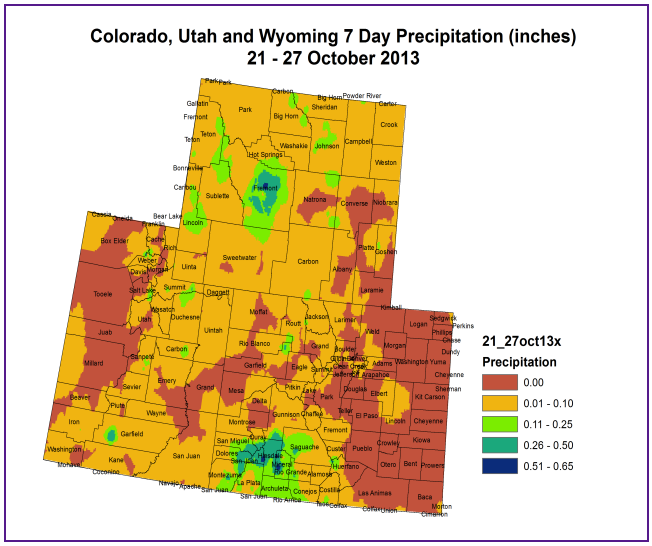
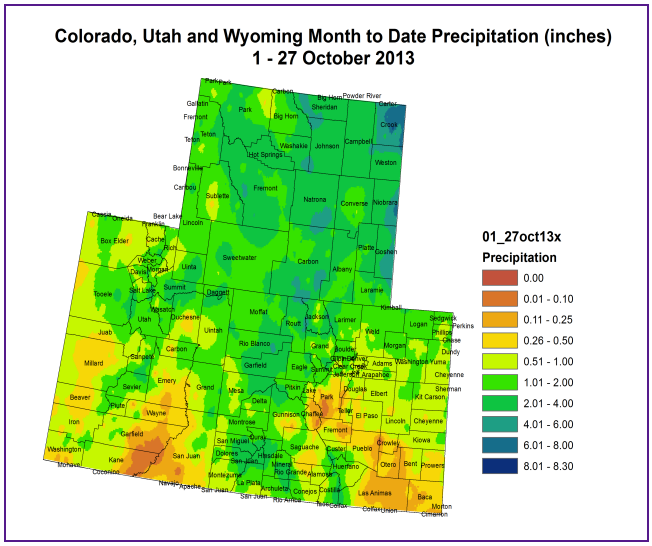
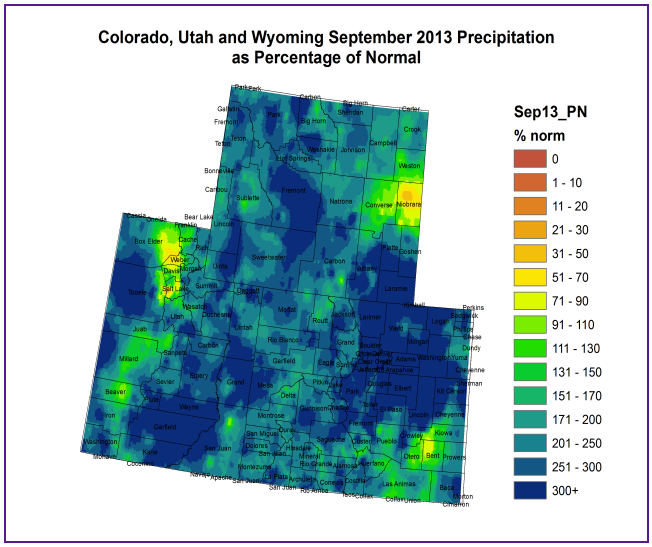
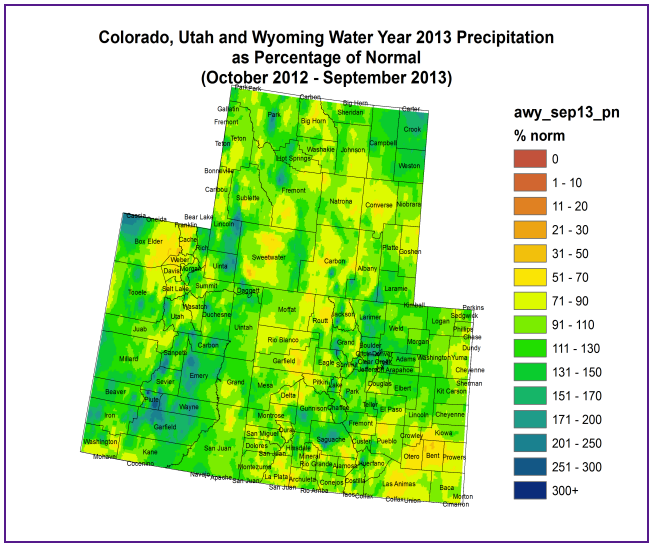
PRECIPITATION









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:

- Much of the UCRB saw very little precipitation over the past week with much of the area receiving less than 0.10" of precipitation. Fremont county in Wyoming (outside UCRB) saw 0.11 - 0.65" over the past week.
- The San Juans in SW Colorado also picked up slightly more moisture between 0.11 - 0.50" with isolated areas receiving slighlty more up to

0.65" in San Juan, Hinsdale and Mineral counties.
- East of the divide in Colorado was dry with the majority of the area receiving less than 0.10" and a widespread ares receiving no precipitation over the 7 days.

September Precipitation:

- Most of the UCRB saw much above average precipitation for September, with a majority of the basin greater than 150% of average
- A few spotty areas in the basin were closer to average
- The Wasatch mountains in northern UT were down to 70% above average
- Thanks to heavy rains most areas of eastern CO and southeastern WY received greater than 300% of average
- Southeastern CO saw less precipitation, especially in Otero, Bent, Kiowa and Prowers counties, between 70% to 130% of average

Water Year Precipitation:

- Much of northeastern UT and western WY received near average to slightly above average precipitation for WY2013 with some drier areas in the Wasatch mountains and in Sweetwater County, WY
- Most areas of eastern UT and western CO received between 90% and 130% of average precipitation for WY2013, with some spotty areas less than 70% of average
- The Four Corners region ranged from 50% to 110% of average with areas up to 150% of average
- The northern and central CO mountains were mostly above average for the water year
- Most of northeast CO was 70% to 130% of average, with areas in the foothills up to 200%
- Most areas of southeast CO were below average, with some regions around the Arkansas River valley between 30% and 50% of average

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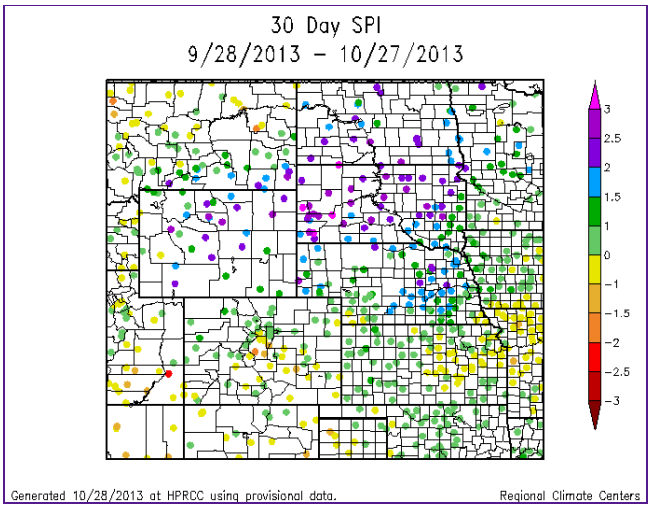
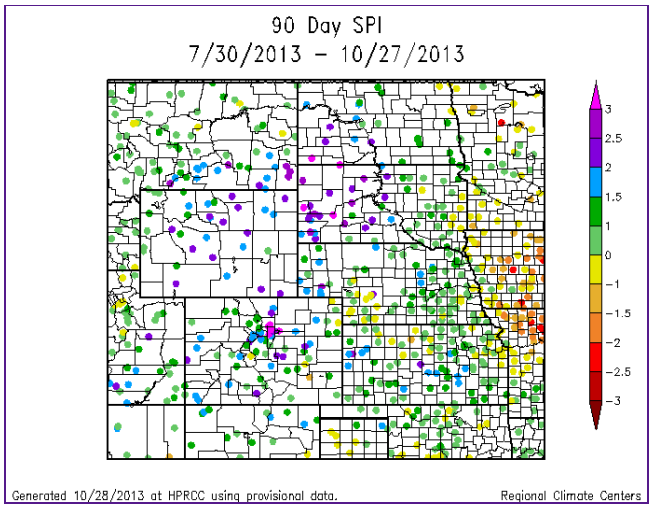
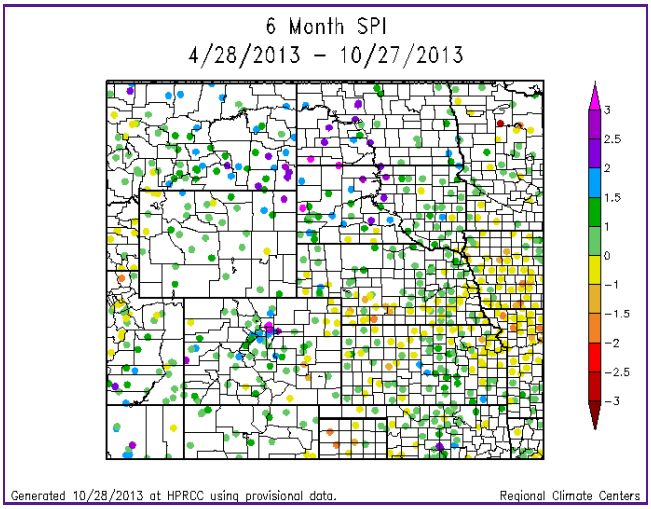
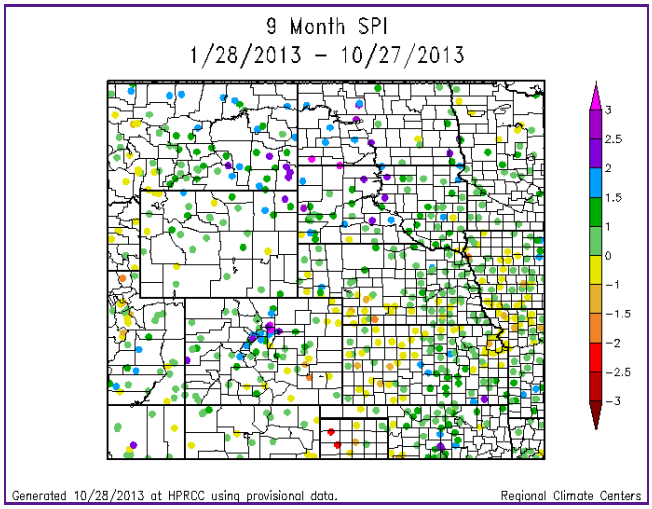
STANDARDIZED PRECIPITATION INDEX









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):

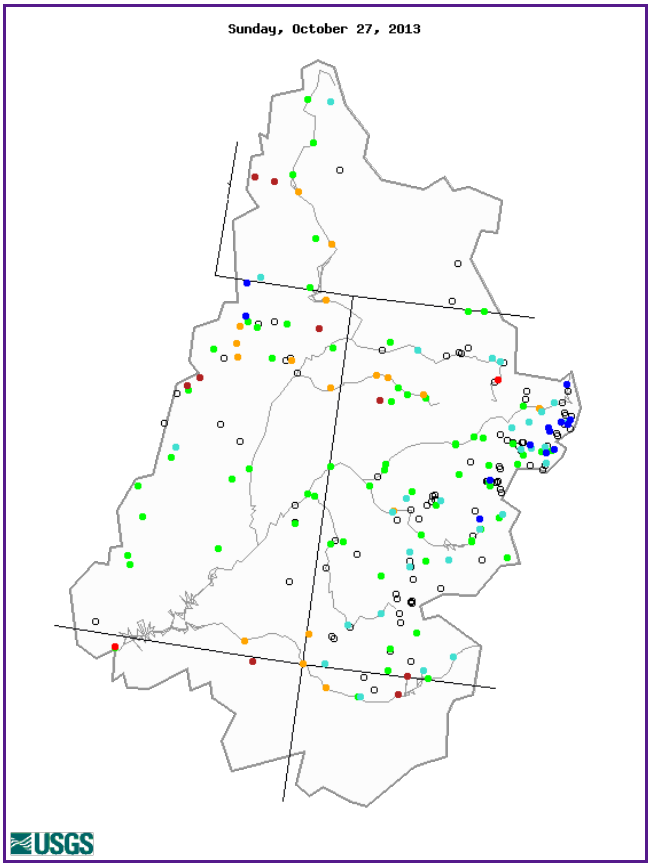
- Much of the UCRB is indicating normal to wet conditions on the short time scale, particularly in the Green River basin in Wyoming.
- SE Utah is indicating dry condtions on the short term with SPI values ranging from 0 to -1.5 with one station showing anomalously dry conditions with a -2 SPI in San Juan county Utah.
- Western Colorado is showing wet SPIs with the exception of the San Juan basin which is showing slightly dry conditions on the short term with SPI's ranging from +1 to -1.
- The NE plains of Colorado are showing wet condtions while the Arkansas basin and headwaters of the South Platte (Park, Clear Creek counties) are indicating dry conditions on the short term with SPI's

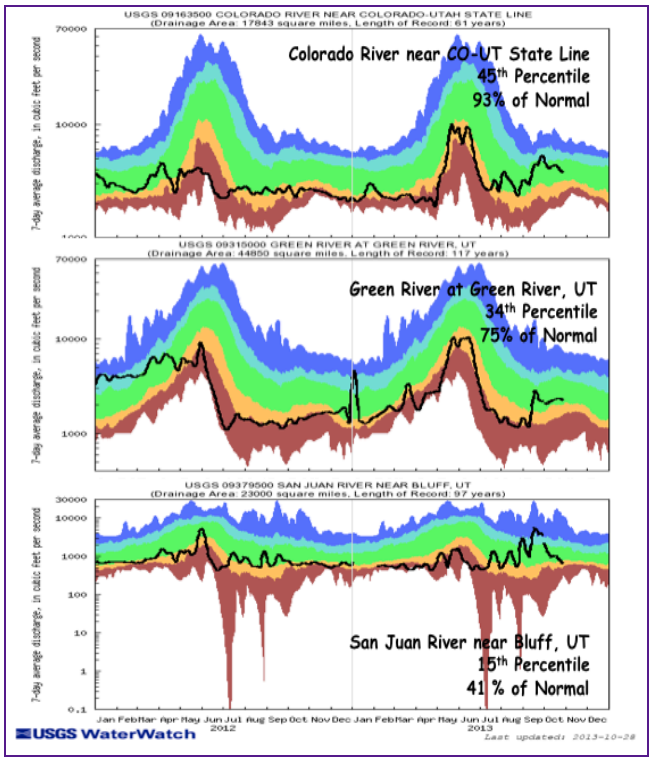
ranging from -1 to -2.

Long Term (6-month):

- The majority of the UCRB and eastern Colorado are indicating wet condtions with the exception of NE Colorado and the Arkansas basin on the longer term.
- NE Colorado SPI's are only slightly dry and range from +1 to -1.
- SE Colorado dryness on the long term is confined to southern Lincoln, Crowley, Otero and western Las Animas counties with SPI's ranging from +1 to -1.5.
- Central Utah is also showing a mixture of slightly wet to slightly dry conditions with SPI's between +1 and -1.

STREAMFLOW





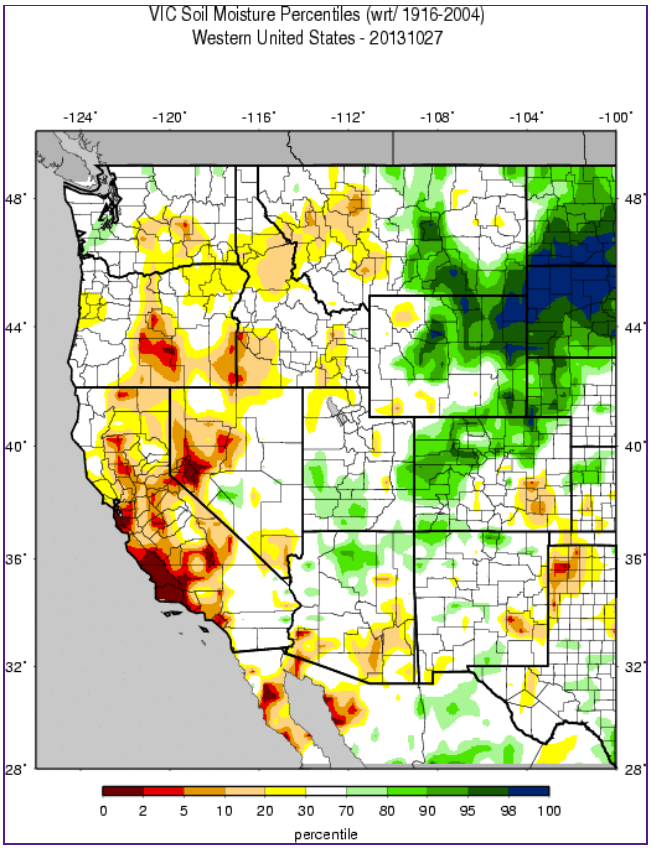
Explanation - Percentile classes							
Low	<10	10-24	25-75	76-90	>90	High	Not-ranked
	Much below normal	Below normal	Normal	Above normal	Much above normal		

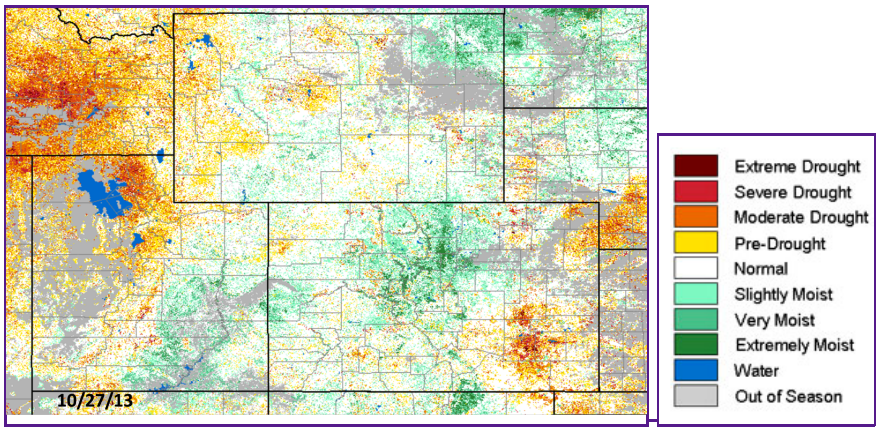
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

Streamflow Statistics:

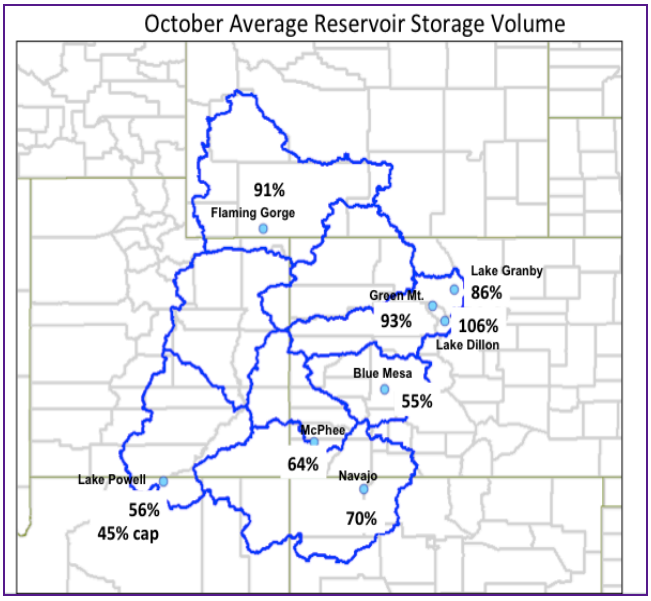
- 69% of gages recording in the normal to above normal categories for 7 day average streamflow.
- 10% of the gages recording in the much above normal category.
- 12% of the gages are recording in the below normal category.
- Only 3% are recording much below normal or low flows
- Highest flows concentrated around the Colorado River headwaters
- The Colorado River near the CO-UT state line currently recording flows at the 45th percentile (93% of normal)
- The Green River at Green River, UT is recording at the 34th percentile (75% of normal)
- Flows on the San Juan River near Bluff, UT have decreased over the past couple of weeks and are currently in the below normal range at the 15th percentile (41% of Normal)

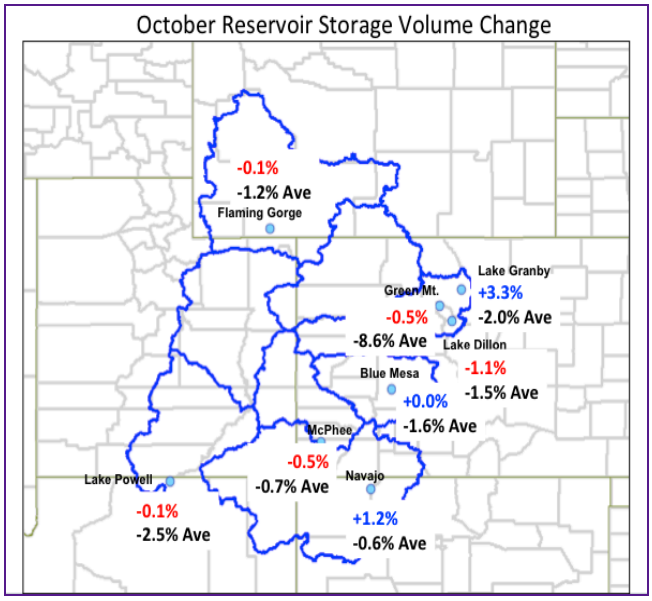
SURFACE WATER





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:

- Vast improvements to the VIC soil moisture product since heavy rains fell over the entire region last month
- Near normal soil moisture conditions in the northern part of the basin and across northern UT
- Wet soil moisture conditions show up over western CO, southern UT, and the southern part of the UCRB
- Wet soil moisture is also prevalent over eastern and central WY and much of northern CO
- The severely drought stricken area around southern Lincoln, Crowley, Otero and Bent counties continues to see dry soil moisture conditions belwo the 20th percentile.

VegDRI 10/27/13:

- The VegDri product is showing normal to moist vegetation conditions throughout much of the UCRB. Areas of pre-drought still exist in Rio Blanco and Moffat counties in NW Colorado as well as western portions of the Green river basin in Wyoming.
- The Wasatch range in Utah is showing pre- to moderate drought through much of NE Utah.
- East of the divide in Colorado some areas are going "out of season" as winter approaches, however Yuma and Sedgwick in NE Colorado and southern Lincoln, Crowely, Otero, Bent, Las Animas and western Cheyenne and Kiowa counties remain in pre- to severe drought conditions.
- Pueblo county also continues to show pre- drought conditions across much of the county.

Reservoirs:

- Granby and Navajo have seen volume increases since the beginning of the month, while McPhee has seen a volume increase over the past couple of weeks
- Green Mountain and Blue Mesa saw increases near the beginning of the month, but an overall decrease for the entire month of October
- Flaming Gorge and Lake Powell have seen very slight decreases for the month. All the reservoirs experienced smaller decreases than what is normal for this time of year
- The northern reservoirs are all near their October averages, ranging from 86% (Granby) to 106% of average (Dillon)
- The southern reservoirs have seen some improvement since August, but are a bit lower than average, ranging from 55% (Blue Mesa) to 70% (Navajo) of average

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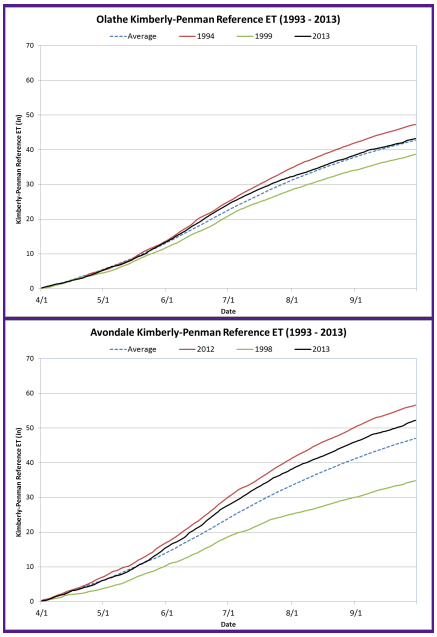
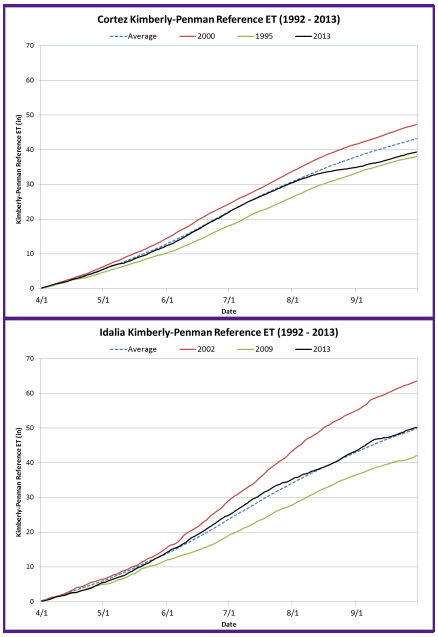
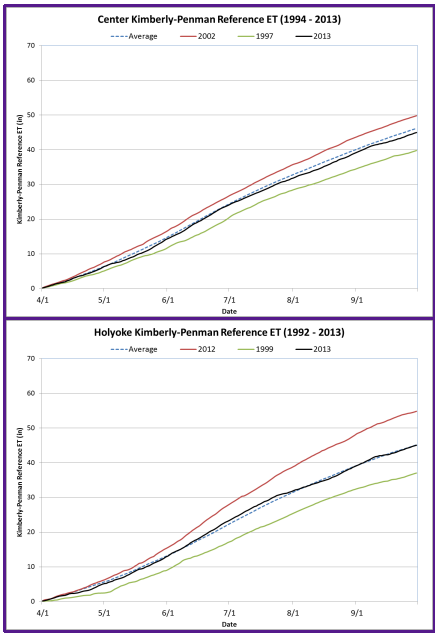
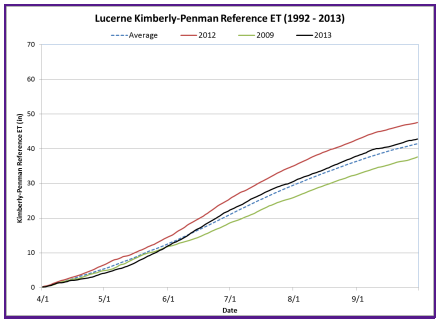
EVAPOTRANSPIRATION







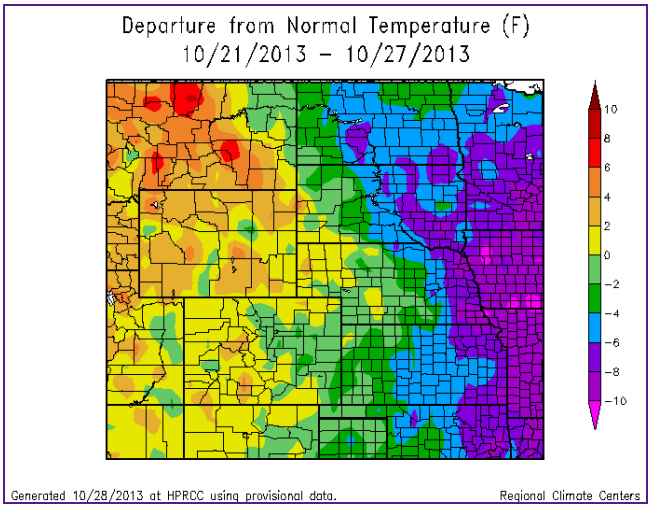


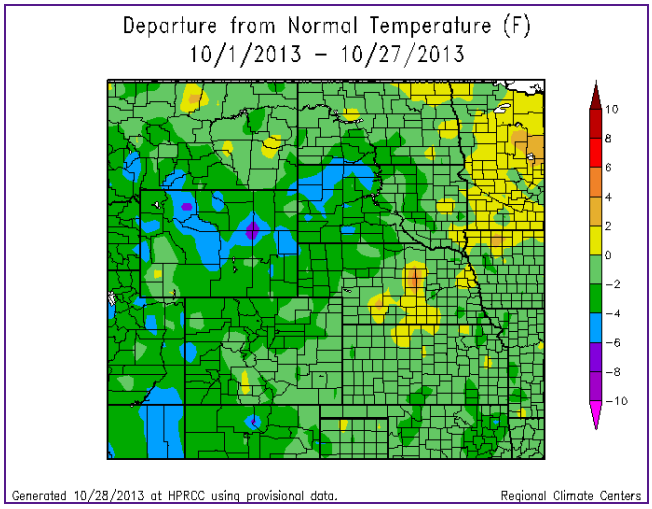
The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a map of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

Reference ET:

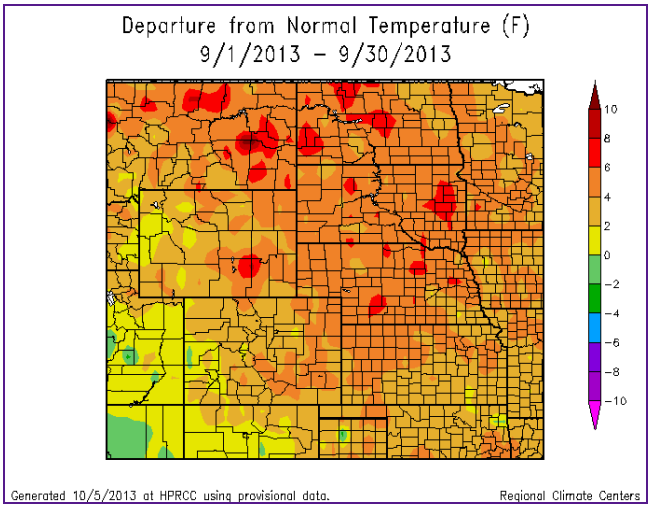
- Olathe: ET has dropped over the past couple weeks and is now very near normal for the growing season to date.
- Cortez: ET was near average for July. Slower ET rates have helped lower that to below average for most of August, currently much lower than average and approaching the low year of 1995.
- Center: ET has been slightly below average since the beginning of July.
- Avondale: ET rates have been well above average for most of the growing season, though still below the record ET year of 2012. ET rates have slowed somewhat since late July but are still above average for the growing season.
- Idalia: ET was above average for July. ET rates slowed and ET have been close to average for the past few weeks and is now just slighly above normal for the growing season.
- Holyoke: ET rates dropped to slightly below average after being slightly above average for July. ET has been near average for the past couple of weeks
- Lucerne:ET has been slightly above average since late June.

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.



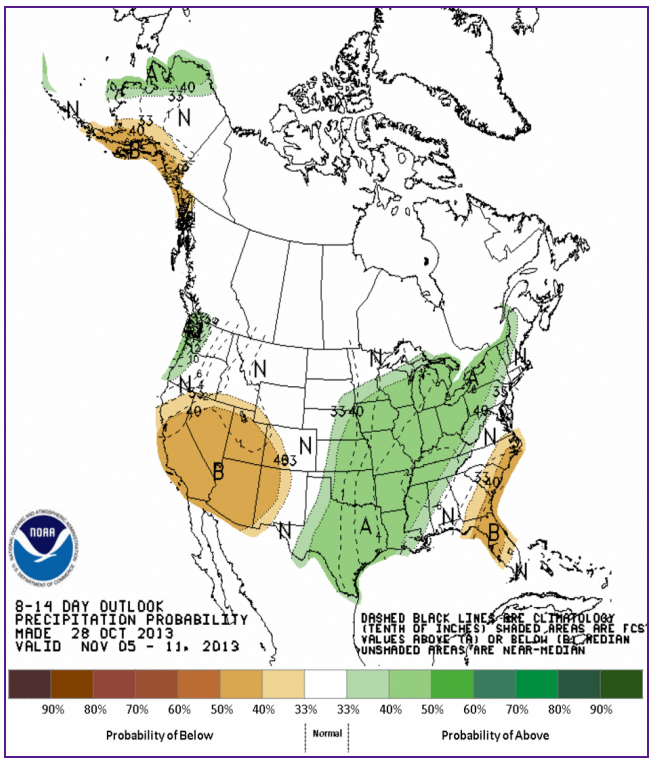
Last Week Temperatures:

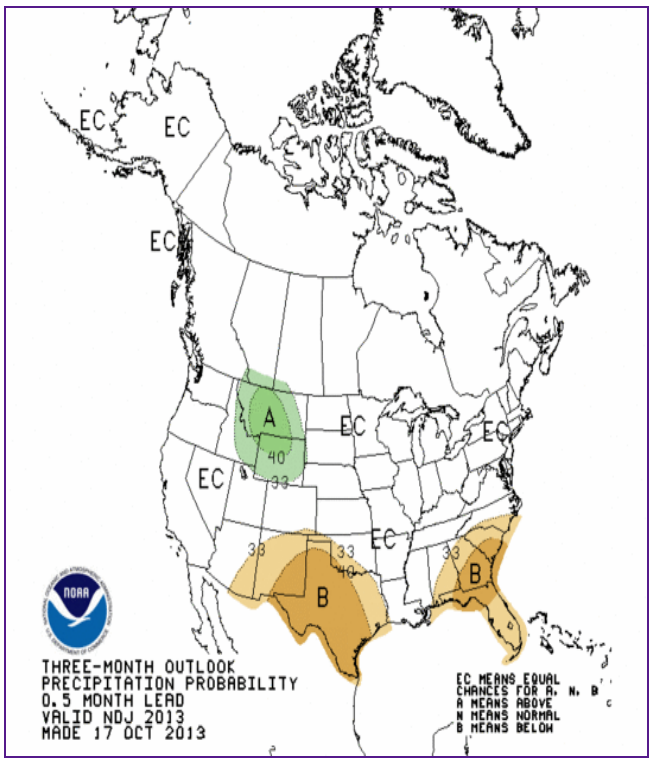
- The northern portion of the UCRB saw normal to above normal temperatures ranging 0 to 6 degrees above normal.
- The southern portion of the UCRB in Colorado and Utah saw more near normal temperatures over the past week ranging -2 to +4 degrees from normal.
- East of the divide in Colorado saw mainly below normal conditions for the week ranging 0 to -4 degrees from normal

Last Month Temperatures:

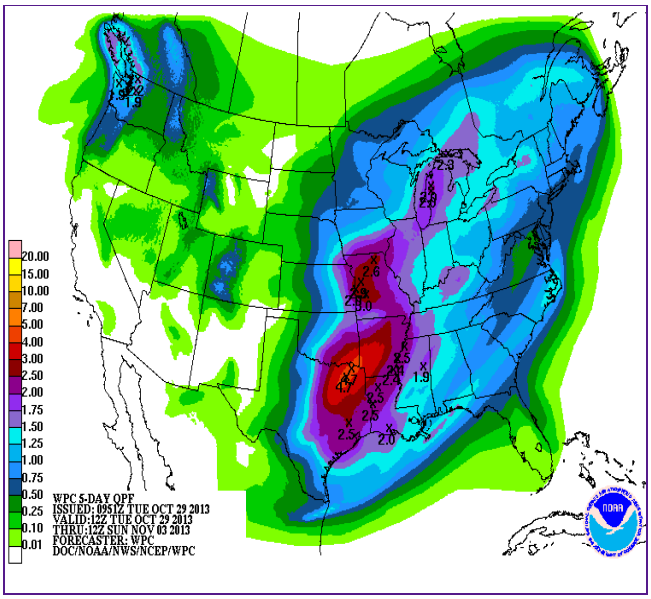
- September brought near to above average temperatures across the entire UCRB.
- The northern portion of the basin saw temperatures 0 to 4 degrees above normal with isolated areas up to 6 degrees above normal.
- Eastern Utah and extreme western Colorado were closer to normal with temperatures 0-2 degrees above normal.
- The Yampa, White, Upper Colorado, and Gunnison basins all saw temperatures 2-4 degrees above normal.
- The eastern Plains in Colorado saw temperatures 2-6 degrees above normal, with the highest on the far eastern plains near the NE/KS borders.

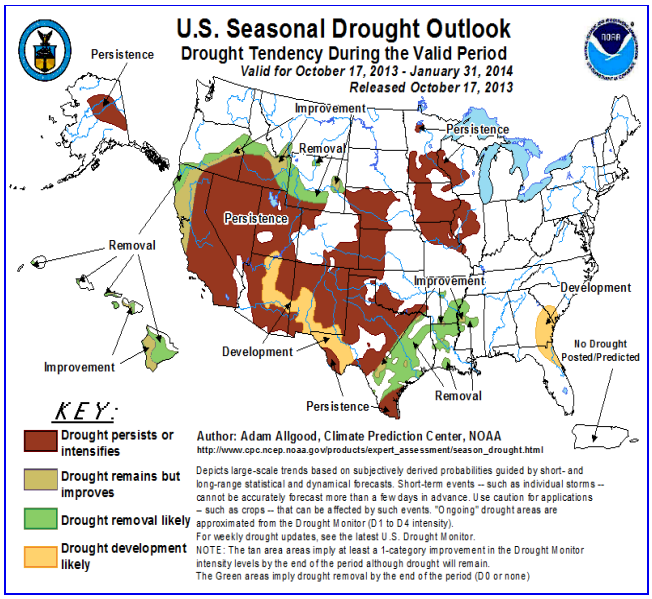
FORECAST AND OUTLOOK

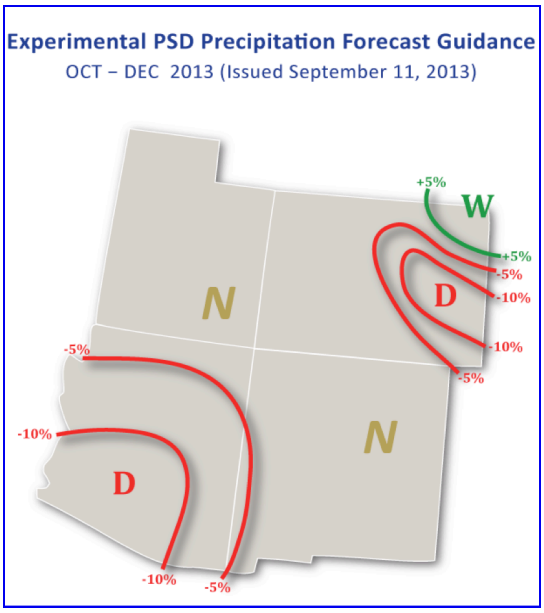


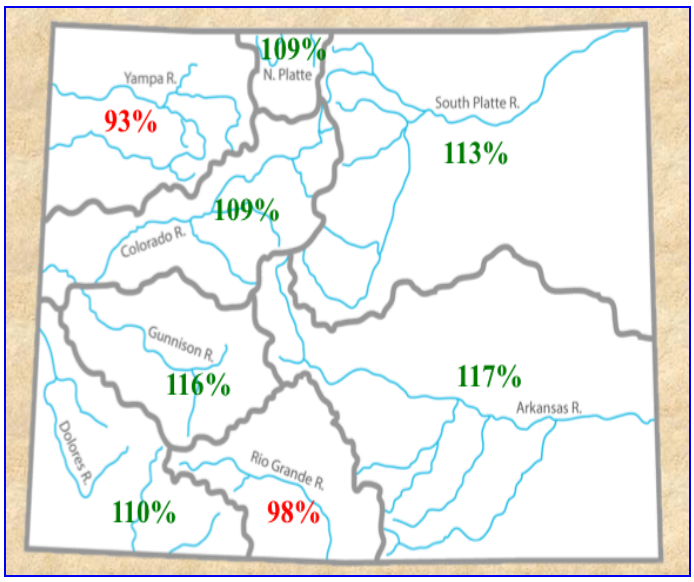


The top two images show Climate Prediction Center's Precipitation outlooks for 8 - 14 days (top left) and 3 months (top right). The bottom left image shows the Hydrologic Prediction Center's Quantitative Precipitation Forecast accumulation for the five days between Tuesday 12Z and ending Sunday 12Z. The bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.









Two above images created by Klaus Wolter. The left image shows the experimental statistical forecast for October - December precipitation. The right image shows the median forecast for January 1 snowpack.

Short Term:

- A cold front will bring mountain snow and valley rain mainly over the western slope of Colorado through Wednesday.
- The plains will dry out by Wednesday night but the mountains will retain a chance of snow showers through Friday.
- The next system is forecast to move through the region next Monday.

Long Term:

- Models pointing to near-neutral ENSO conditions for the winter
- CPC calling for equal chances between wet/dry/near normal conditions for the fall and into winter
- Klaus Wolter's experimental forecast product calls for an increased chance of dry conditions in southeast CO and much of Arizona, with near normal conditions across the UCRB
- Klaus Wolter's new early season snowpack forecast shows the chance for above average January 1 snowpack values for most of the sub-basins in CO, with slightly below average January 1 snowpack values for the Yampa and Rio Grande sub-basins

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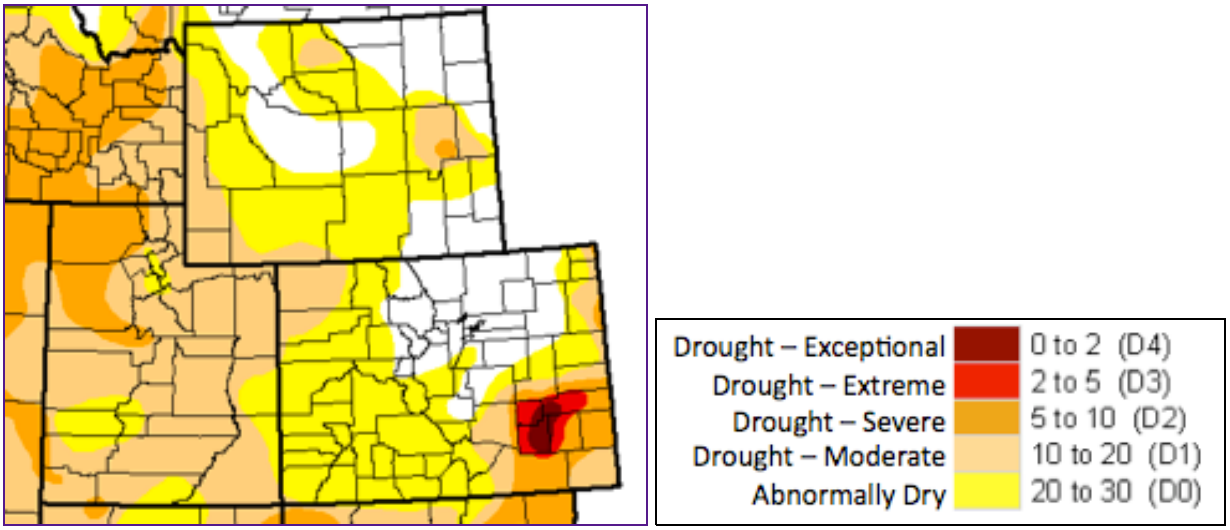
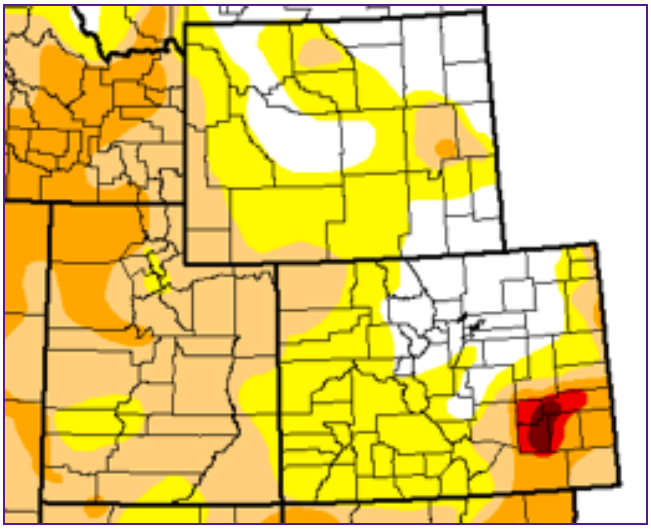
U.S. DROUGHT MONITOR



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: October 29, 2013

A farily quiet week across much of the region with little precipitation falling over the 7 day period lends itself to leave the U.S. Drought Monitor as is after several weeks of improvements.

Recommendations**

UCRB:

Status quo isr recommended for the UCRB.

Eastern Colorado:

Status quo is recommended for eastern Colorado.