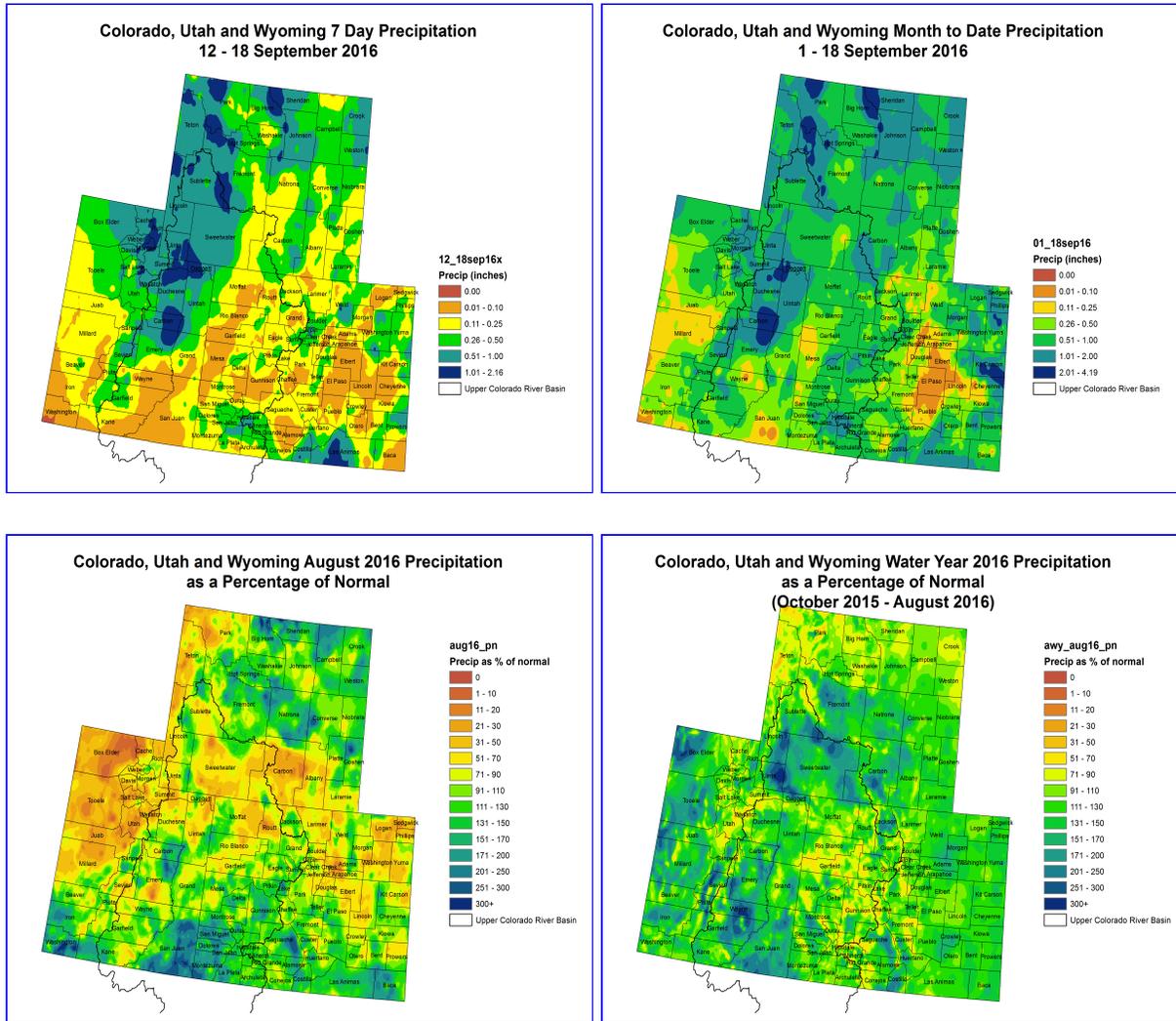
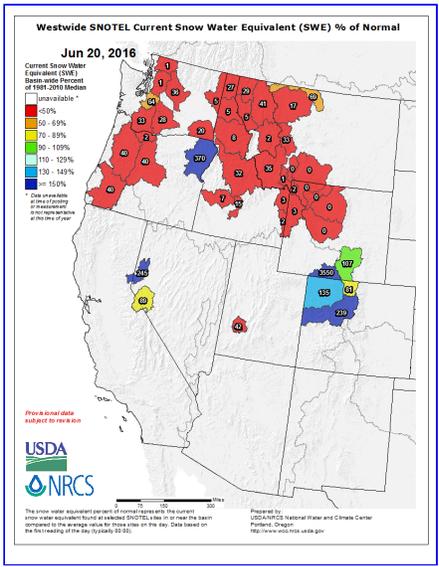
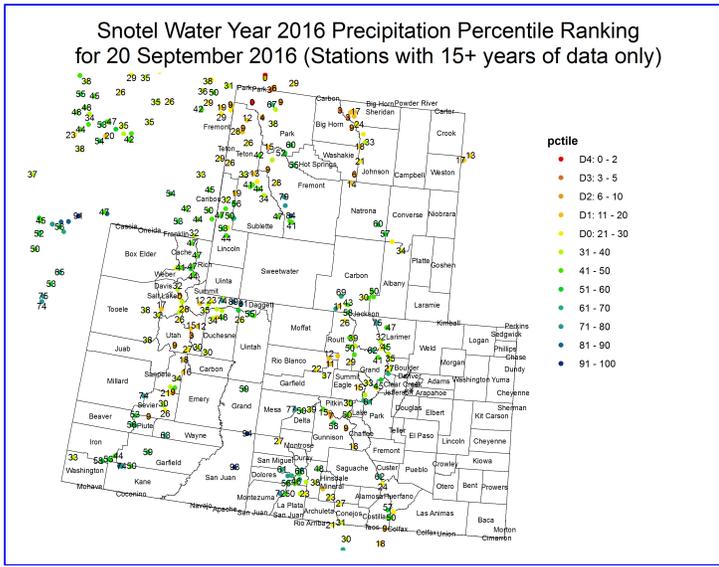


PRECIPITATION

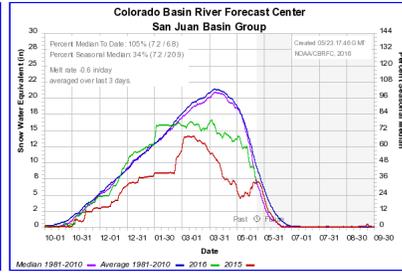
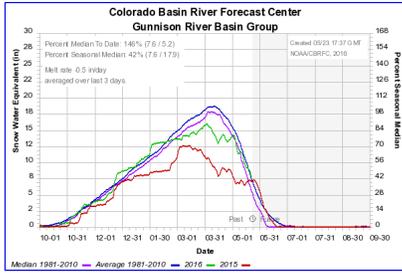
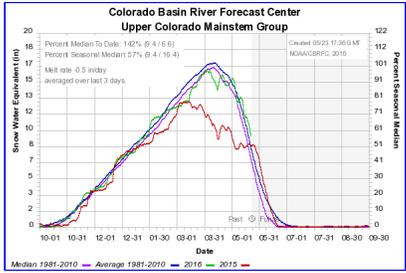
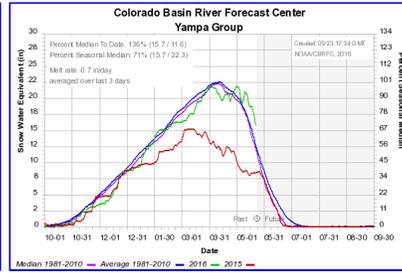
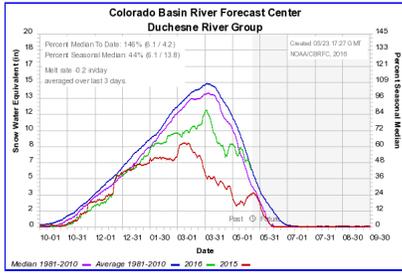
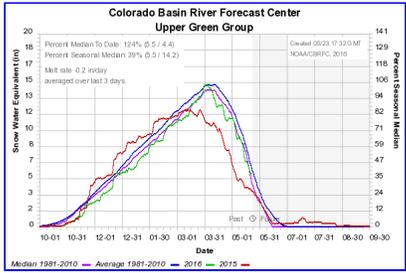


The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average; water-year-to-date precipitation as a percent of average.

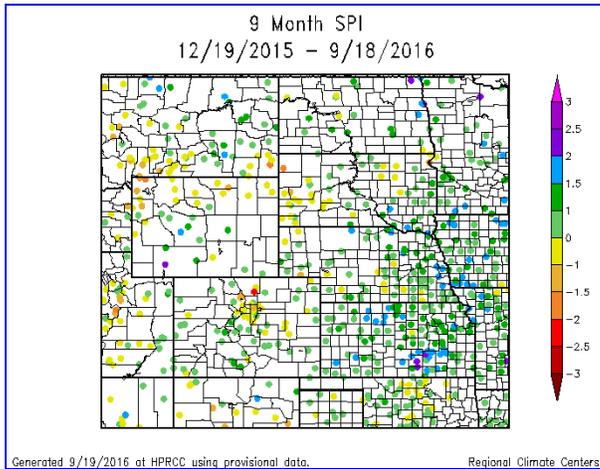
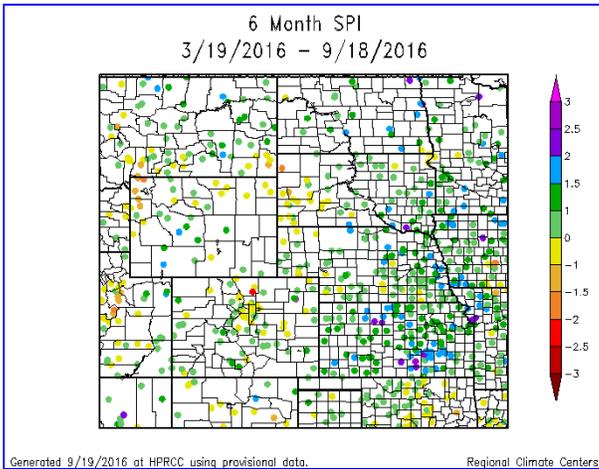
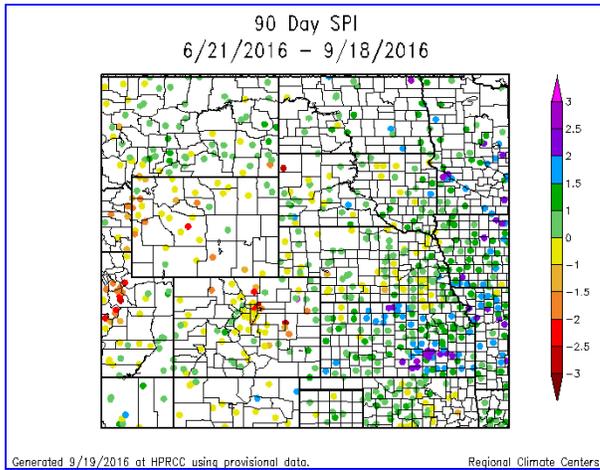
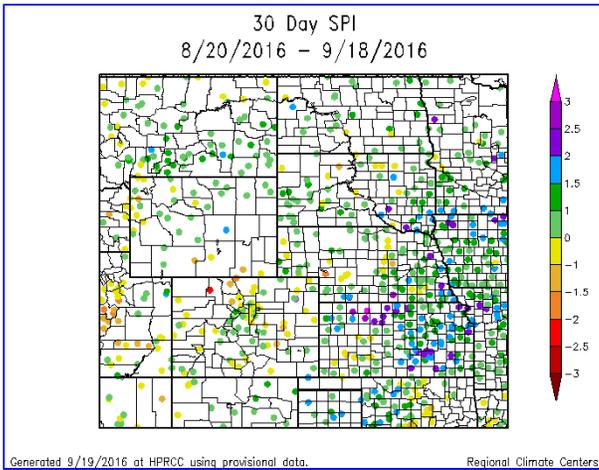
SNOTEL AND SNOWPACK



The top left image shows the Natural Resources Conservation Service's SNOTEL water-year-to-date precipitation percentile rankings. The top right image shows sub-basin averaged snow water equivalent accumulations as a percent of average. The images below show accumulated snow water equivalent in inches (green) compared to average (blue) and last year (red) for several different sub-basins across the UCRB (and were created by the Colorado Basin River Forecast Center).

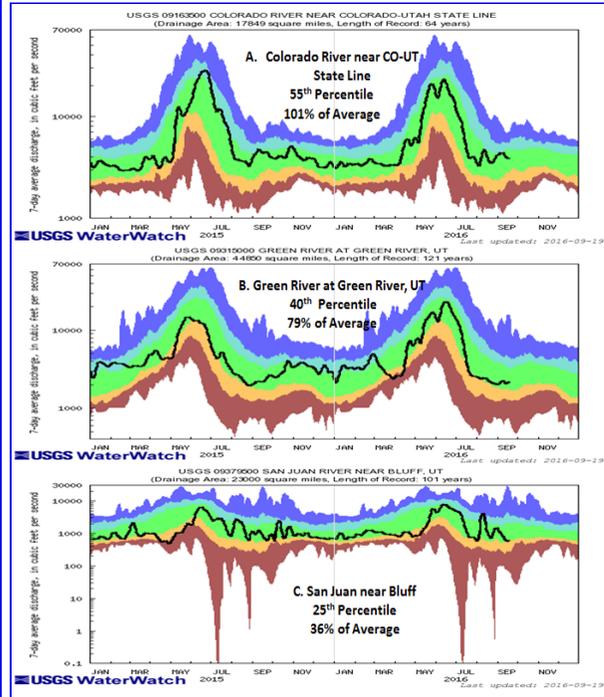
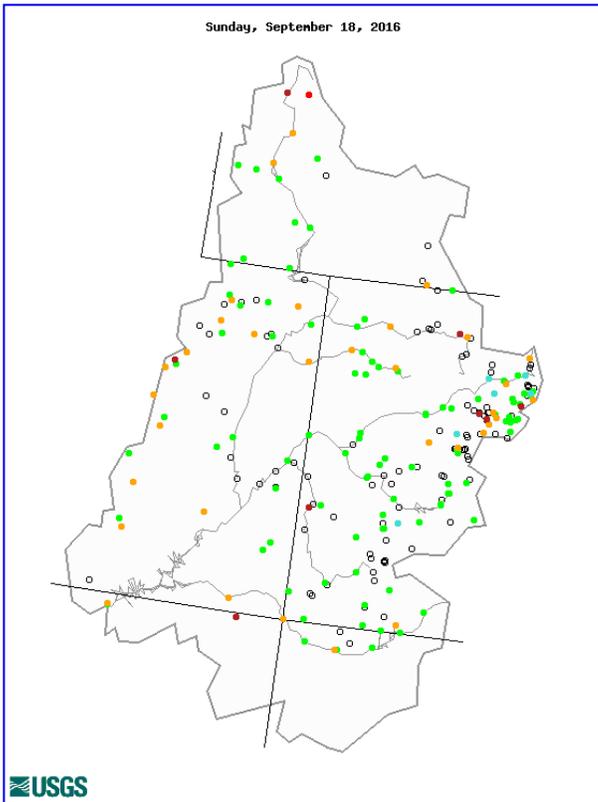


STANDARDIZED PRECIPITATION INDEX



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.

STREAMFLOW

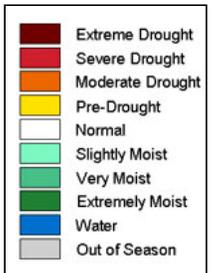
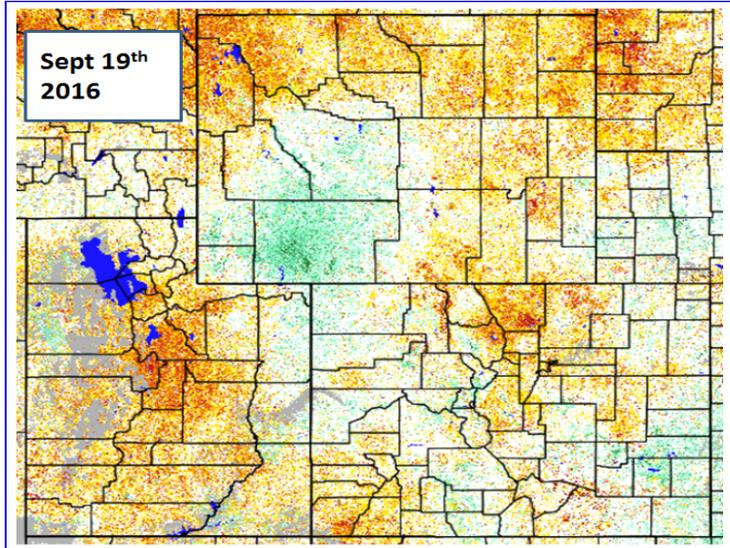
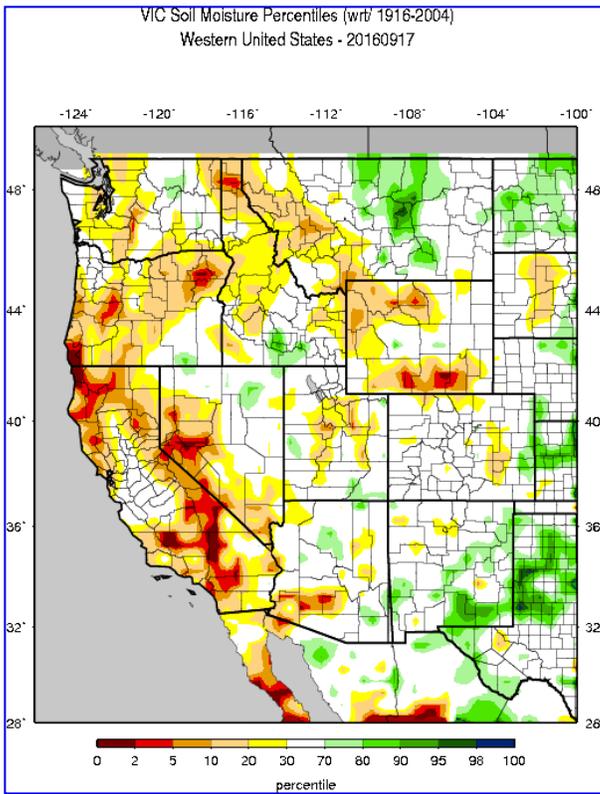


Explanation - Percentile classes

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

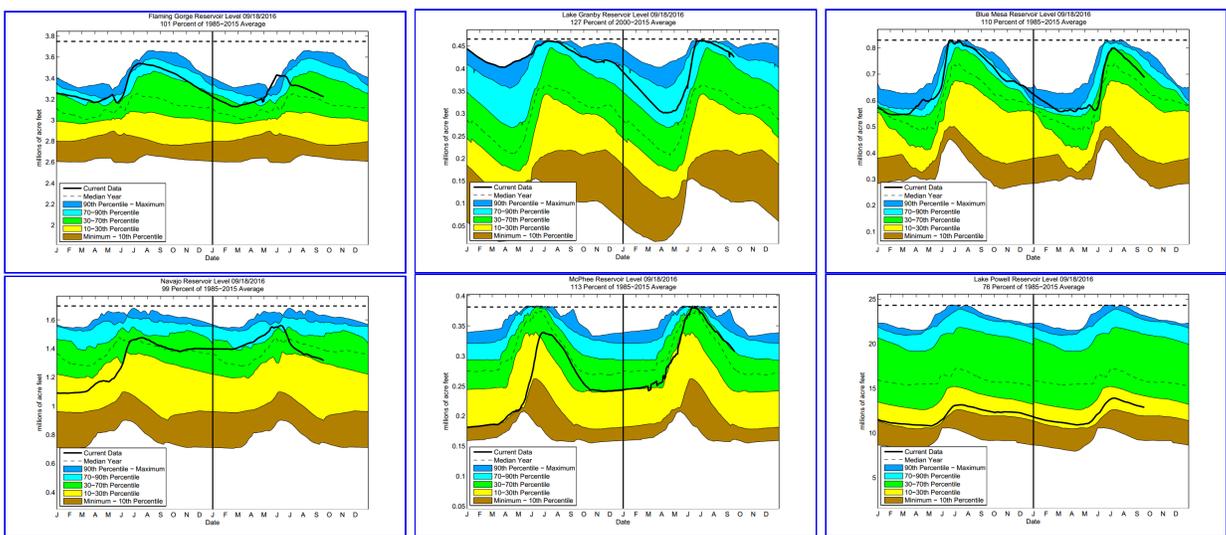
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

SURFACE WATER

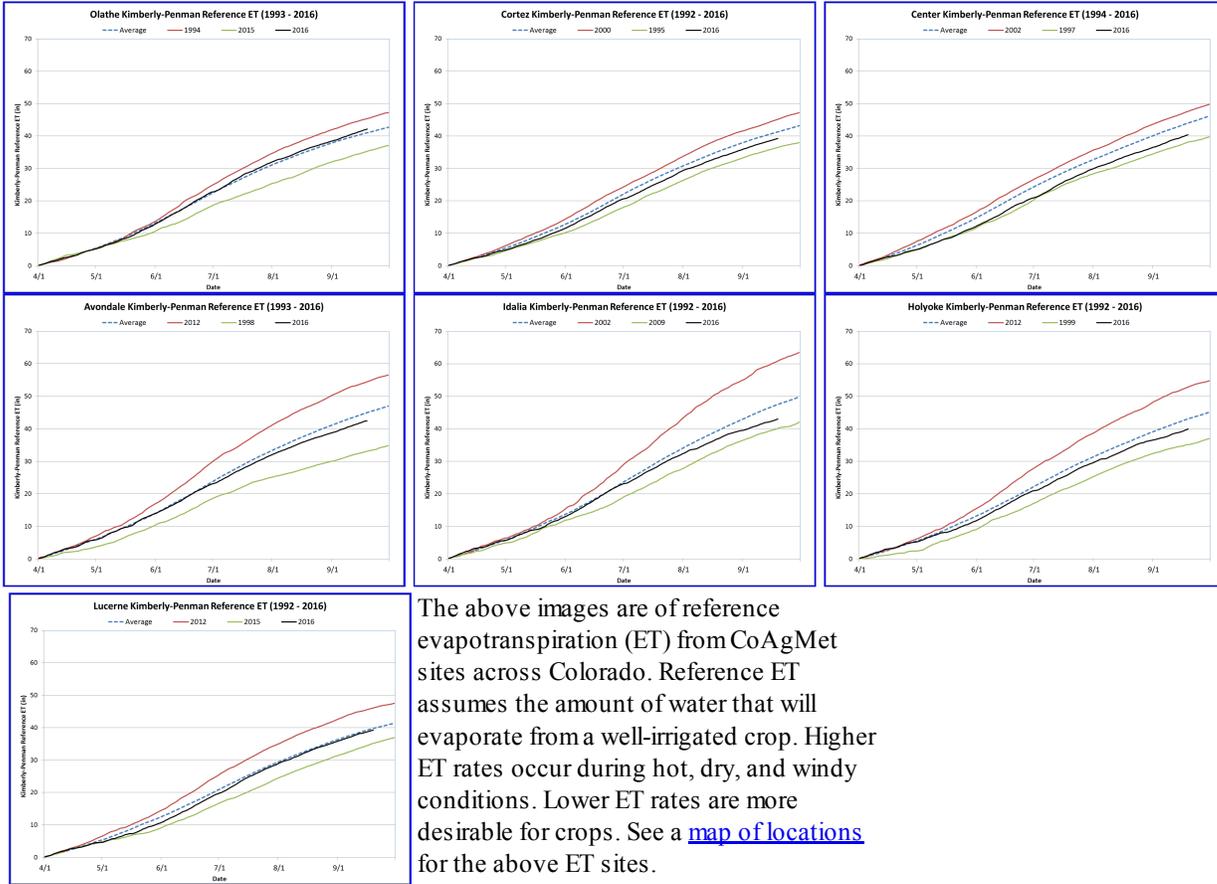


The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

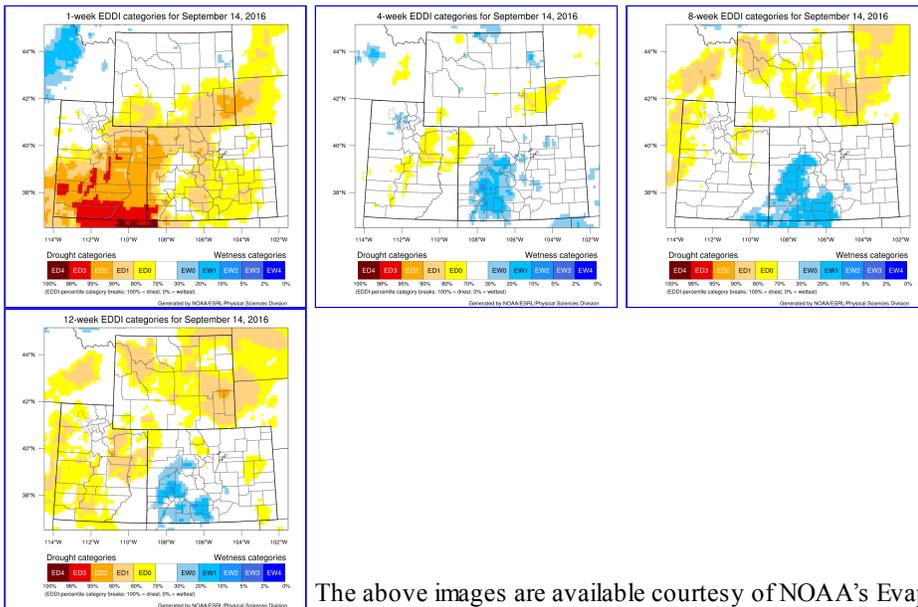
The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir levels observed over the past 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.



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.



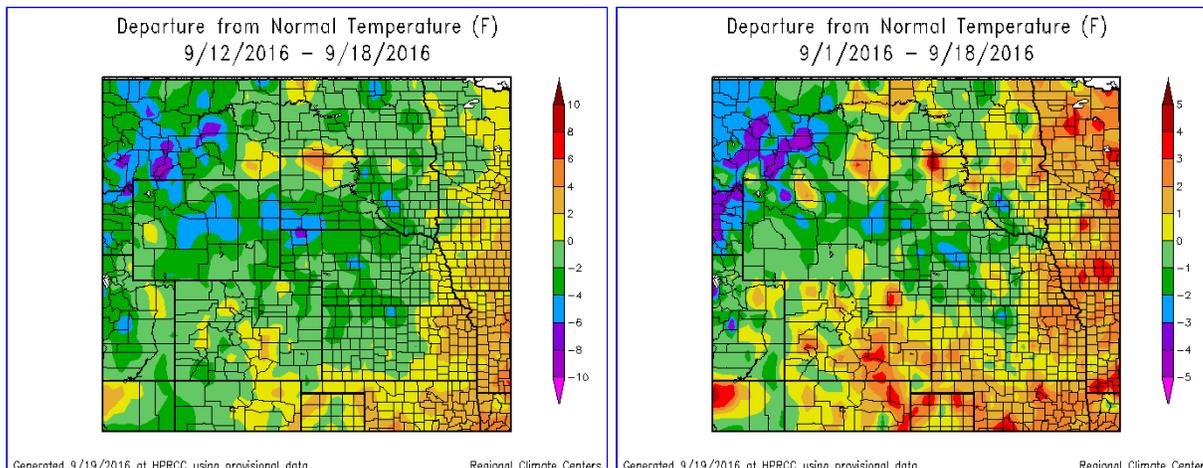
The above images are available courtesy of NOAA's Evaporative

Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration accumulated over a given period of record with respect to a climatology of 1981-2010. The drought categories displayed are in line with the US Drought Monitor's Percentile Ranking Scheme

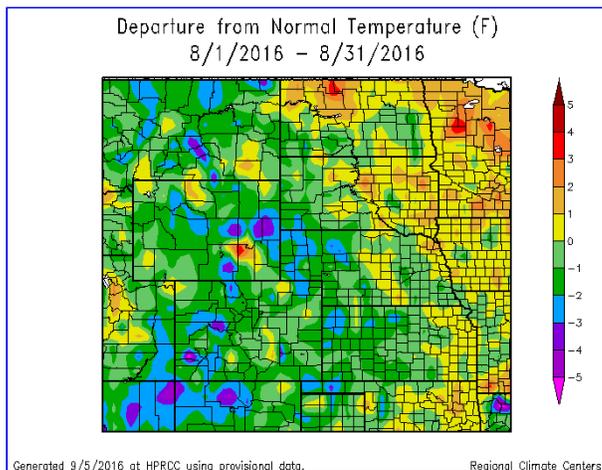
<http://droughtmonitor.unl.edu/AboutUs/ClassificationScheme.aspx>. Data used to generate these maps come from the North American Land Data Assimilation System Phase-2 (NLDAS-2) project, which assimilates observations of temperature, wind speed, radiation, and vapor

pressure deficit. The date indicates the last day of the period of record, and the week number indicates the window size for the period of record..

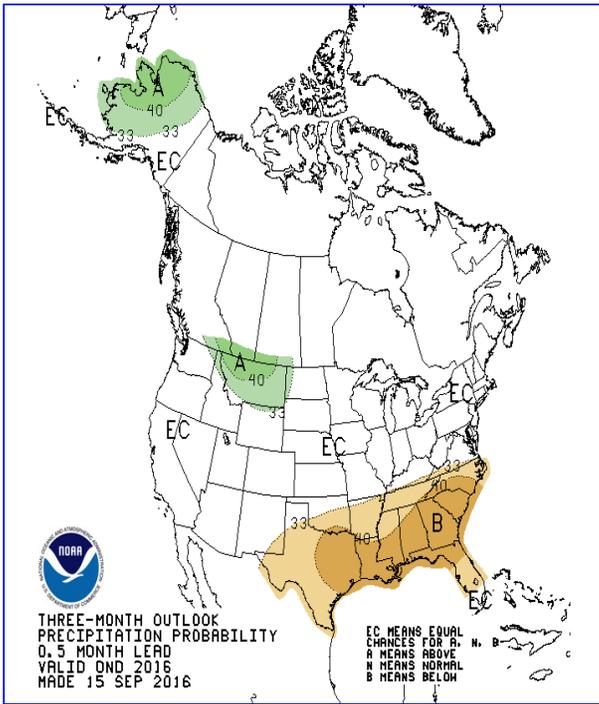
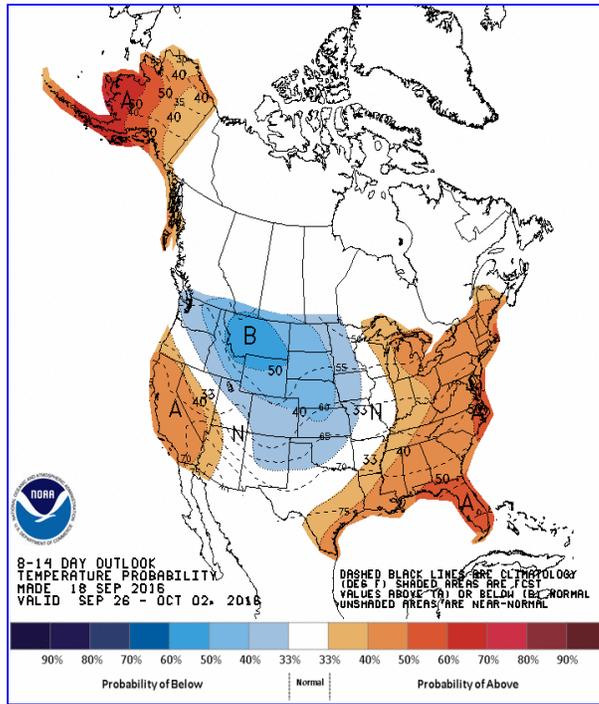
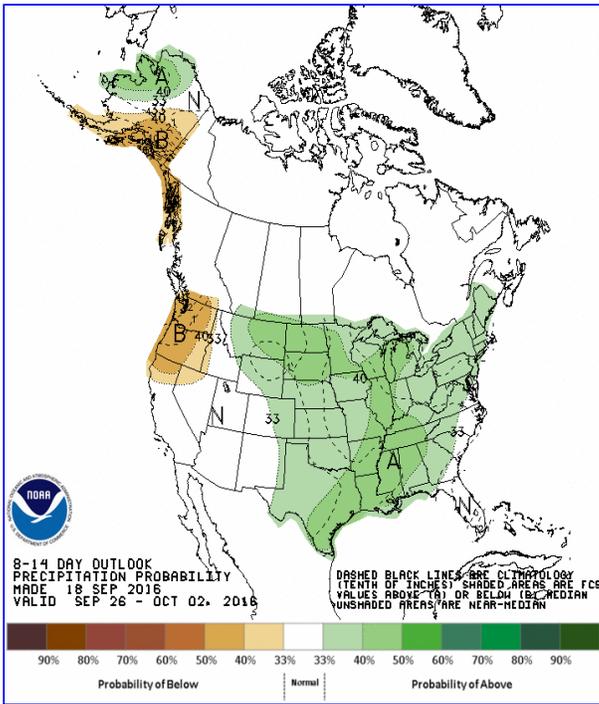
TEMPERATURE



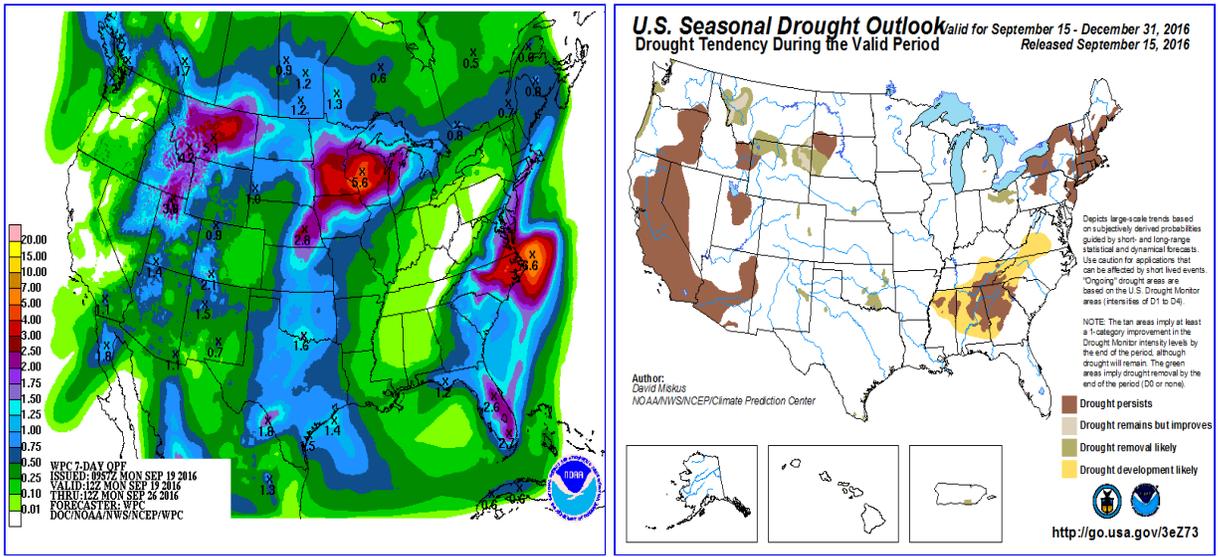
All images show temperature departures from average over different time periods (last 7 days on top left; month-to-date on top right; last full month on bottom). Temperature departure maps provided by HPRCC ACIS.



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 Weather Prediction Center's Quantitative Precipitation Forecast accumulation for the seven days between Tuesday 12Z and ending Tuesday 12Z. The bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.



8/16

Next Week:

Wednesday-Friday: The large-scale weather pattern is expected to be relatively calm and seasonal between now and Friday afternoon. There will be enough heat and moisture in the region for afternoon thunderstorms to develop over the mountains. The Central Rockies, Sangre de Cristos, and San Juans are expected to receive over half an inch of precipitation. Totals farther west in the UCRB and on the eastern plains will likely be lower. The low elevations of the basin and extreme eastern Colorado may not receive any precipitation at all.

The Weekend and Beyond: As a cold front dives into the region Friday evening the precipitation will shift to the east side of the Continental Divide while the basin dries out. Weekend accumulations are expected to average over 0.50" for eastern Colorado with the heaviest totals over the northern Front Range and Sangre de Cristos. Some areas are likely to be missed, but this activity will be less convective than the precipitation we have been seeing over the past several months. Rainfall totals should be closer to, but still not anywhere near, uniform. The drier, clearer air will keep the UCRB and eastern Colorado dry Monday through Wednesday of next week. Some small accumulations may still be possible for south and southeast Colorado.

Longer Term:

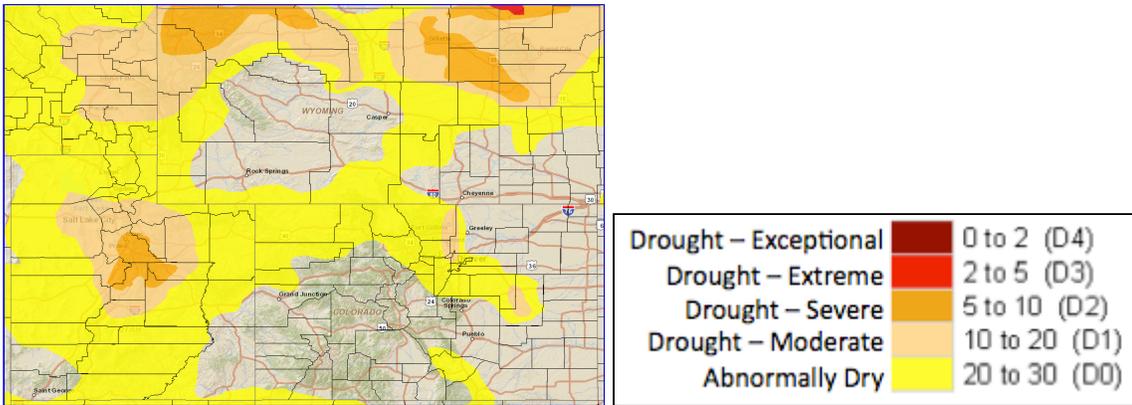
Precipitation: The UCRB is predicted to be drier than average over the 8-14 day time period as drier air from the north shuts off monsoonal flow. Eastern Colorado, however, will see an increased chance of above average precipitation over this time frame due to increased frontal activity. Beyond two weeks the Climate Prediction Center is forecasting equal chances of above and below average precipitation for the Upper Colorado River Basin and eastern Colorado.

Temperature: Over the 8-14 day time frame there is an increased likelihood of below average temperatures for the UCRB and eastern Colorado as some cooler air is

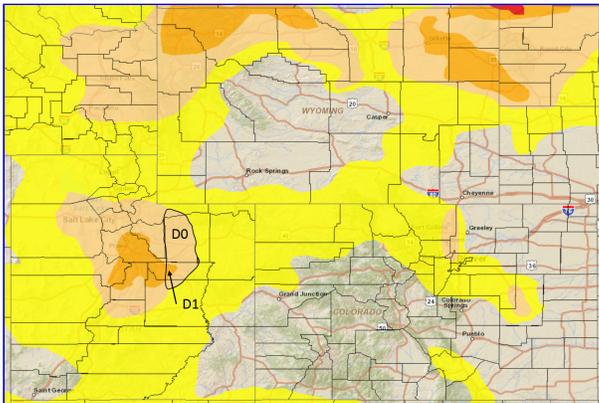
anticipated to plunge southward this weekend. The fall season is forecasted increased chances of above average temperatures.

Drought: Development of new drought is predicted as being unlikely for any given location in the Upper Colorado River Basin and eastern Colorado over the August through October time frame. Pockets of additional D0 and D1 in places that are trending drier, however, would not be surprising.

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: September 20, 2016

Last week much of the Upper Colorado River Basin saw below normal precipitation. The exception was the northern portion of the basin in the Upper Green River basin and northeastern Utah. This area saw between 0.50 - 1.00 inch of new precipitation, with isolated spots over 1.00 inch. The San Juan Mountains received between 0.25 and 0.50 inches of new precipitation, while the rest of the UCRB received less than 0.25" last week. Since the first of the month, precipitation over much of the basin has been below normal with the exception of the Upper Green Basin and northeastern Utah. Temperatures in the basin were mainly 0 to 2 degrees cooler than normal.

With the drier than normal weather, streamflows in the Colorado River Headwaters have seen a noticeable drop. Many gages in the headwater tributaries have dropped

to below normal and much below normal. Gages on the Colorado River remain in the normal range. Gages on the Yampa and White rivers have dropped to below normal 7-day average streamflow as well. Even though streamflows are dropping, reservoirs remain in good shape, in the normal to above normal range, with the exception of Powell.

With the shot of precipitation in southwest Wyoming and northeast Utah last week, the VIC modeled soil moisture has seen a noticeable improvement, but still below normal. The rest of the basin has remained in the normal range. Vegetation health is still showing drought conditions.

Eastern Colorado was mostly drier than normal, with most of the area receiving less than 0.25 inches last week. Washington and Las Animas counties were the exception seeing above normal precipitation last week. Temperatures last week were mainly cooler than normal in eastern Colorado. The southern portion of the Front Range from Douglas County to Las Animas County was slightly warmer than normal last week, in the 0 to 2 degree range.

Recommendations

UCRB: Improvement of D1 in Duchesne and Carbon counties and trimming of D2 in Carbon County is recommended. After the last week of precipitation and above normal precipitation early in September, SPIs have improved to the 0 to +1 range for the 30-day SPI and slightly below normal on the 90-day.

Eastern Colorado: Status Quo