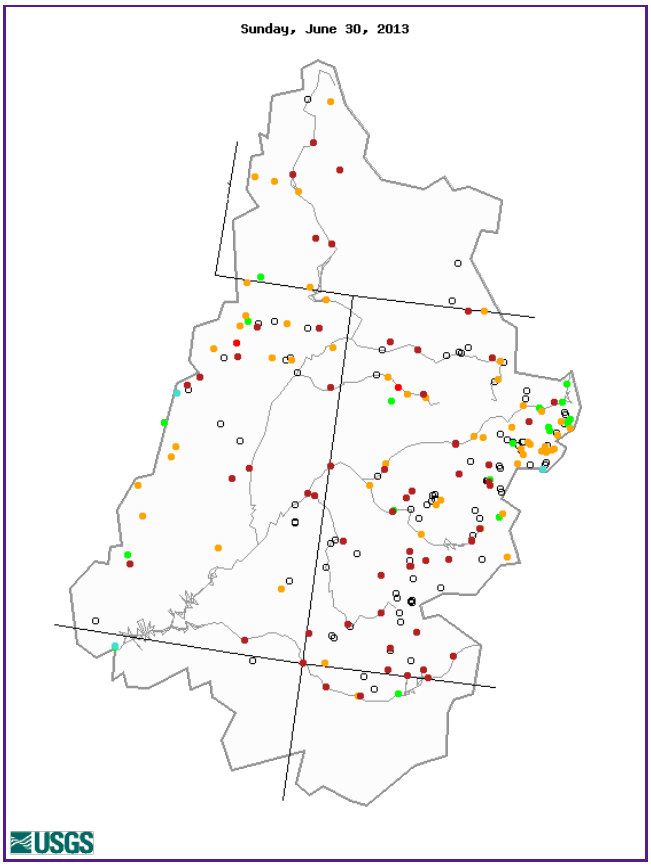
Short Term (30-day):

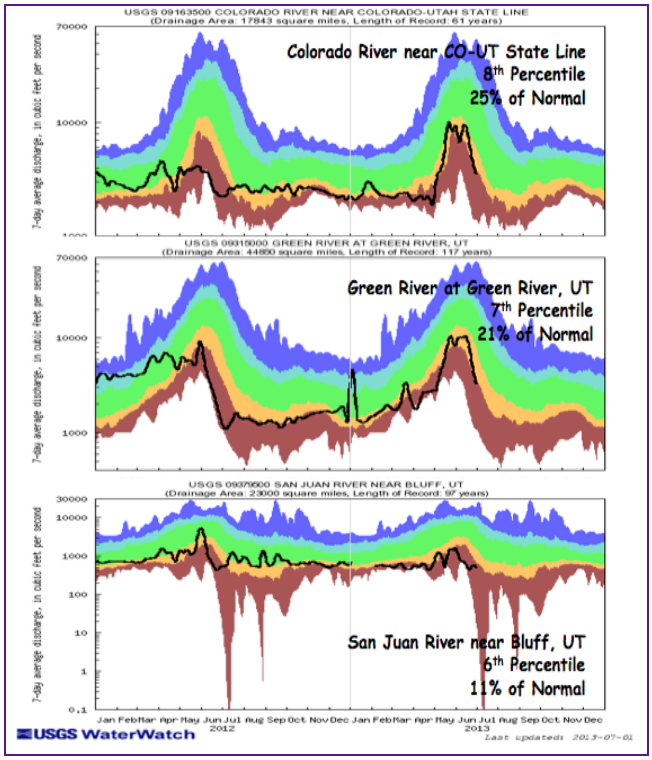
- SPIs between 0 and -2 for most of the UCRB
- SPIs below -2 for parts of northern CO and the Upper Green basin in WY
- SPIs closer to normal, but still slightly negative, for the Four Corners region
- Front Range SPIs between -1 and -2
- SPIs between 0 and -1.5 in northeast CO
- Variable in southeast CO: very dry SPIs around Pueblo, but wetter SPIs in far southeast CO

Long Term (6-month):

- Most SPIs between 0 and -1 for the majority of the UCRB
- Wetter SPIs around the northern and central CO mountains and drier SPIs in northern UT
- SPIs between 0 and -1 for the Colorado Front Range
- Drier SPIs between -1 and -2 in southeast CO and southern CO
- Northeast CO seeing SPIs between 0 and -1.5

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:

- 17% of gages recording normal to above normal 7-day average streamflows
- 42% of gages recording much below normal or low 7-day average streamflows
- One record low streamflow recording in the Lower Green River basin
- Overall, streamflows are decreasing throughout the basin
- Near normal flows concentrated around the headwaters regions in the northern and central CO mountains
- Much lower flows along the San Juan, Gunnison, and Dolores rivers
- Three key gages around the basin are all recording much below normal

flows
- Flows on the Colorado River near the CO-UT state line and the Green River at Green River, UT peaked with almost near normal flows, but have rapidly dropped and our now recording at the 8th and 7th percentiles, respectively
- Streamflow on the San Juan River near Bluff, UT did not see a large seasonal peak and is currently recording flows at the 6th percentile

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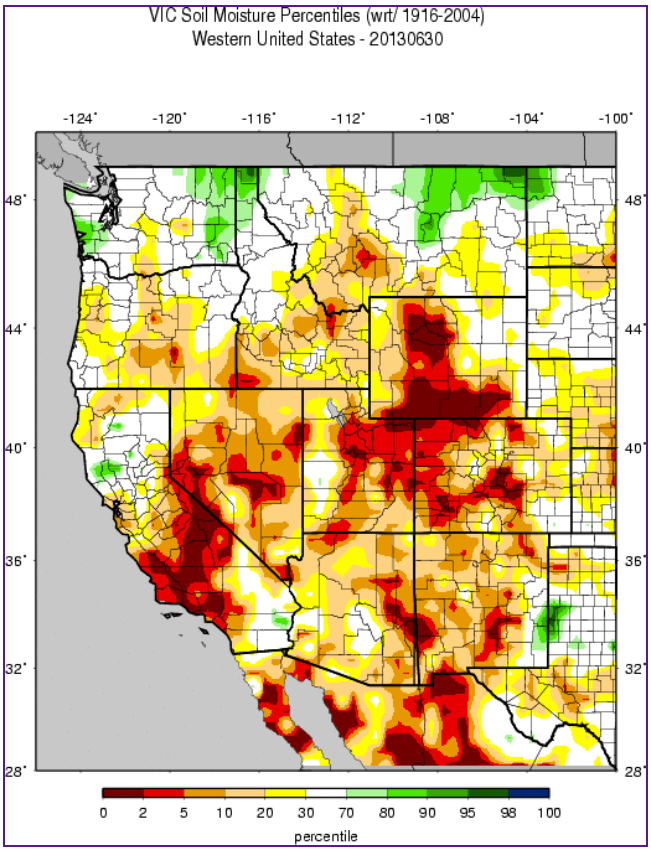
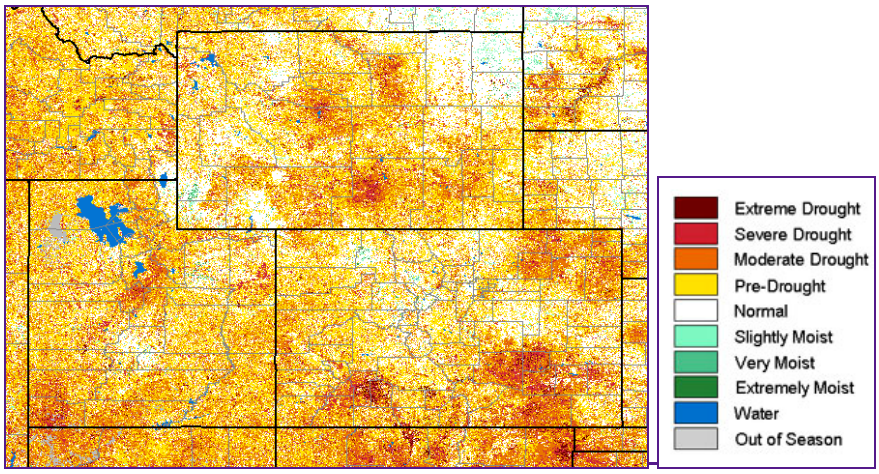
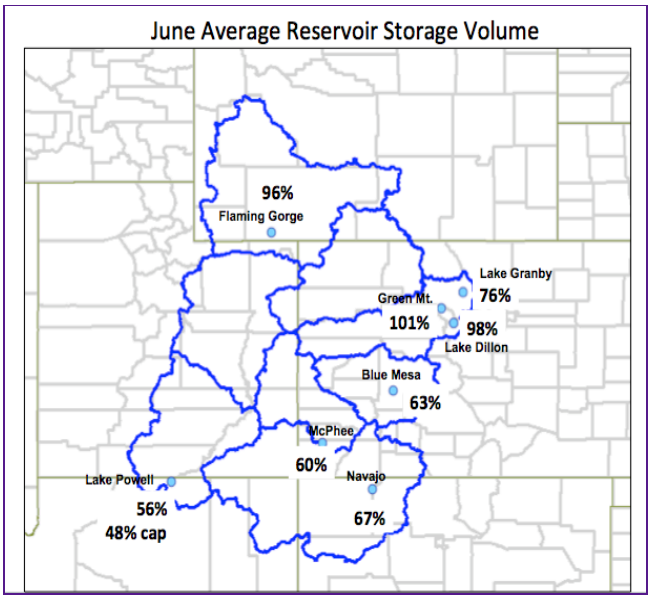
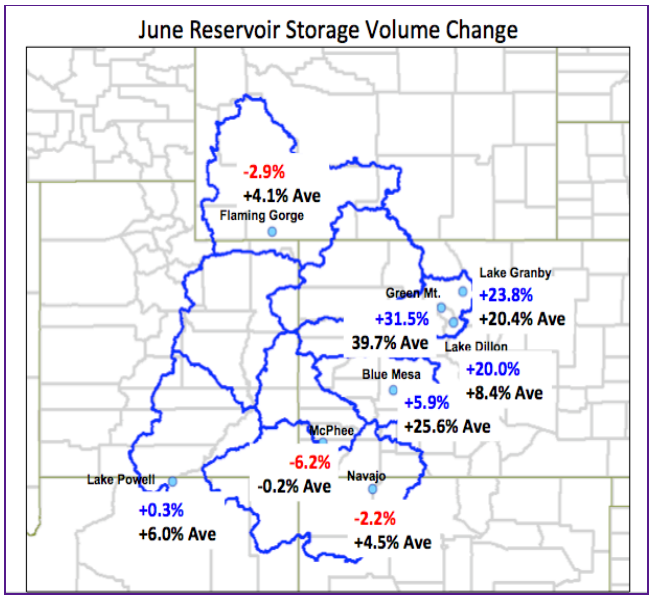
SURFACE WATER





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





The above left image shows the percent of average volumes of the major reservoirs in the UCRB. The above right image shows the percent change in volume over a specific time period for the reservoirs.

VIC:

- Deteriorating soil moisture conditions across the majority of the basin
- Modeled soil moisture in southern and western WY mostly below the 10th percentile with many spots show D4-level soil moisture
- Most of northeast UT and northwest CO showing soil moisture below the 5th percentile
- Most of the Four Corners region below the 20th percentile
- Eastern CO showing improvement over the past couple of weeks, as a result of fairly consistent thunderstorms throughout the region. However, the actual soil response was likely not as optimistic as the model shows

VegDRI:

- Dry vegetation showing up along the Wasatch Range in northern UT with slightly better vegetation conditions along the Uintahs
- Vegetation conditions in southwest WY are near normal, however starting to dry out in the last couple weeks
- Dry vegetation along eastern UT/western CO and extending down to the Four Corners, with very dry vegetation showing up in the San Juan mountains
- Dry vegetation conditions in northern CO with deteriorating conditions moving eastward
- Extremely dry vegetation in southeast CO, even with the recent moisture

Reservoirs:

- Flaming Gorge, Green Mountain, and Dillon all near average for this time of year
- The remaining reservoirs range between 56% of average (Lake Powell) and 76% of average (Granby)
- Flaming Gorge, McPhee, and Navajo currently showing decreases in volume for June
- Lake Powell and Blue Mesa showing overall slight increases, but have begun decreasing in the past couple weeks
- Lake Powell increased less than 1%, when 6% is what normally occurs during June
- Granby, Dillon, and Green Mountain continue to see large increases

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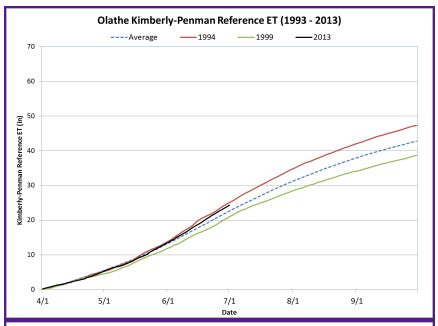
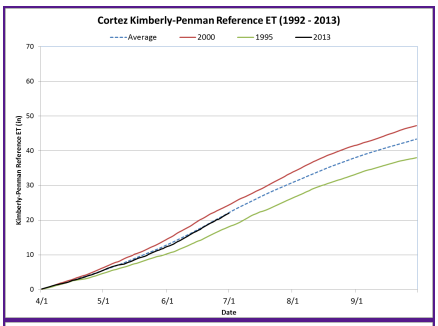
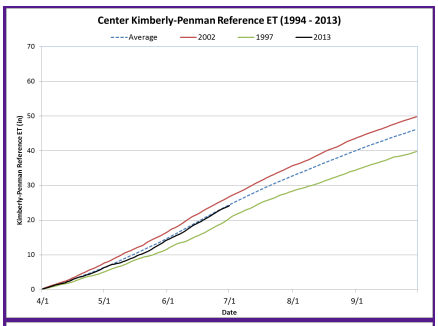
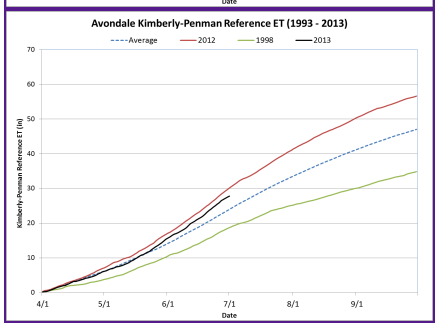
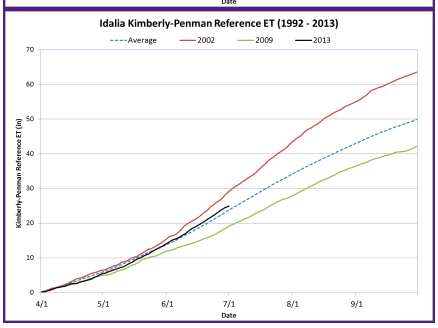
EVAPOTRANSPIRATION

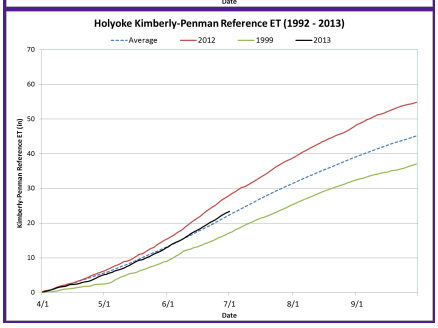


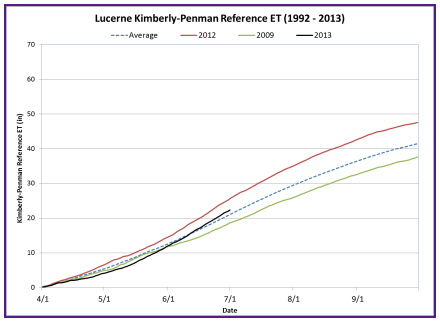












The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a map of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

Reference ET:

- Olathe: Above average ET since the beginning of the growing season, approaching the high year.
- Cortez: Near normal growing season ET to date

- Center: ET was below average for most of May, but has seen an increase in ET and is now closer to average
- Avondale: For most of May, ET was near average but recent warm temperatures, low dew points and winds have increased ET above normal, but still lower than the maximum 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 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

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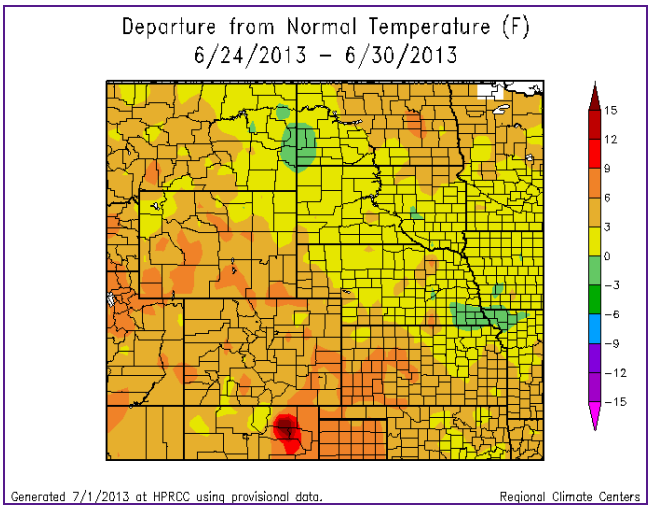
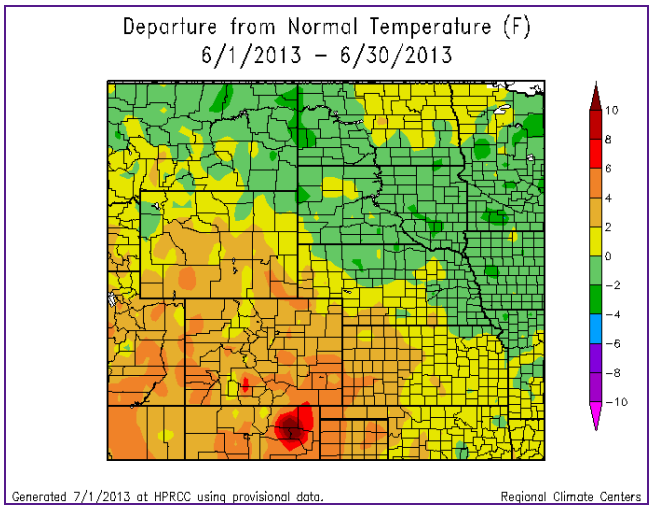
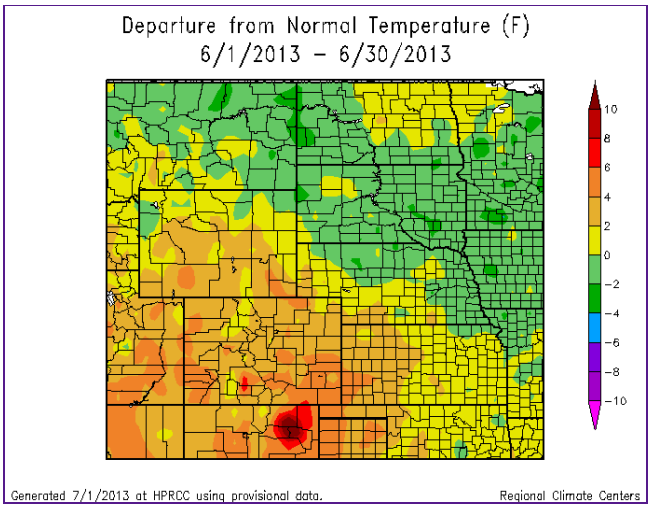
TEMPERATURE





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.



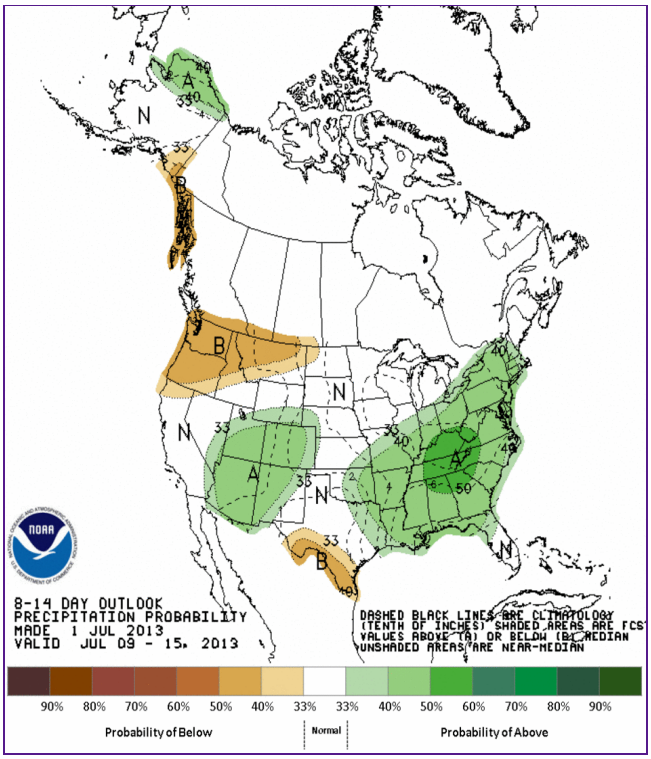
Last Week Temperatures:

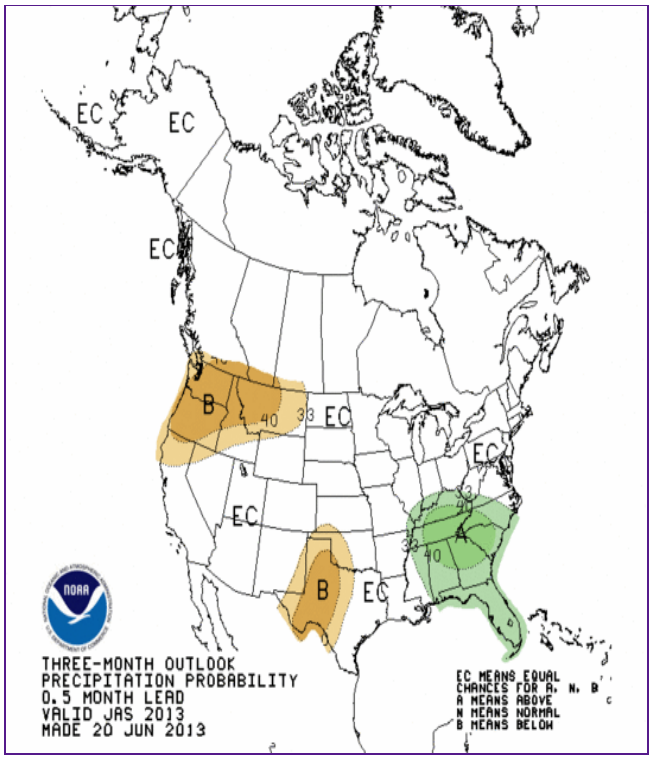
- Above average temperatures (ranging from 3 to 9 degrees warmer than normal) seen across the entire basin and the rest of CO
- Above average temperatures experienced for the entire basin and the rest of CO for the entire month of June

Last Month Temperatures:

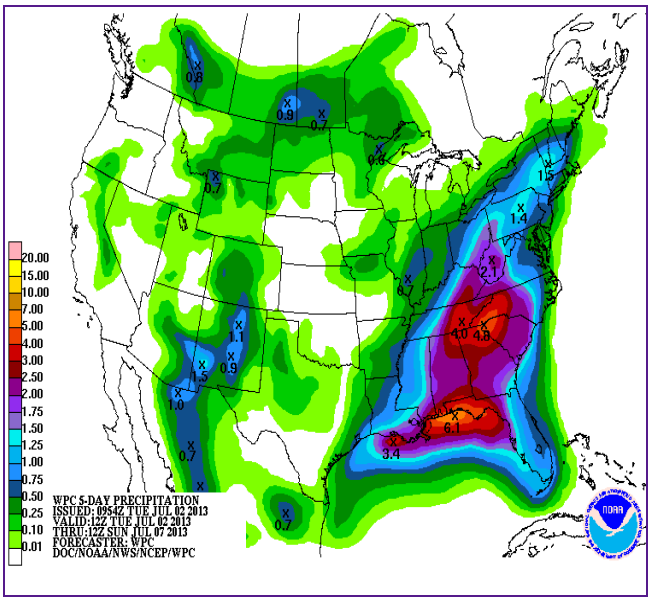
- Temperatures across the basin ranged from 2 degrees colder than average to 2 degrees warmer than average for the month of May
- Warmer than average temperatures were mostly found in WY and cooler than average temperatures were mainly confined to the higher elevations
- Near normal temperatures seen across most of eastern CO

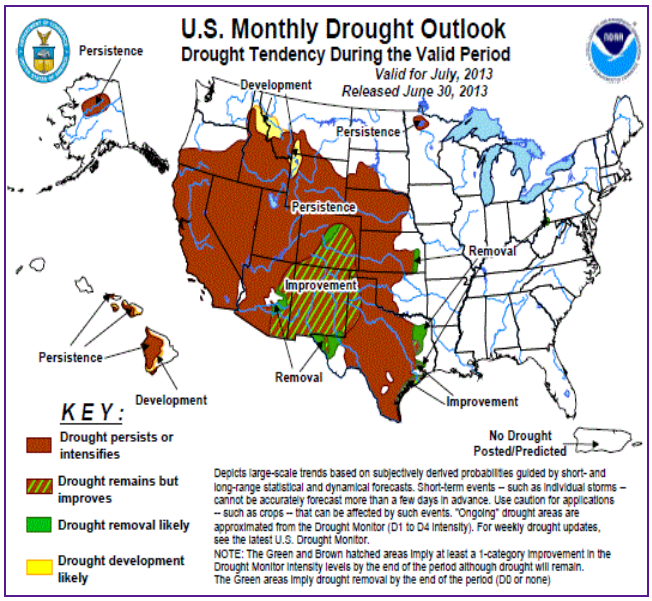
FORECAST AND OUTLOOK





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:

- Chance for a few storms with wetting rainfall over the mountains of southern CO today
- Precipitation will again favor the southern mountains as moisture is

pulled up from the south Wednesday through Thursday
- Expect more widespread storms for late this week into the weekend

Longer Term:

- The 8-14 day outlook suggests above average temperatures and above average precipitation for the southwestern portions of the basin
- 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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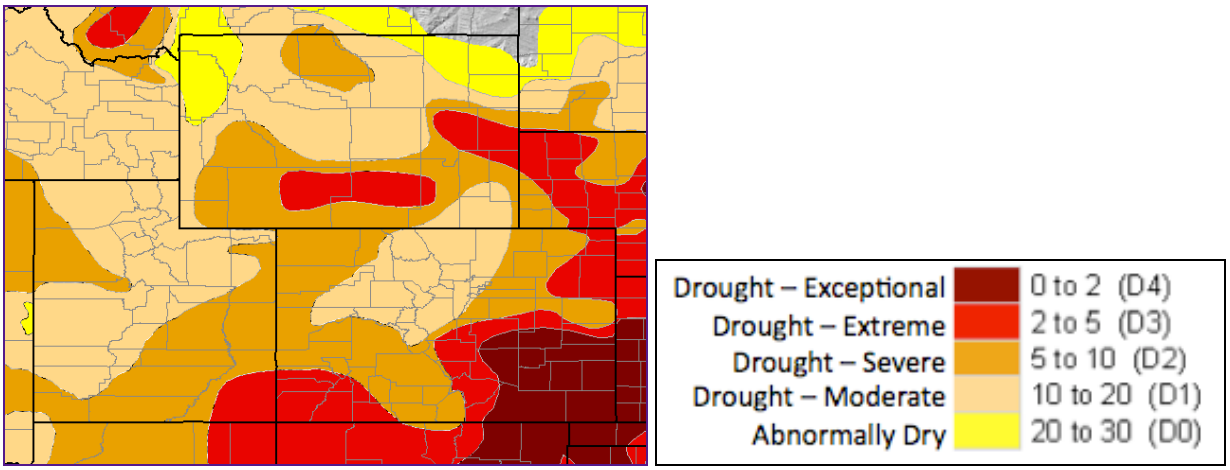
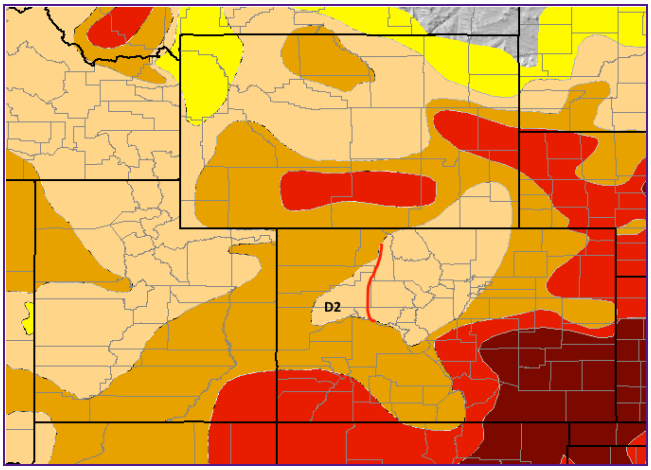
U.S. DROUGHT MONITOR



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 2, 2013

Very little precipitation fell in the basin last week. For most of June, moisture was very limited in the UCRB, with heavier amounts east of the

Continental Divide, and throughout the eastern Colorado plains. However, very warm temperatures and windy conditions have meant the precipitation might not be as beneficial as desired. Much of the region continues to experience high fire dangers (due to dry conditions and high fuels), and several wildfires have burned throughout the area. Streamflows have quickly receded from their seasonal peaks, and reservoir volumes are mostly on the decline for high demand season. The monsoon season is expected to begin soon and may bring some much needed moisture to the region.

Recommendations**

UCRB: A slight expansion of the D2 in western CO is recommended (red line). The area was extremely dry during June, and wildire activity/wildland fuels are an issue in the area. Streamflows in the region are much below normal in the region, and the VIC modeled soil moisture product supports D2. If conditions continue to dry, a further expansion of the D2 could be expected in the coming weeks.

Eastern CO: The current U.S. Drought Monitor author has proposed improvements in NM that could possibly bleed over into Colorado. There may be some justification for improvements to slightly cross the border into Baca County. The county has received near average moisture for the month of June. However, benefits of the precipitation are limited, and long-term impacts are still being reported with little to no recovery in the region. So any improvement crossing the border into Colorado should be very limited. We will defer to the USDM author on the exact delineation.