

NIDIS Weekly Climate, Water and Drought Assessment Summary

Upper Colorado River Basin

June 22, 2010

Precipitation and Snowpack

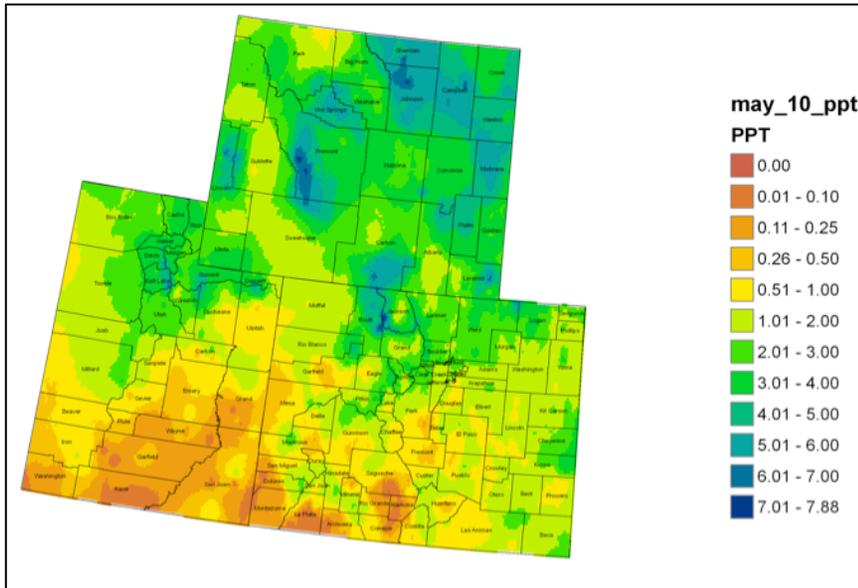


Fig. 1: May precipitation in inches

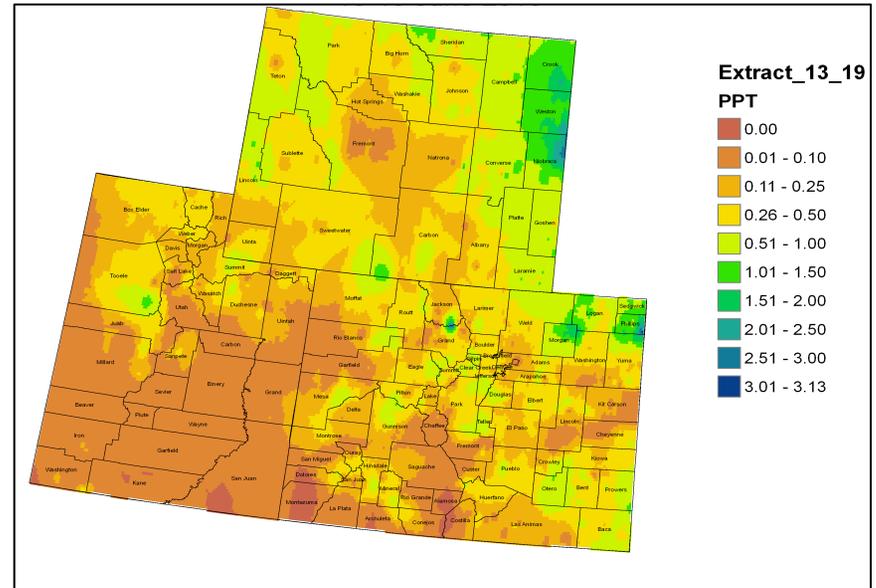


Fig. 2: June 13 – 19 precipitation in inches

Scattered showers fell throughout the Upper Colorado River Basin (UCRB) last week, with the heaviest concentrations in Grand and Jackson counties in Colorado, and also along the Colorado-Wyoming border (Fig. 2). The driest region continues to be southwest Colorado and southern Utah, a persistent pattern since May (Fig. 1).

Below average temperatures prevailed over most of the UCRB last week, though rapid snowmelt has continued in all the basins. The majority of the basins are under 10% of the average snowpack to date, with the exception of the Yampa-White basin which is currently at 44% of average (and the Tower Snotel still has over 9 inches of snow water equivalent). Recent storms increased the snowpack at Willow Creek Pass (in the Colorado River basin) to a snow water equivalent of nearly an inch.

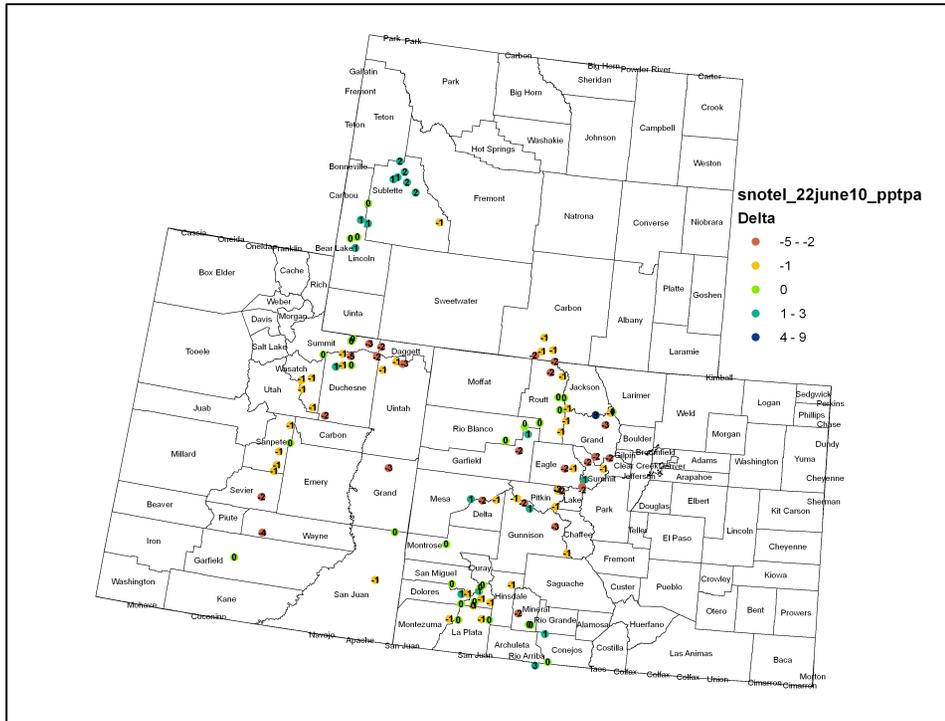


Fig. 3: Snotel WYTD precipitation percent of average change from last week

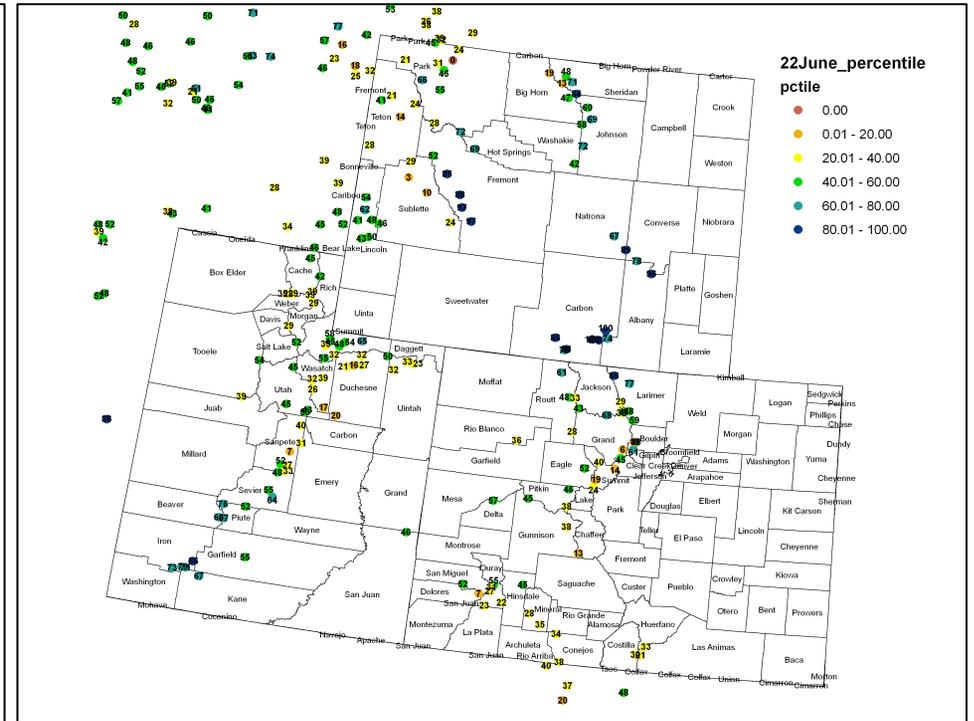


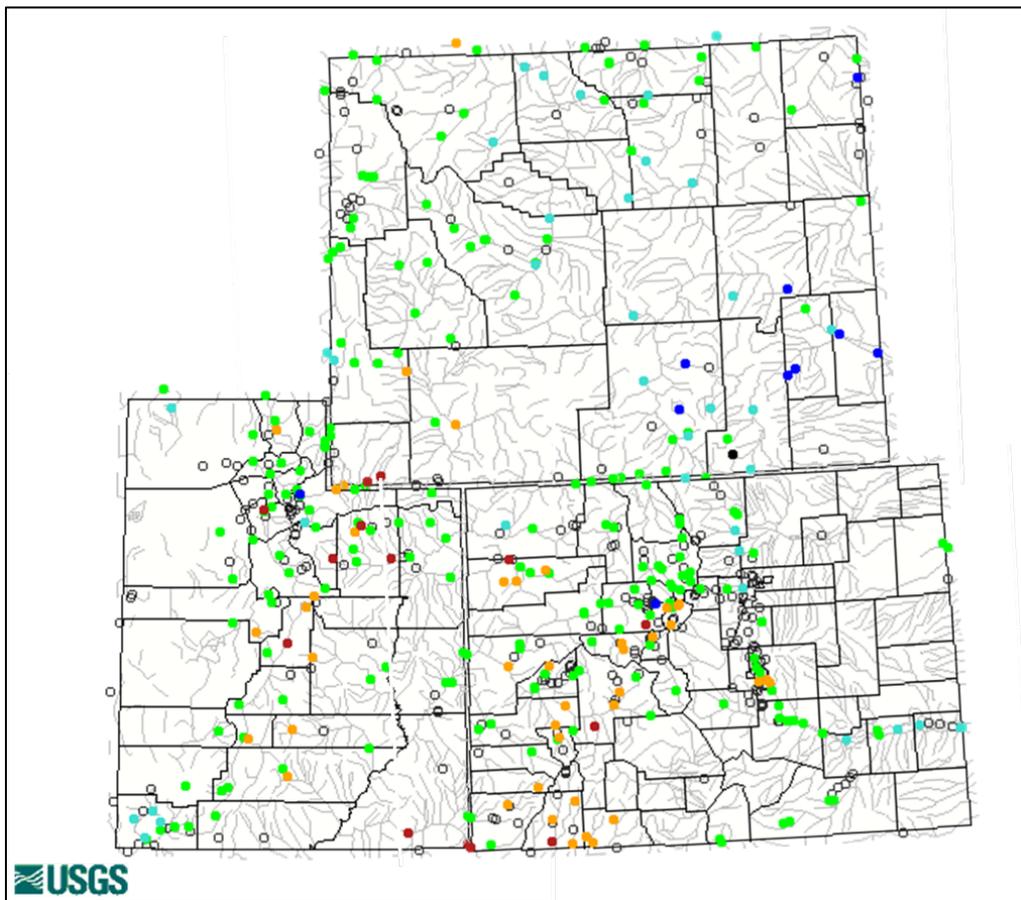
Fig. 4: Snotel WYTD precipitation percentiles (50% is median, 21-30% is Drought Monitor's D0 category).

The storms at Willow Creek Pass also led to a 9% increase from last week's water-year-to-date (WYTD) precipitation percent of average (this very large increase was verified by NRCS). Most of the rest of the UCRB saw decreases in WYTD precipitation percent of averages from last week (Fig. 3). Northern Duchesne and Uintah Counties in Utah experienced around 2% decreases from last week, and there were 1% decreases throughout southwestern Colorado.

Percentile rankings continue to support D0 in the San Juan-Dolores basin in Colorado and the Green River basin in Utah (Fig. 4). A few Snotel sites show D1 level percentiles bordering the southeastern edge of the Colorado River basin.

Streamflow

Many stream gages have returned to real-time near normal flows (25-75% range) after recording above average flows last week during the peak flow time period (Fig. 5). The majority of the San Juan-Dolores basin and the southern border of the Colorado River basin are now showing below normal flows, and several sites in northeastern Utah still show much below normal flows.



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

Fig. 5: USGS real-time streamflow compared to historical streamflow for June 22nd at Colorado (left), Utah (middle) and Wyoming (right).

Water Supply and Demand

Lake Dillon continues to stay full, and Lake Granby (which has seen a 100,000 AF rise in its levels since the beginning of the month) is also near maximum capacity and could spill as soon as next week. Blue Mesa Reservoir (in the Gunnison River basin) has also seen a rise of over 100,000 AF since June 1st and is still above average for this time of year. Flaming Gorge has been reducing its releases, and levels have now returned to what they had been in May before they started releasing into the Yampa River. Lake Powell water supply forecasts continue to improve, and current inflows are much better than what was previously expected, though levels are still below desired levels.

Recent lower than average temperatures and scattered storms over the past two weeks should reduce some of the Front Range demand for West Slope waters (though we are nearing the peak time for that demand). VIC soil moisture maps show good moisture in the plains, and very few dry spots in the mountains.

Precipitation Forecast

Westerly and southwesterly flow will continue to prevail over the region, with little chance of precipitation aside from isolated convectively driven storms. These storms are most likely over the eastern plains as a result of more moisture availability. The mountains will likely stay dry as we stay in this pattern of warm and dry weather. There is the slight increased chance for some precipitation this weekend as the models show possible advection of sub-tropical moisture into the region.

Drought and Water Discussion

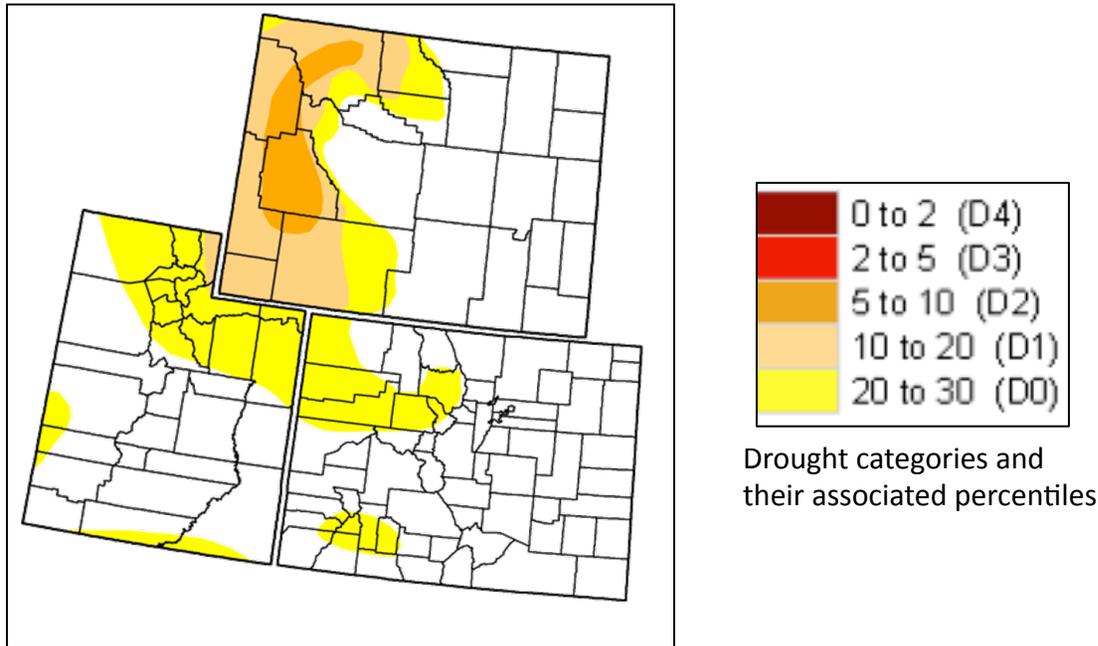


Fig. 6: June 17 release of U.S. Drought Monitor

Most of the current attention is being given to the San Juan-Dolores and Rio Grande basins which have received very little moisture over the past two months. Many are recommending the expansion of the D0 in the area, and possible introduction of D1. Several stations in Alamosa and Rio Grande Counties are showing 60-day SPI values less than -1. Short term drought indicator blends suggest that the Rio Grande basin could be in the D1 percentile category. D0 could be drawn through more of La Plata county and expanded eastward from there to Alamosa County.