

NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

July 6, 2010

Precipitation and Snowpack

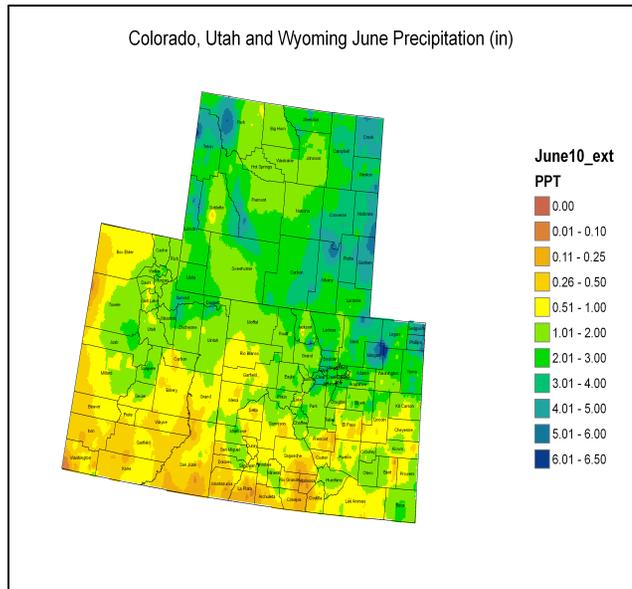


Fig. 1: June precipitation in inches

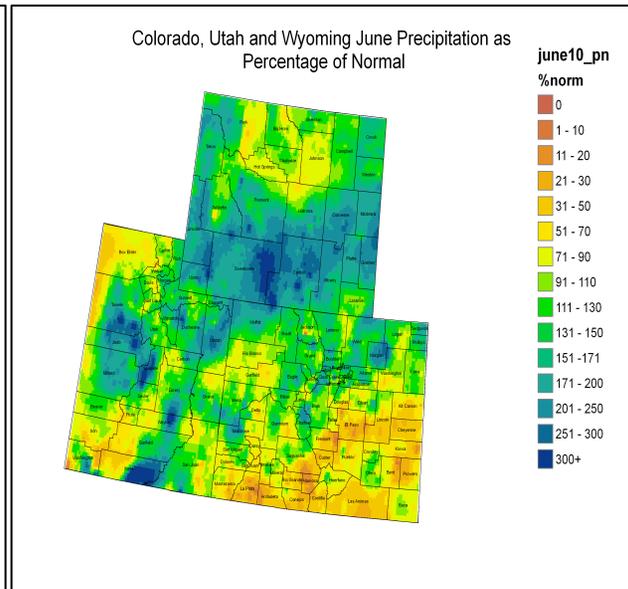


Fig. 2: June precip percent of average

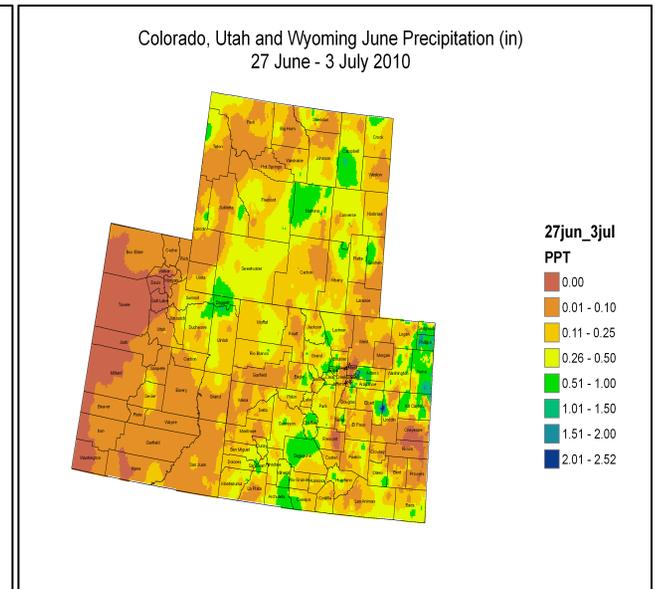


Fig. 3: June 27 – July 3 precip in inches

Most of the northern portion of the Upper Colorado River Basin (UCRB) continued its May pattern with ample moisture in June (Fig. 1). The wettest areas were in southern Wyoming, Uintah County, UT, and Moffat County, CO. Drying persisted in southwestern Colorado for the month with some areas in La Plata and Alamosa counties recording only around a tenth of an inch (Fig. 2).

Dry conditions prevailed over most of the region for the week of June 27th – July 3rd (Fig. 3). The Wyoming-Utah border region received a good amount of precipitation. Also, over half an inch of rain fell in the particularly dry portions of the Rio Grande and San Juan basins in Colorado.

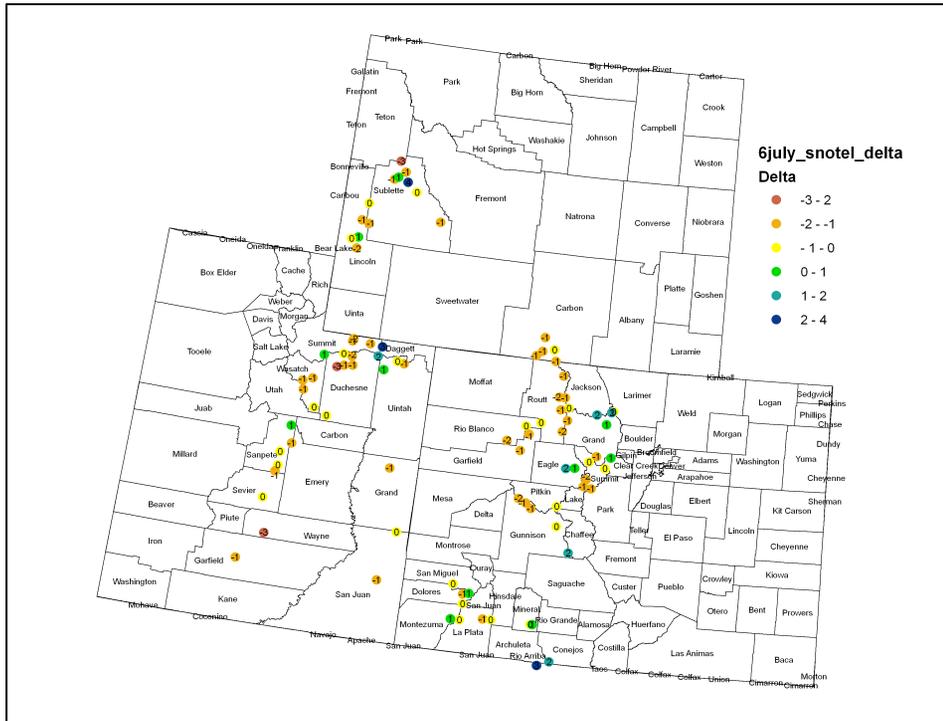


Fig. 3: Snotel WYTD precipitation percent of average change from last week

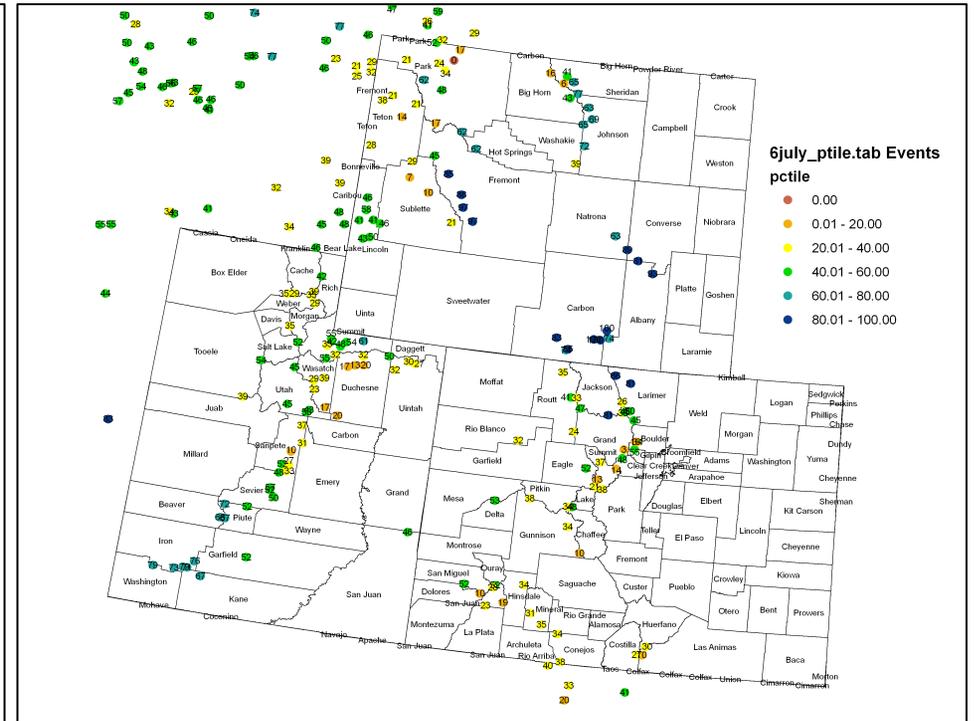


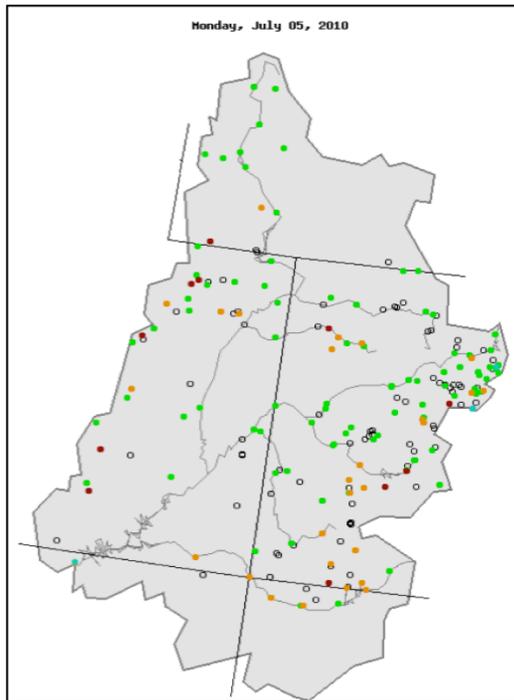
Fig. 4: Snotel WYTD precipitation percentiles (50% median, 21-30% is Drought Monitor's D0 category).

After a very dry week (June 27th – July 3rd), many Snotel sites around the UCRB recorded 1 – 2% decreases in Water-year-to-date (WYTD) precipitation percent of averages from last week (Fig. 3). A couple of sites around Grand and Jackson counties in northern Colorado, and also a couple of sites around the CO-NM border, recorded increases in precipitation percent of averages from last week. According to the percentile rankings (Fig. 4) the driest regions of the UCRB continue to be around Sublette County, WY, southwestern CO, and around Duchesne County, UT, with a few dry spots still showing up in the southern region of the Colorado River basin in CO.

Streamflow

Flows continue to decline toward baseflow (as is normal for this time of year) throughout all the basins (Fig. 7). Around the headwaters of the Colorado River and also along the Upper Green River (in WY), 7-day average flows are near normal (25 – 75% range) with below normal flows most prominent around the White River, Gunnison River, and Animas River in Colorado (Fig. 6). Accumulated runoff along the Colorado River near the CO-UT state line has remained near normal during the peak runoff months and is beginning to level off at the upper end of the normal range (Fig. 8).

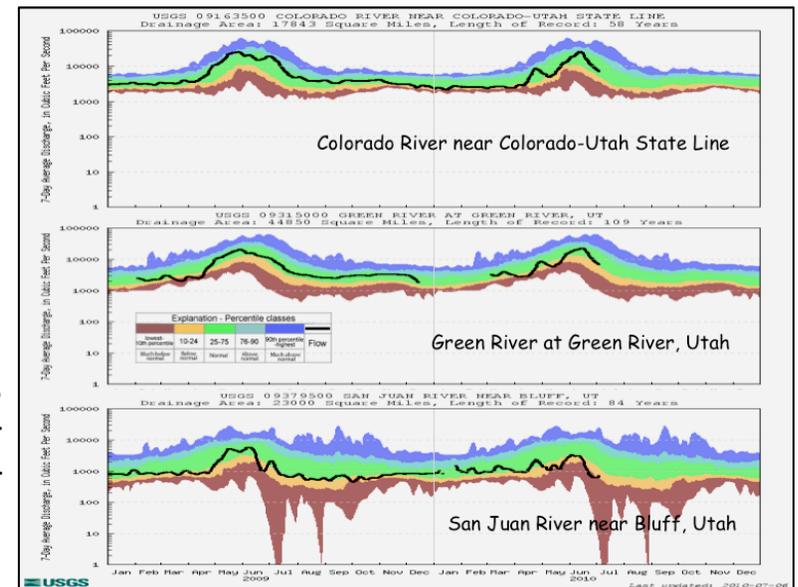
As of July 4th, 30% of the streamgages in the UCRB were recording below normal 7-day average flows (Fig. 9). This is somewhat drier than the two previous July 4ths, but significantly better conditions than the drought years during the early part of the decade.



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. 6: USGS 7-day average streamflow compared to historical streamflow for July 5th in the UCRB.

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



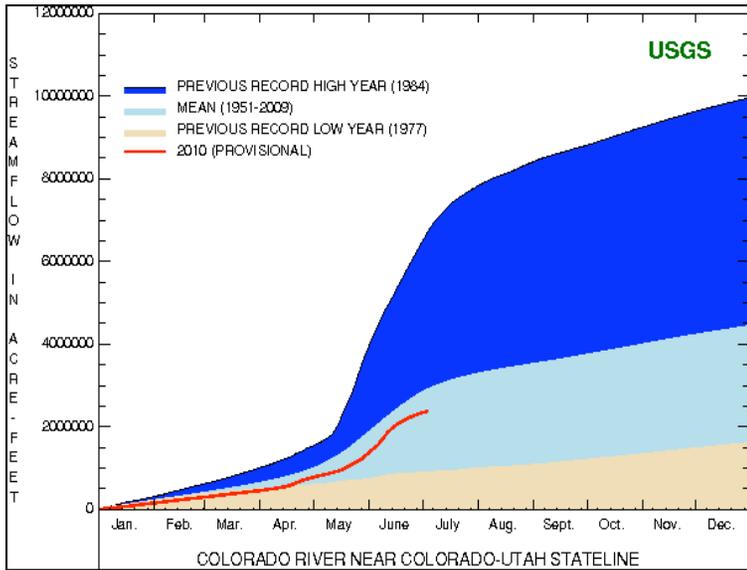


Fig. 8: 2010 calendar year accumulated runoff on the Colorado River at the Colorado-Utah state line

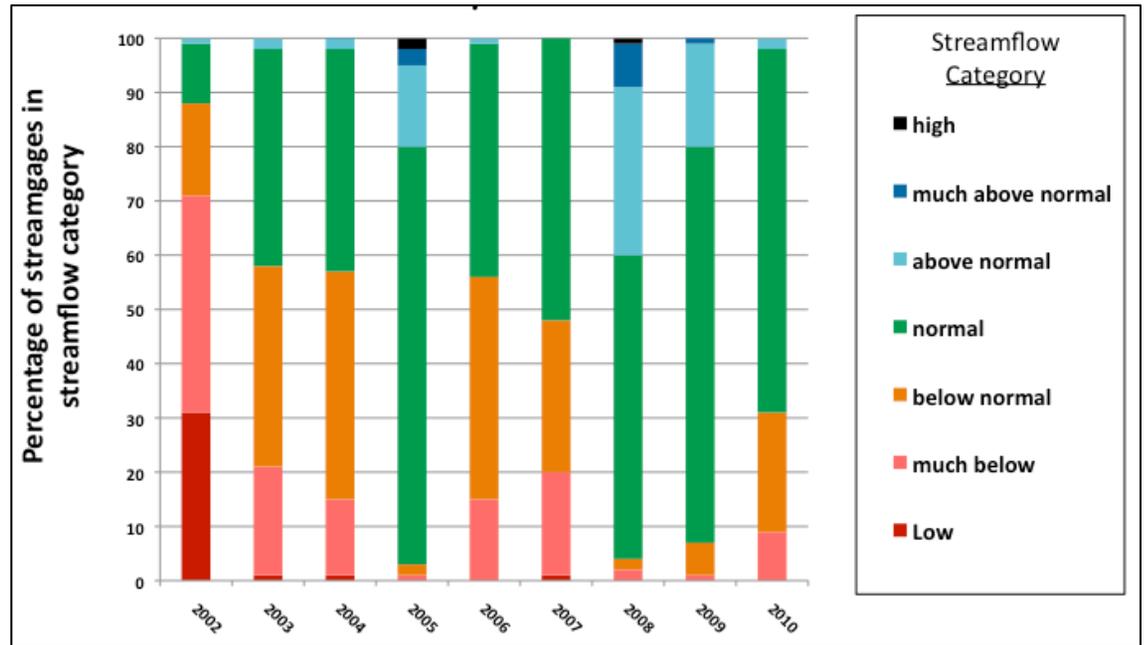


Fig. 9: Streamflow categories for July 4th for the past 9 years

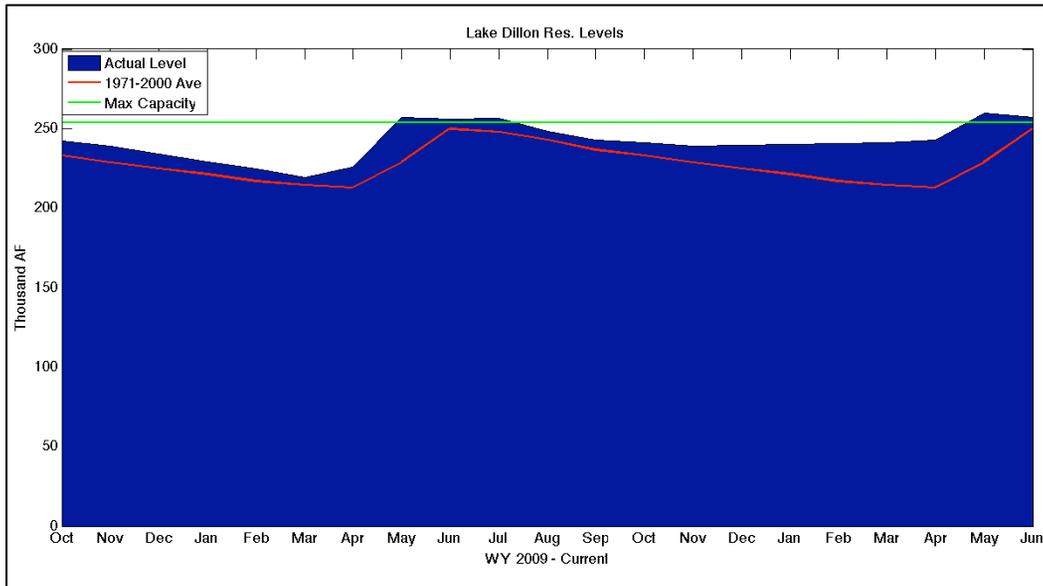


Fig. 10: Time series of reservoir levels at Lake Dillon from WY2009 – June 2010, compared to average level (red line) and maximum capacity (green line)

Water Supply and Demand

Following the peak runoff time of the year during the middle of the month, end of June reservoir levels were near capacity at the majority of the larger reservoirs in the UCRB. Lake Dillon remained full, as has been the case since around the third week in May (Fig. 10). As can be seen when comparing the maximum capacity line to the average line, these very high levels are not out of the ordinary. Flaming Gorge at the WY-UT border remains in fairly good condition with above average levels.

Inflow into Lake Powell for the month of June was 90% of average—an improvement from what had initially been forecast. Lake Powell reservoir levels are currently near the peak levels that will occur for this year (also the case for the other reservoirs in the UCRB). The April – July forecasted inflow into Lake Powell is 72% of average.

With much warmer than average temperatures and dry conditions throughout eastern Colorado, an increased demand in West Slope water supplies is expected.

Precipitation Forecast

A vigorous cold front will move through the eastern plains of Colorado leading to the potential for significant convective rainfall amounts through Wednesday. Meanwhile, mountain areas will begin to see an increase in thunderstorm/shower coverage toward the weekend as sub-tropical moisture is drawn north. Convection will favor high terrain near the divide and southern areas of the Colorado mountains; however, in typical summer fashion it will be difficult to tell exactly where best storm coverage will be. Current QPF's indicate amounts around 0.5 inches on Friday/Saturday for the Sangres and San Juans, with slightly less as one moves north. Sub-tropical moisture begins to decrease toward the beginning of next week, which should dry out the higher terrain including the Upper Colorado Basin on Monday and Tuesday. It's still uncertain how long the region will remain cutoff from the sub-tropical moisture, with some models showing a return of the monsoon by late next week.

Drought and Water Discussion

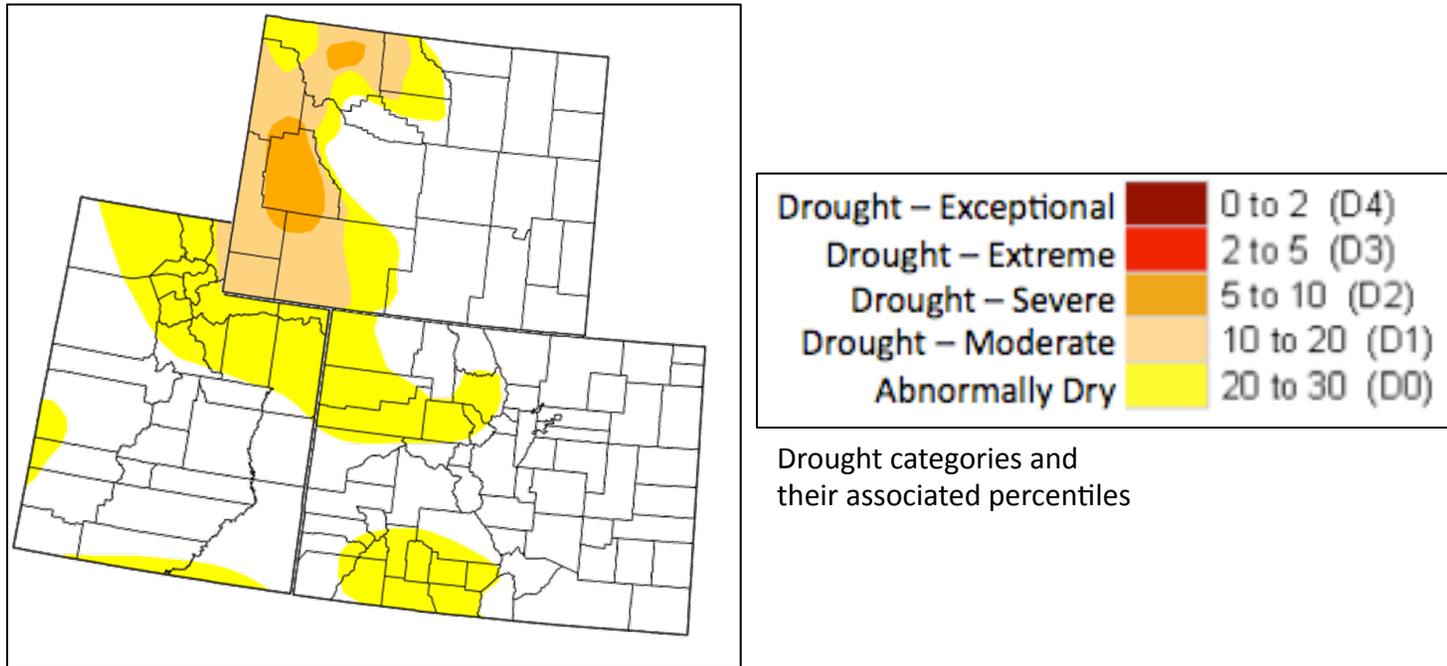


Fig. 6: June 29 release of U.S. Drought Monitor

Drought category improvements have been made in Draft 1 by the DM author mostly in Wyoming where all the D2 and D1 has been removed. Aside from these changes, the rest of the UCRB has remained untouched, and no local experts have chimed in with any suggestions of changes. Some precipitation did fall throughout the region over the past week, but there were still decreases in the precipitation percent of averages from last week throughout much of the basin (with slight increases in southwestern CO). Percentile rankings suggest that D0 should still be in much of the northern part of the basin and also in southwestern Colorado. No further changes will be suggested for this week's DM map depiction in the UCRB. There is also current discussion about the introduction of D0 in eastern Colorado due to very dry conditions over the last 60 days.