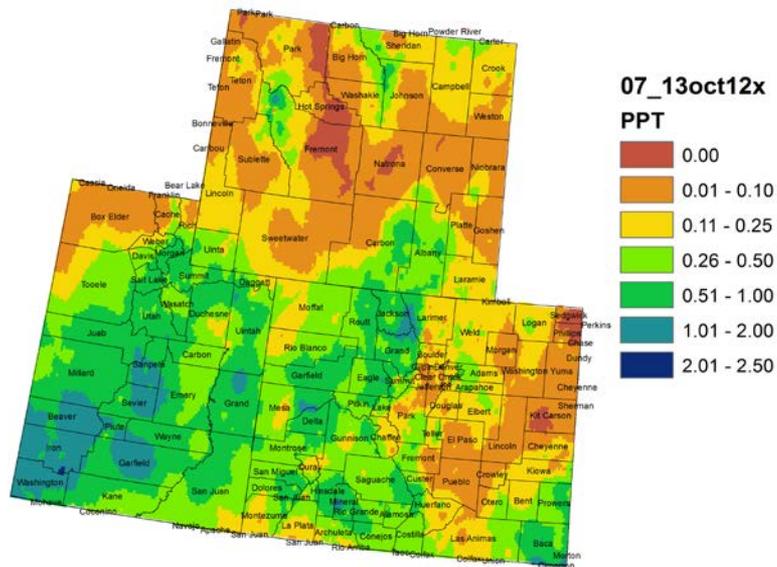


# NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

October 16, 2012

Colorado, Utah and Wyoming 7 Day Precipitation (in)  
7 - 13 October 2012



Colorado, Utah and Wyoming Water Year 2012  
Precipitation as Percentage of Normal (Oct 2011 - Sept 2012)

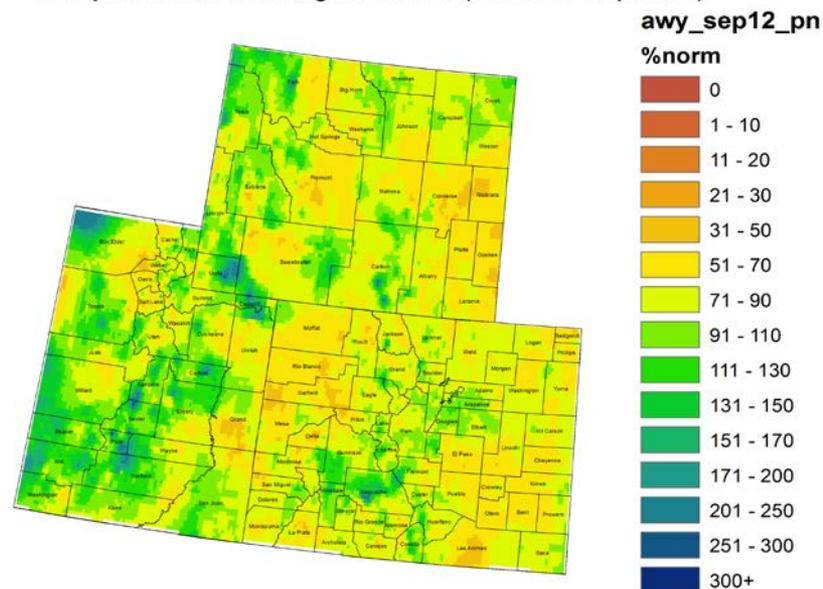


Fig. 1: October 7 - 13 precipitation in inches.

Fig. 2: Water Year 2012 precipitation as a percent of average.

## Precipitation

Last week, beneficial precipitation fell in the Upper Colorado River Basin (UCRB), with most areas receiving between 0.25 and 1.00 inch. (Fig. 1). The northern part of the basin in WY received less than 0.25 inches. Eastern and Central Utah received between 1 and 2.5 inches of precipitation for the week. East of the basin, eastern CO was dry receiving less than 0.10 inches with areas closer to the mountains up to 0.25 inches. Southeast Colorado in Baca and Prowers Counties fared well, receiving up to 1.00 inches.

For Water Year 2012 most of the UCRB was drier than average (Fig. 2). Some parts in central Utah and southwest Wyoming saw above average precipitation for the water year. The San Juan mountains in CO received near average precipitation. Northwest CO was the driest part of the basin, with most areas receiving between 30% and 70% of average water year precipitation. East of the basin, most of eastern CO saw between 70% and 90% of average water year precipitation, with parts of the Front Range, Saguache County, and the Sangre de Cristos receiving near average precipitation for the water year.

# Streamflow

As of October 15<sup>th</sup>, about 33% of the USGS streamgages in the UCRB recorded normal (25<sup>th</sup> – 75<sup>th</sup> percentile) 7-day average streamflows (Fig. 3). About 38% percent of the gages in the basin are recording much below normal or low (i.e. lowest on record) streamflows, and 3% of the gages are recording above normal flows. As flows return to a normal baseflow, the rivers are expected to run lower, and small changes could mean larger changes in percentiles rankings. Accumulated volumes for this time of year is a better indicator of how runoff has been affected by dry conditions.

Flows on all three key gages across the basin decreased slightly from last week (Fig. 4). The Colorado River near the CO-UT state line and the Green River at Green River, UT are both recording flows in the below normal range, at the 14<sup>th</sup> and 8<sup>th</sup> percentiles, respectively. Flows on the San Juan River near Bluff, UT increased slightly from last week from the 13<sup>th</sup> percentile to the 19<sup>th</sup> percentile.

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		

Fig. 3: 7-day average discharge compared to historical discharge for October 15<sup>th</sup>.

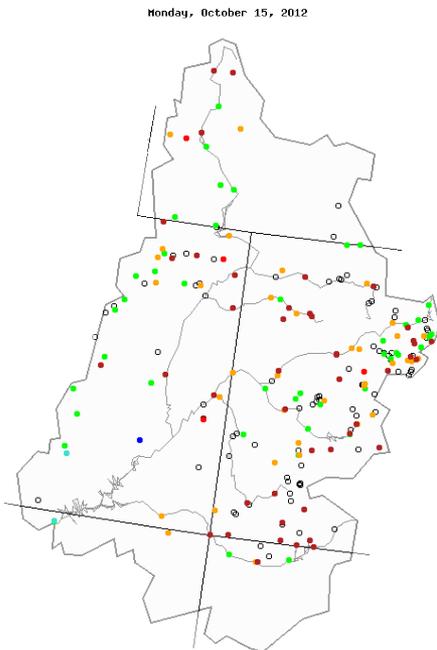
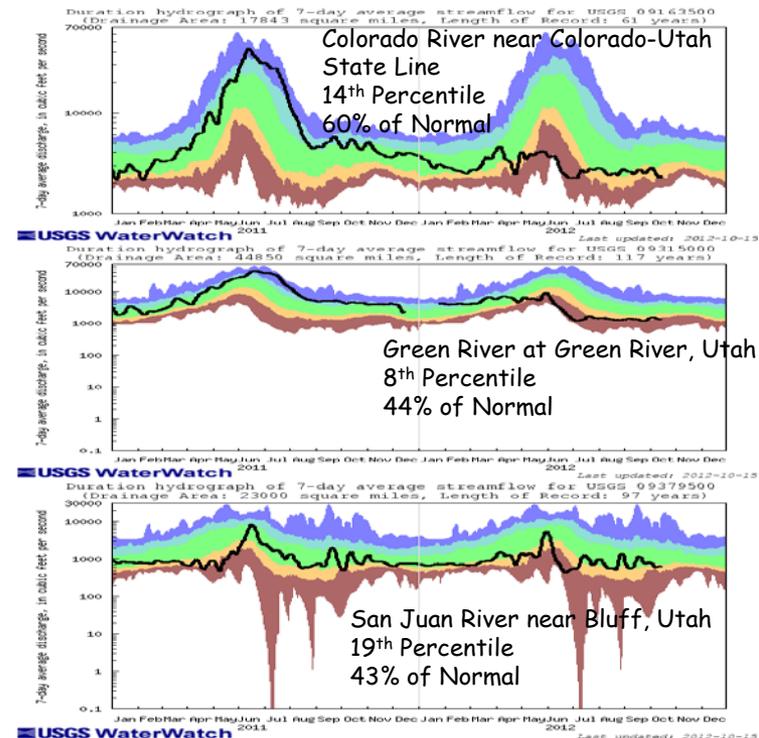


Fig. 4: USGS 7-day average discharge over time at the CO-UT stateline (top), Green River, UT (middle) and Bluff, UT (bottom).



# Water Supply and Demand

The UCRB saw near normal temperatures last week with an isolated area in the Upper Green River Basin seeing 2 to 4 degrees above normal. East of the basin, the rest of CO experienced temperatures 2 to 6 degrees cooler than normal. Satellite vegetation conditions show very dry vegetation through much of the northern part of the UCRB and throughout eastern CO (Fig. 5). Improved vegetation conditions show up in the central and southern mountains of CO and also in southern UT, however still very dry. For the growing season, reference evapotranspiration (ET) rates were higher than average across the western slope. Stations in southeast and northeast CO reported near record or record high reference ET accumulations for the growing season.

For the month of September, all the major reservoirs in the UCRB saw a volume decrease, which is normal during this time of year. Navajo and Granby reservoirs decreased more than what is normal for this time of year, while Green Mountain decreased less than average. The Colorado statewide reservoir storage on October 1<sup>st</sup> was 67% of normal. Only 2002 was lower on October 1<sup>st</sup> in the past 15 years at 48% of average.

## Precipitation Forecast

The upcoming week will see the UCRB sandwiched between a ridge of high pressure over the eastern Pacific and a deep area of low pressure developing over the northern plains. A strong jet streak moving down the west side of the plains low will be positioned directly over the basin on Wednesday and lead to gusty winds over the northern areas. Expect to see rain showers breaking out by Wednesday morning with some accumulating snow possible above 10,000 ft. through the day. Limited moisture associated with this system should keep any appreciable accumulation to the high terrain of WY and northern CO/UT, with generally less than 0.10 inches of liquid equivalent possible throughout the duration of the event. On Thursday the entire pattern begins to shift eastward, allowing the tall pacific ridge to move over the UCRB and bring a return to seasonal temperatures and dry conditions through the weekend. The potential for high mountain snow showers will return moving into early next week as moisture and a weak disturbance are expected to approach the northern sections of the basin on Monday.

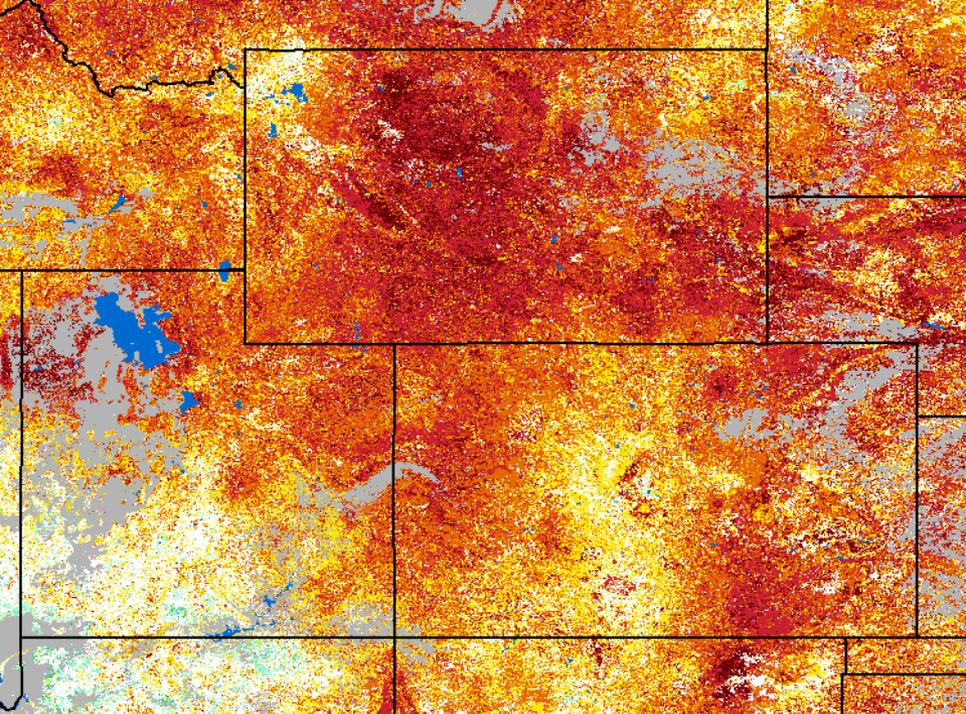


Fig. 5: eMODIS VegDRI showing satellite vegetation conditions as of October 16<sup>th</sup>.

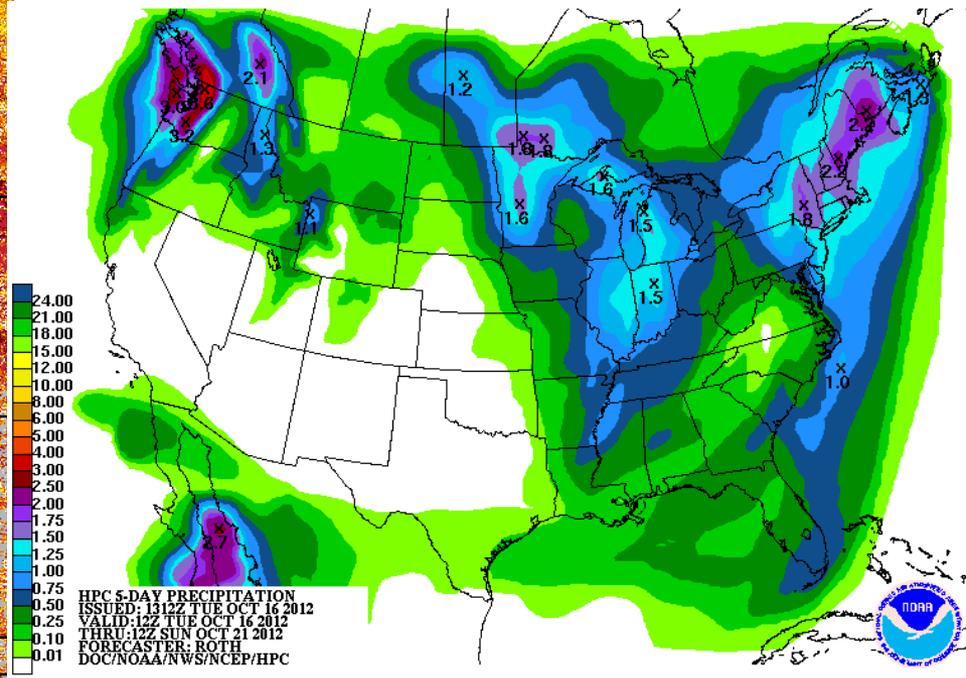


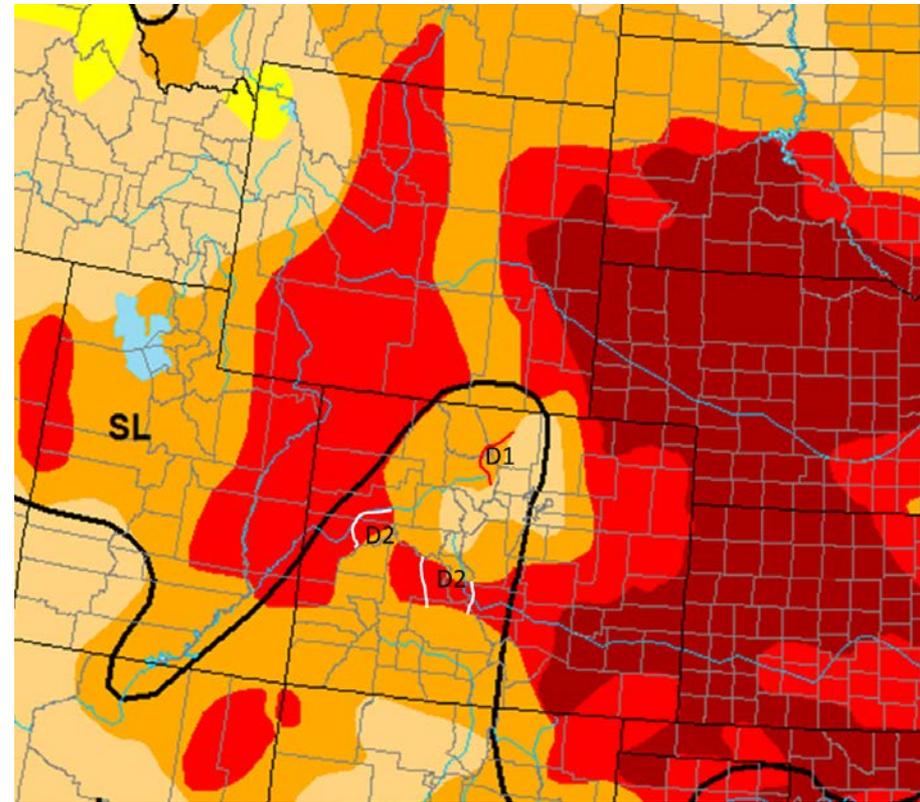
Fig. 6: Quantitative precipitation forecast (QPF) by the Hydrologic Prediction Center out to 12UTC Sunday, October 21<sup>st</sup>.

# Drought and Water Discussion

Drought – Exceptional	0 to 2 (D4)
Drought – Extreme	2 to 5 (D3)
Drought – Severe	5 to 10 (D2)
Drought – Moderate	10 to 20 (D1)
Abnormally Dry	20 to 30 (D0)

Drought categories and their associated percentiles

Fig. 7: October 16<sup>nd</sup> draft of U.S. Drought Monitor for the UCRB with recommendations.



**UCRB:** Slight improvements for the UCRB are recommended (Fig. 7). A trimming of the D3 in Garfield and eastern Mesa Counties to D2. It is also recommended the D3 in eastern Gunnison County and Chaffee County be improved to D2. The D3 in western Gunnison County should remain there due to some of the lowest streamflows on record.

**Eastern CO:** Only a slight trimming of the D2 in SW Larimer County into SE Jackson and NE Grand Counties is recommended. The rest of Eastern CO is remaining status quo because of the long term dryness.