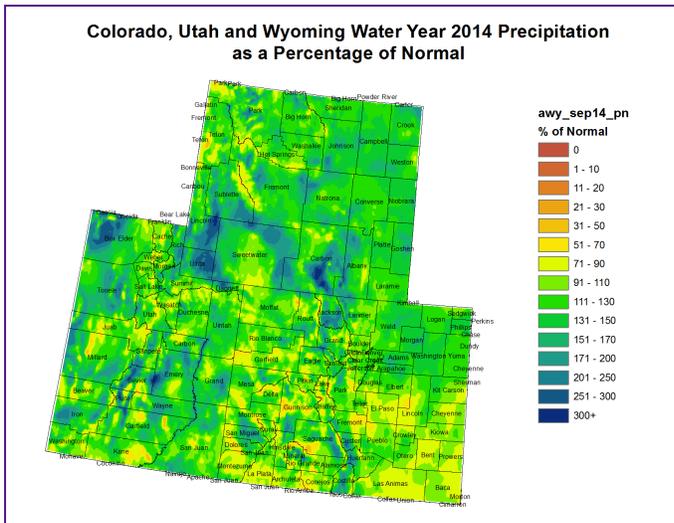
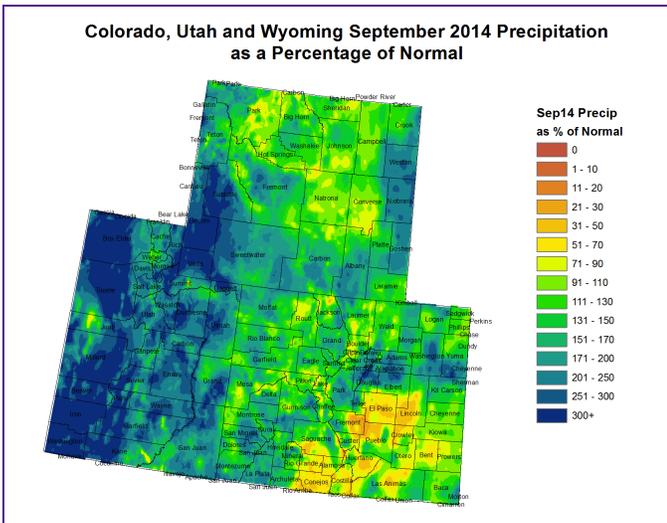
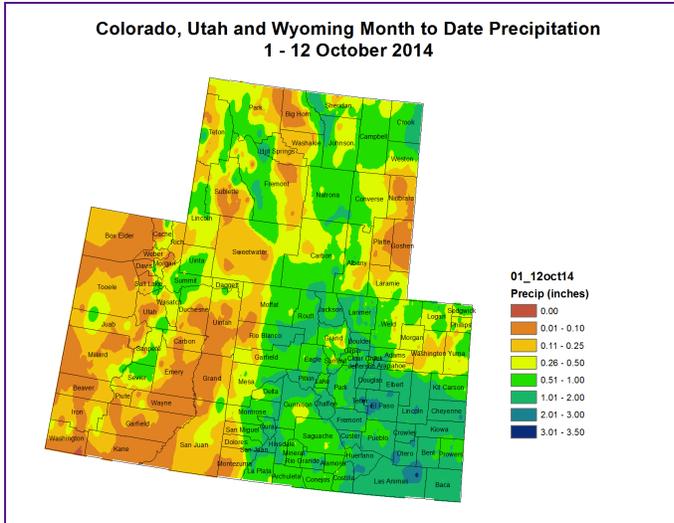
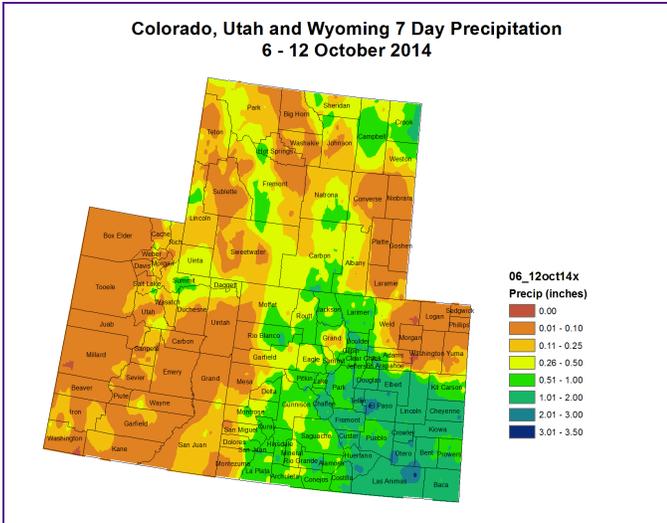


NIDIS Upper Colorado River Regional Drought Early Warning System October 14, 2014



Precipitation	SPI	Streamflow	Surface Water	ET	Temperature	Outlook	USDM Discussion
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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:

- It was a mixed week in the UCRB last week. The western and northern portions of the basin in UT and WY were drier with less than 0.25" over most of this area, with an area up to 0.5" in northeastern UT and southwestern WY.
- The eastern portion of the basin in CO saw beneficial precipitation with much of the mountains seeing 0.5 to 1.00" of liquid precipitation. Much of the precipitation that fell later in the week fell as snow. Lower precipitation amounts, between 0.25" - 0.50", fell in the valleys.
- East of the divide saw widespread precipitation over much of eastern Colorado.
- The northeastern counties (Weld, Logan, Sedgwick, Phillips, Yuma, Washington, and Morgan) missed out of the rain that fell, seeing less than 0.10" over much of the area.

- Along the northern Front Range and the Denver Metro area, precipitation amounts were up to 1.00", with pockets in Boulder County over 1.00".
- The rest of Colorado, saw widespread amounts of 1-2" with pockets in El Paso, Otero and Las Animas counties over 2".
- The San Louis Valley also saw amounts between 0.5-1".

September Precipitation :

- The majority of the UCRB had a well above average September for precipitation. The headwaters of the Green River saw widespread areas of above 300% of average precip for the month. Some of these areas include parts of Uintah, and Grand Counties in Utah as well as Uintah, Sublette, and Lincoln Counties in Wyoming.
- East of the CO-UT state line precipitation totals were closer to normal for the month on average.
- The Four Corners area was generally between 100% and 200% of normal for the month. A small portion of Dolores County was below normal.
- Precipitation was in the normal range for the northwest portion of the state with spotty areas receiving as much as 200% of normal.
- The San Luis Valley was mostly below normal for the month (between 50 and 90% of average). Some portions of Conejos and Saguache Counties reported as little as 30% of average precipitation for the month.
- East of the divide there is a large gradient in the percentage of average precipitation for the month of September right along the Palmer Divide. Areas just north of the Palmer Divide experienced well above average precipitation for the month. Douglas, Elbert, Arapahoe, Washington, and Yuma Counties show widespread areas above 200% of average.
- South of the Palmer Divide in El Paso, Fremont, and Lincoln Counties precipitation totals were between 30 and 50% of average.
- The northeastern CO counties saw much above average precipitation, mainly 150% to 100% of average precipitation for August.
- The northern Front Range had an average month with precipitation totals between 70 and 130% of average.
- In the extreme southeast portion of the state there is a large gradient where precipitation totals were as much as 200% of average right at the corner of the state, but as little as 50% of average in large areas of Bent, Prowers, Otero and Las Animas Counties.

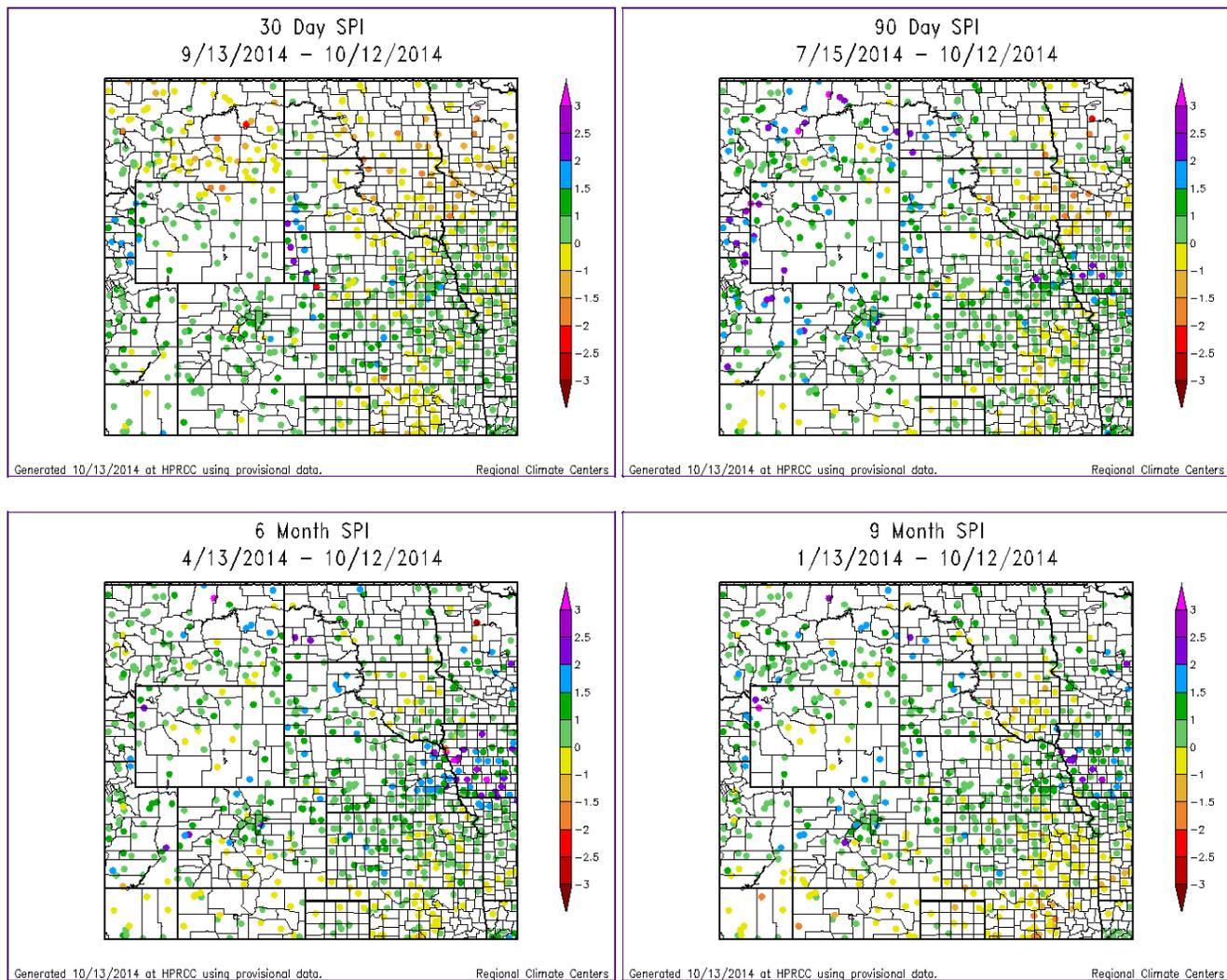
Water Year Precipitation:

- Much of the UCRB is now near or above average for the Water Year through August, with spotty areas below average.
- Most of the northern portion of the basin in Wyoming is above average, with portions of Lincoln, Uinta, and southern Sublette counties 200% to 250% of average.
- Much of eastern UT is now near average, with no widespread areas clearly above or below normal. The distinction between above areas with above and below a normal water year here is very spotty.
- Western Colorado is a bit spottier than Utah with precipitation as a percent of average, however much of the area is near average for the Water Year. Most of the western slopes are between 70 and 110% of average for the water year. Some spotty areas including parts of San Miguel, Mineral, and Mesa Counties were over 200% of average for the water year.
- The northern portion of the Colorado River headwaters area is still much above average, mainly greater than 130% of average.
- East of the Divide a north-south gradient exists in water year precipitation as a % of average. The north-south gradients in soil moisture and vegetative health echo this gradient quite clearly.
- Almost all of the northeastern plains were above average for the 2014 water year. Percents of average were between 90 and 150.
- Most of the Front Range was between 90 and 130% of average for the water year.
- Southeastern CO has improved, but still came in below normal for the 2014 water year across the majority of the region. Totals were mainly between 70 and 110% of average.
- A strip in the southern Colorado Rockies extending through Costilla, Huerfano, and Custer Counties had an above average water year. Totals were between 150 and 250% of average.

Additional Precipitation Links: (will take you to an outside website)

[AHPS Precipitation](#)

[High Plains Regional Climate Center's ACIS Maps](#)



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):

- Most of the UCRB is reporting positive SPIs on the short time scale. Most SPIs in the region are between 1 and 2, with the exception of a few stations reporting at -1.
- The San Luis valley was one of the drier areas in Colorado, however SPIs have rebounded over the last month. SPIs here are now positive between 0 and 1.
- On the Front Range SPIs are between 0 and 1. One station is reporting over +2 in Douglas County.
- The plains are now showing positive SPI for the past 30 days over most of the plains, in the range of 0 to +2.

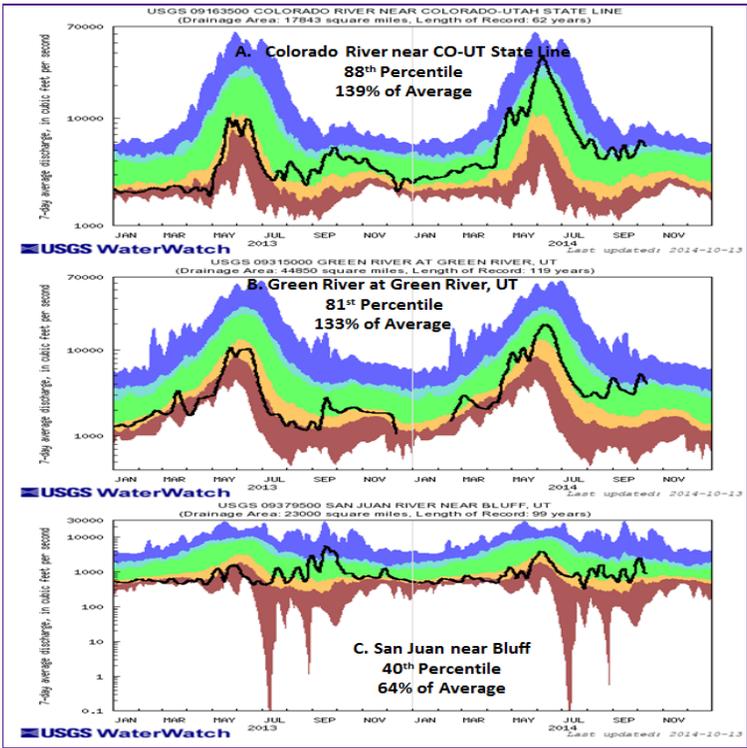
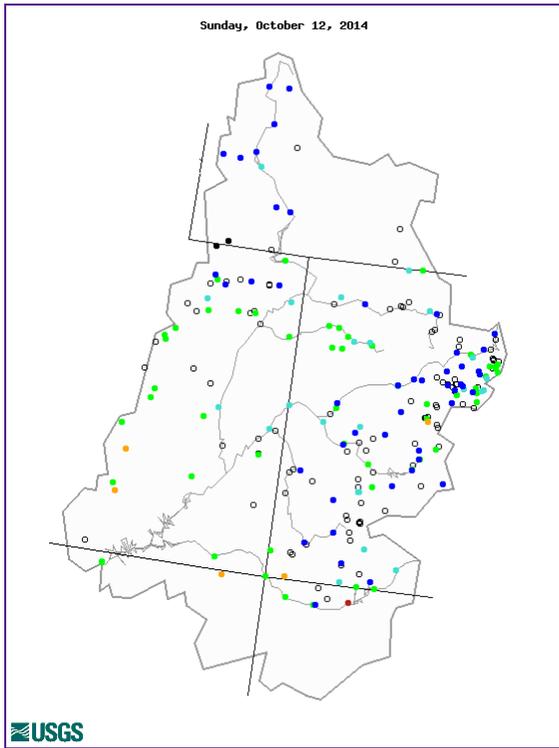
Long Term (6-month):

- Much of the UCRB is indicating wet SPIs on the long term. The Four Corners and Gunnison County are still showing some drier SPIs between -1 and +1.
- SPIs right along the Colorado River are between +1.5 and 2.5.
- The San Luis valley dries out on the longer time scale with SPIs between 0 and -1.
- East of the divide, the northern plains are reporting mainly wet SPIs from 0 to +1.5.
- The southern plains are still showing dryness on the long term in Lincoln, Pueblo, Las Animas and Baca Counties with SPI down to -1, while the rest of this area is now showing positive SPI up to +1.5.

Additional SPI Links: (will take you to an outside website)

[WestWide Drought Tracker SPI Maps](#)

[HPRCC's SPI Maps](#)



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		

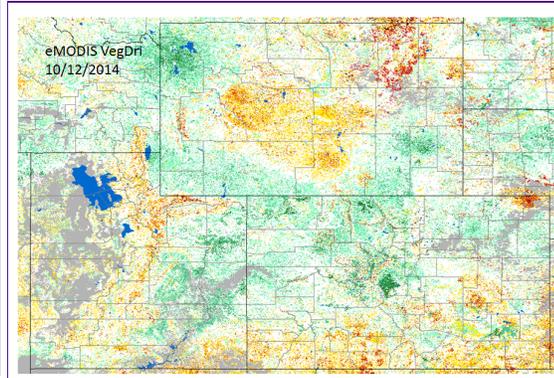
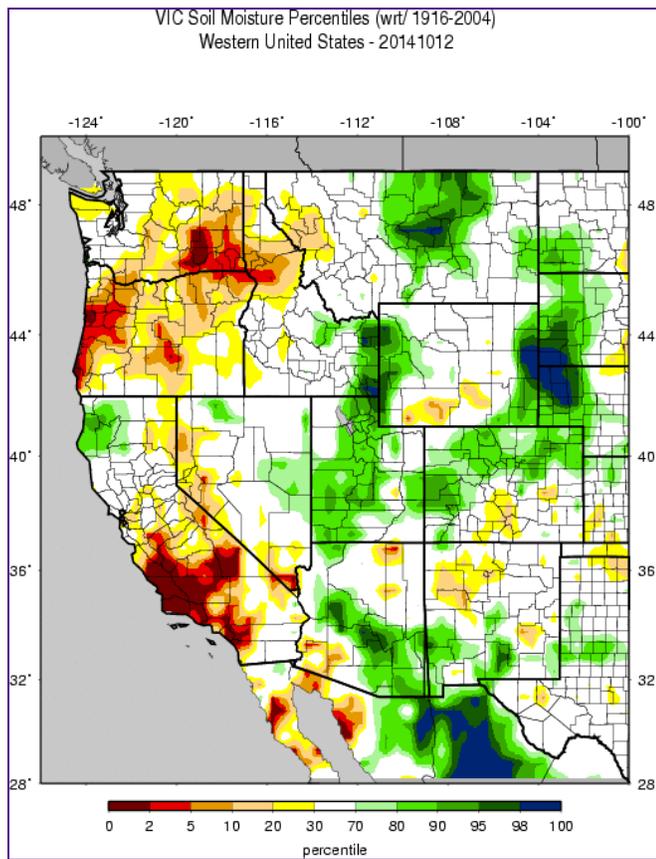
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

Streamflow Statistics:

- 96% of the gages in the UCRB are reporting above the 25th percentile for the 7-day average streamflow.
- 54% of the gages are reporting above normal to much above normal (75th and greater percentile).
- 5% of the gages are reporting below the 25th percentile for the 7-day period (below normal, 5%, much below normal, 1%).
- Streamflow on the Colorado River near the CO-UT state line is above average, reporting in the 88th percentile (139% of average).
- The Green River at Green River, UT is also reporting above average, in the 81st percentile (133% of average).
- The San Juan River near Bluff, UT has decreased this week to the 40th percentile at 64% of average.

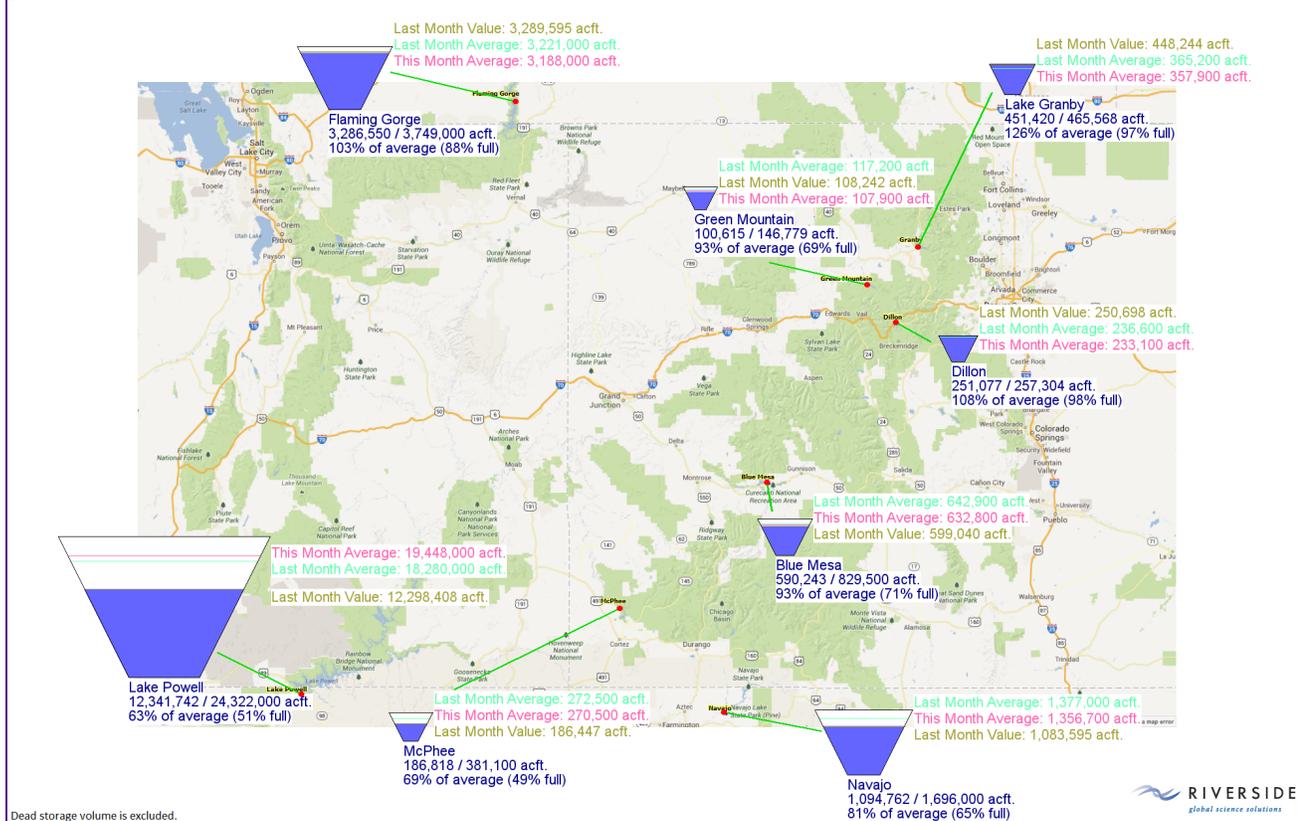
Additional Streamflow and River Links: (will take you to an outside website)

- [USGS Streamflow Drought](#)
- [CBRFC Peak Flow Forecast Conditions Map](#)



The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows VIC modeled soil moisture combined with SWE as a percentile ranking.

2014/10/13



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.

VIC:

- VIC modeled soil moisture totals in the UCRB are generally at or above the normal range.
- Sweetwater County, WY still shows dry soils between the 10th and 30th percentile, with a few pockets showing up down to the 10th percentile.
- Soil moisture is in the normal range in the Four Corners area.
- The San Luis valley is showing dry soils, ranging from the 10th to 30th percentiles.
- East of the divide, the northern plains are showing moist soil conditions from the 30th to 95th percentile.
- The southern plains have improved thanks to the last week of precipitation. Most of the area is now showing normal soil moisture. There are still dry soils showing up in southern Lincoln County and slightly dry soils in eastern Bent County.
- Despite the precipitation last week, the San Luis Valley is still seeing dry soils, however have improved.

VegDRI:

- The VegDRI is showing healthy vegetation over southwestern Wyoming, eastern Utah and NW Colorado over the past few weeks. Parts of Sweetwater and Sublette counties in Wyoming are showing poorer vegetation in the pre to moderate drought condition category. The Wasatch and Uintah Ranges in NE Utah are also seeing pre to moderate drought conditions.
- The Four Corners area is still indicating dry vegetation conditions from San Juan county, UT east into the San Luis valley. These areas are mainly in the pre- to moderate drought category.
- The San Luis Valley is indicating drier conditions than areas farther west. This index gets down into the severe drought classification in the valley.
- The Front Range is showing vegetative health conditions in the normal range.
- Again, east of the divide there is a north-south gradient. The northern plains are doing great in terms of vegetation health and the dry area in Sedgwick County is likely not valid based on ground reports.
- Farther south on the eastern plains is showing a mixed bag of conditions. Irrigated areas along the Arkansas basin are showing wet conditions while the surrounding areas are mainly reporting in the pre- to moderate drought classification.

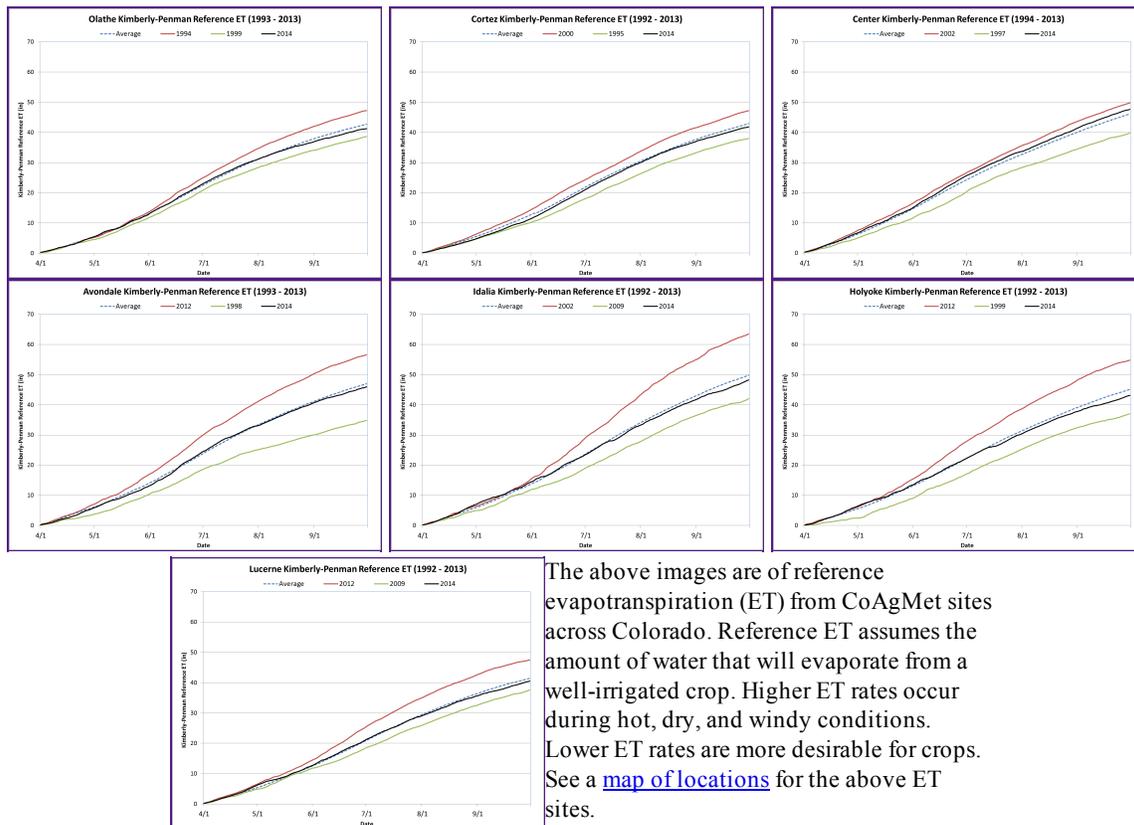
Reservoirs:

- The reservoirs in the drought monitor region are showing the normal volume decreases except for Lake Powell, Navajo and Granby, which are increasing in volume.
- Flaming Gorge is 103% of the October average.
- Green Mtn is 93% of October average.
- Lake Granby is 126% of October average.
- Lake Dillon is at 108% of the October average.
- Blue Mesa is 93% of the October average.
- Navajo is 81% of the October average.
- McPhee is 69% of the October average.
- Lake Powell is 63% of average and 51% full.

Additional Surface Water Links: (will take you to an outside website)

[NLDAS Drought Monitor](#)

[Bureau of Reclamation Upper Colorado River Basin Teacup Diagrams](#)

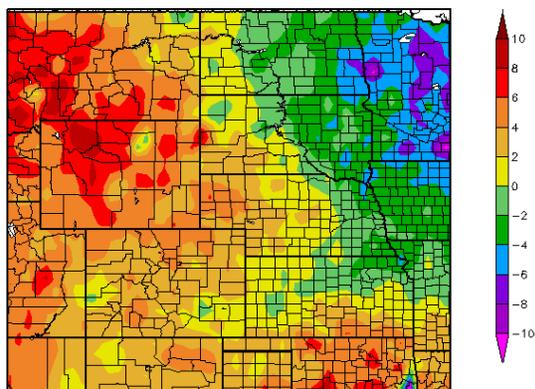


The above images are of reference evapotranspiration (ET) from CoAgMet sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of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

Reference Evapotranspiration:

- Olathe: ET has dropped off since the middle of August and has finished the growing season below average.
- Cortez: ET tracked below normal all growing season and finished the season slightly below normal.
- Center: ET has continued to track above normal since early June, but is still finished the growing season well lower than its high year in 2002.
- Avondale: ET is tracking just slightly below the growing season average, and has dropped farther below normal since the start of September. ET has finished the growing season below normal.
- Idalia: ET dropped in mid-July with monsoonal moisture coming into the area. In the start of September ET fell even lower and finished the growing season well below normal.
- Holyoke: ET dropped off in mid-July and has tracked even lower since then. ET at the end of the growing season is well below average.
- Lucerne: ET rates are tracking slightly below average for the growing season since the end of July. ET rates began to fall even lower at the beginning half of September, but rebounded in the latter half of the month. ET for the growing season finished just below normal.

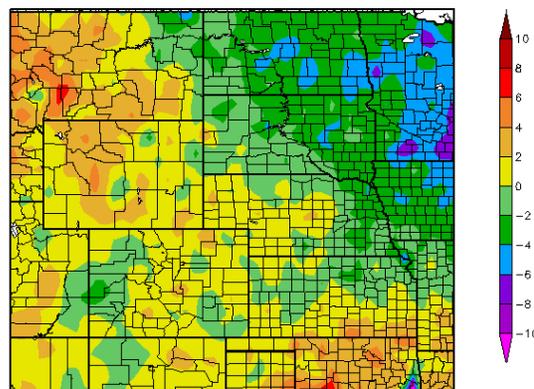
Departure from Normal Temperature (F)
10/6/2014 – 10/12/2014



Generated 10/13/2014 at HPRCC using provisional data.

Regional Climate Centers

Departure from Normal Temperature (F)
10/1/2014 – 10/12/2014

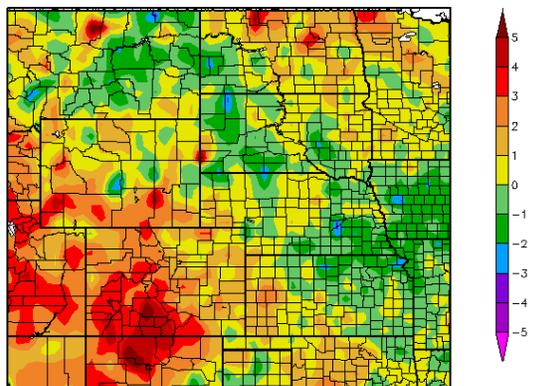


Generated 10/13/2014 at HPRCC using provisional data.

Regional Climate Centers

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.

Departure from Normal Temperature (F)
9/1/2014 – 9/30/2014



Generated 10/11/2014 at HPRCC using provisional data.

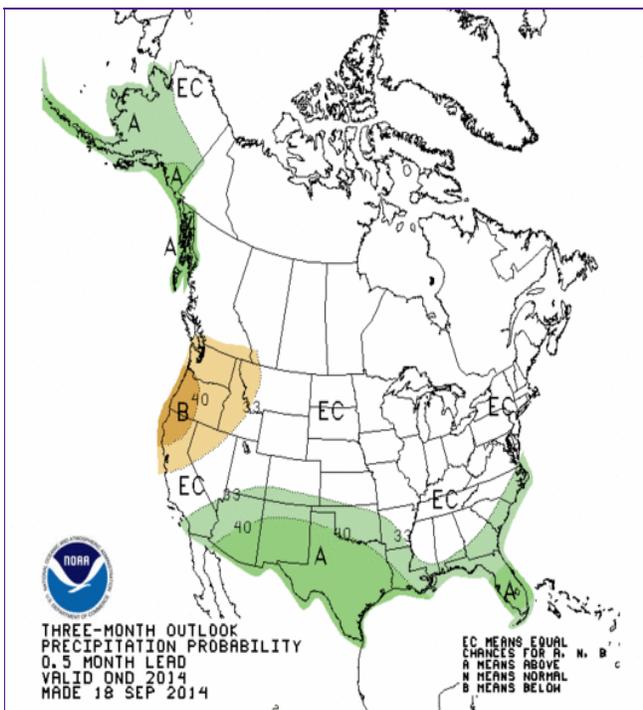
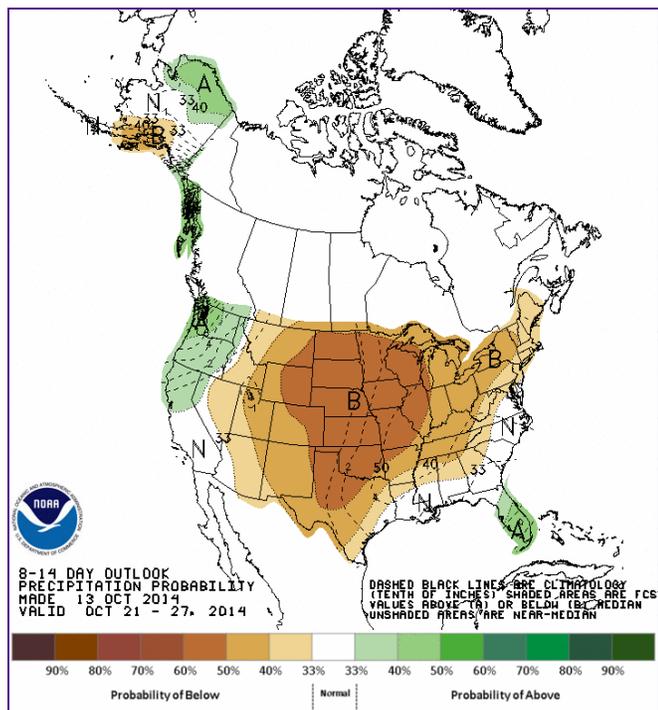
Regional Climate Centers

Last Week Temperatures:

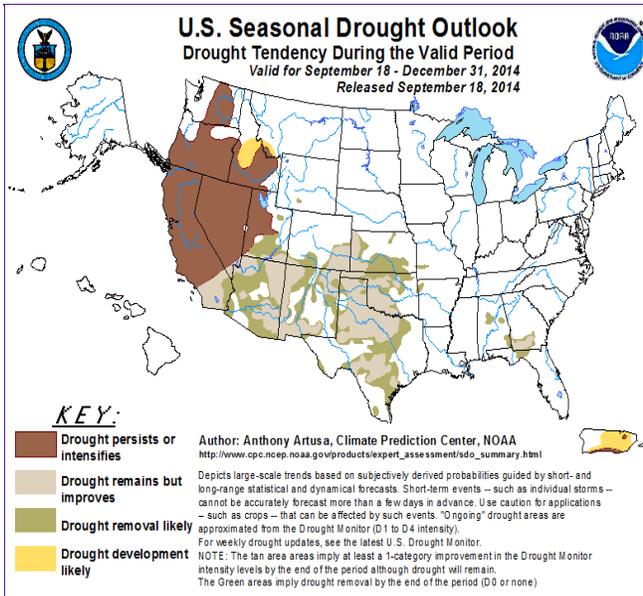
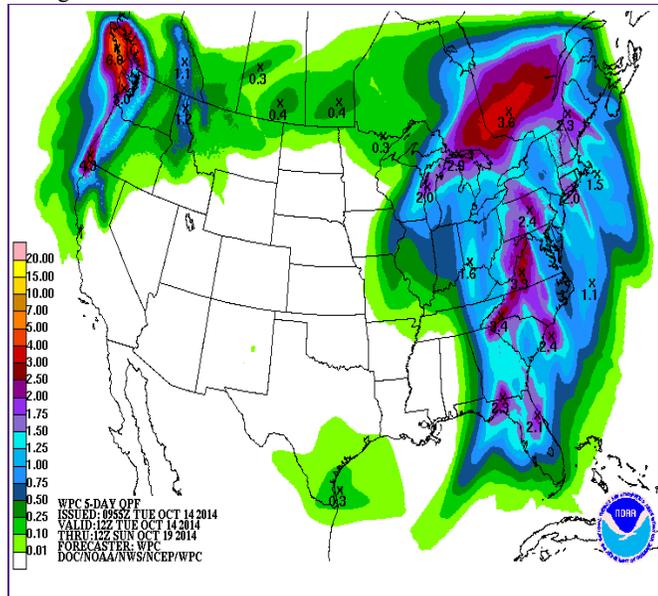
- The UCRB saw above average temperatures last week. Southwest WY and eastern UT saw temperatures 4-6 degrees above average. Eastern Sweetwater County, WY was warmer with temperatures 6-8 degrees above average. Western CO was not as warm, only seeing 2-4 degrees above average with a pocket in Mesa County 0-2 degrees above average.
- East of the Divide, was mostly above average temperatures. The northern Front Range was the warmest with 4-6 degrees above average. Northeastern CO saw 2-4 degrees above average and southern CO, where most of the precipitation fell, saw 0-2 degrees above average with an area in Crowley and Otero counties seeing 0-2 degrees below average.

Last Month Temperatures:

- September temperatures in the UCRB, Wyoming and much of Colorado were mostly above average.
- The Upper Green River basin in WY was mostly 1 to 3 degrees above average, with southern Lincoln County, WY was 3-5 degrees above average.
- Eastern UT saw temperatures mainly 3 degrees above average with a few areas 4 degrees warmer than average.
- Northwestern CO saw temperatures 1-3 degrees above average, while temperatures farther south were 3-4 degrees above average, with pockets near the Four Corners area up to 5 degrees above average.
- East of the divide most of the Front Range was between 1 and 2 degrees below average for September with Larimer County being near average.
- The eastern plains saw 1 to 2 degrees above average for the month.
- The San Luis Valley saw temperatures greater than 4 degrees above average. These warm temperatures saw their way east in to Las Animas County.



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.



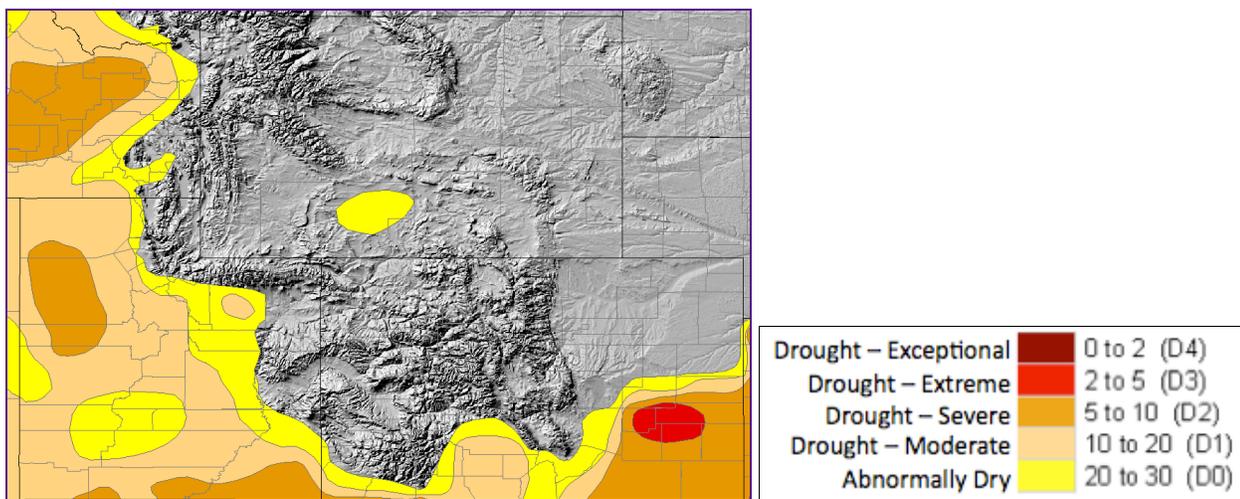
Short Term:

- As High Pressure builds over the Rockies, the UCRB and eastern Colorado will be mild and dry through the weekend. The San Juan Mountains may see a slight chance of showers this weekend, while the rest of the area remains dry.

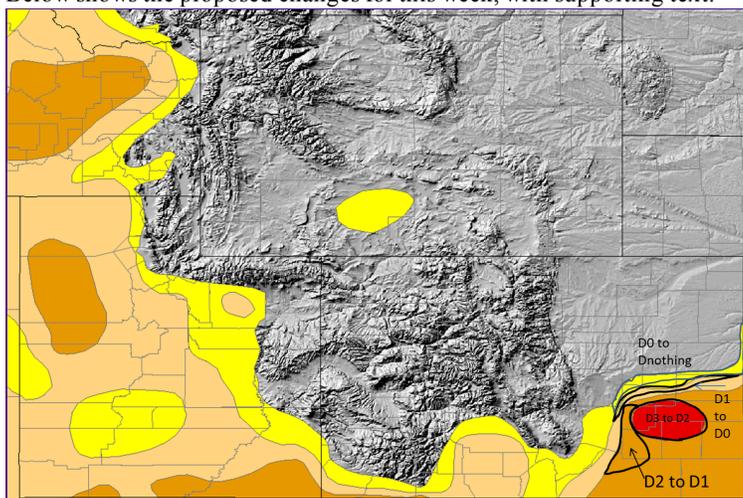
Longer Term:

- The 8-14 day precipitation outlook shows increased chances for below normal precipitation over the whole Drought Monitor area. Higher chances for below normal precipitation are predicted for eastern Colorado.
- The 8-14 day temperature outlook (not pictured) shows high chances for above normal temperatures over all of Colorado and the UCRB.
- The CPC 3-month outlook shows equal chances for wetter or drier than normal conditions over the UCRB in Utah, Colorado, and Wyoming, with chances of above average precipitation over southern UT and CO.

- The seasonal drought outlook indicates that drought is expected to stay away or be removed northeast Utah and southwest Wyoming.
- Drought in the Four Corners region is anticipated to continue, but improve with some removal likely.
- Drought in the southeast CO is anticipated to continue, but improve. Little to no removal is likely.



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 October 14, 2014:

The past week saw some of the first widespread snowfalls over much of the High County in the eastern portions of the UCRB with good rains in the valleys of western Colorado. It was a quite week in the northern and western portions of the basin.

Eastern Colorado saw the best precipitation for the week, especially in southeastern CO, the area that has been hit hard by drought for the past few years. With this area receiving widespread precipitation in the 1-2" range, improvements will be recommended.

Recommendations:

UCRB:

Status quo is recommended for the UCRB.

Eastern CO:

It is recommended the D3 be completely removed from se CO after a week of 1-2" of rain, SPIs for this area out to

6 months are positive, except the -1 SPI on the Lincoln/Crowley county line.

Slight trimming of the north end of the D0 and D1 in Cheyenne and Lincoln Counties is recommended after the beneficial week of precipitation and positive SPIs.

D2 improvement to D1 is recommended in Crowley, Otero and northern Las Animas. This area ended Water Year 2014 with above average precipitation and Year to Date has seen above average precipitation.

****Disclaimer:** The above recommendations are **recommendations only**, based on data, impacts, and input from local experts. These recommendations are sent to the U.S. Drought Monitor author on Tuesdays. The USDM author has sole discretion on final changes made in the region and can accept, reject, or modify the above recommendations and may have additional modifications. Additionally, any recommendations discussed during the NIDIS webinars that are agreed upon by the local experts and USDM author are **still subject to change**. Changes are final and official as of Thursday morning, and can be viewed on the official [U.S. Drought Monitor](http://www.drought.gov) website.

Additional Drought Index Links: (will take you to an outside website)

[Palmer Drought Severity Index for Climate Divisions Updated Weekly](#)

[WestWide Drought Tracker's PDSI Updated Monthly](#)

[Surface Water Supply Index](#)

[When available, maps and text are updated Tuesday afternoons.](#)

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[Summary Archive](#)