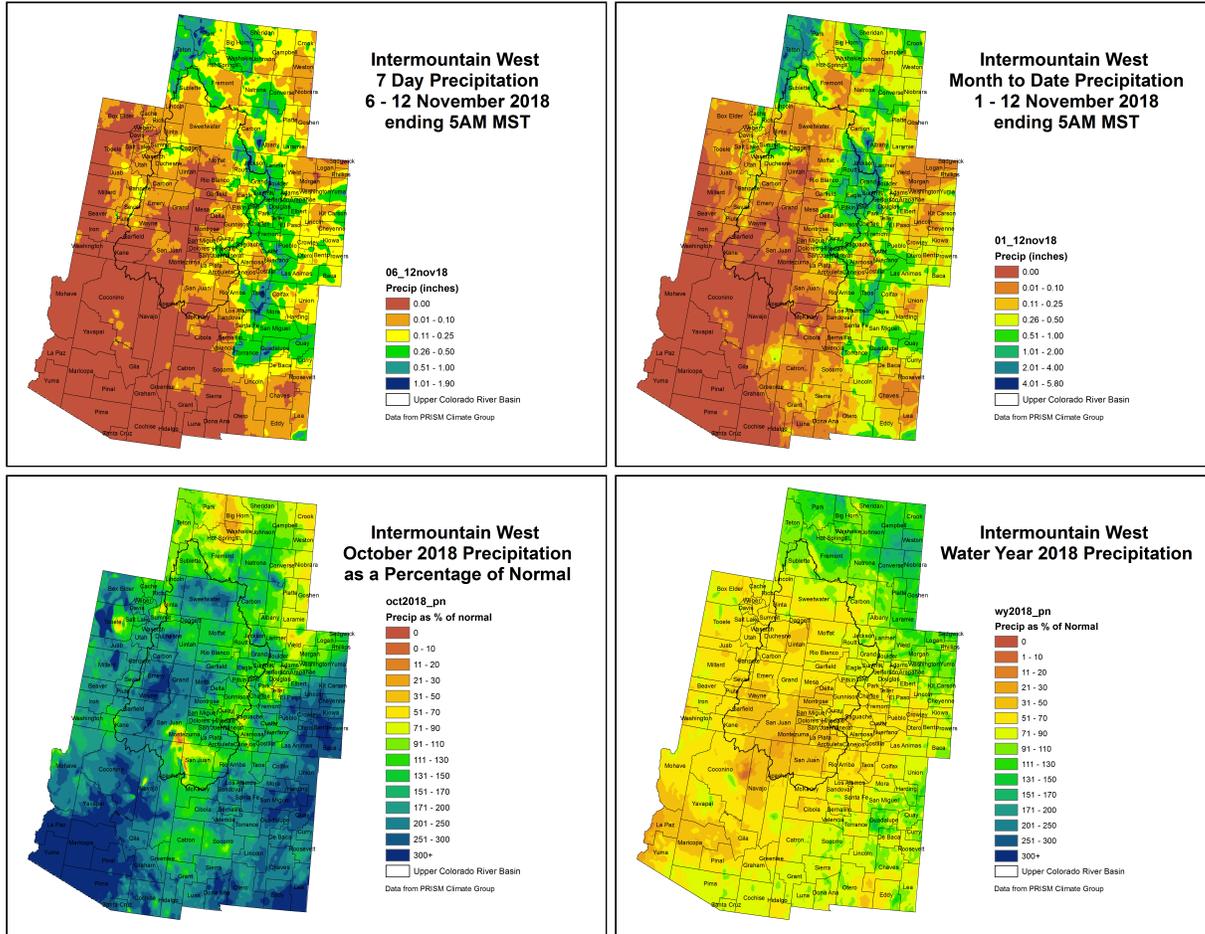


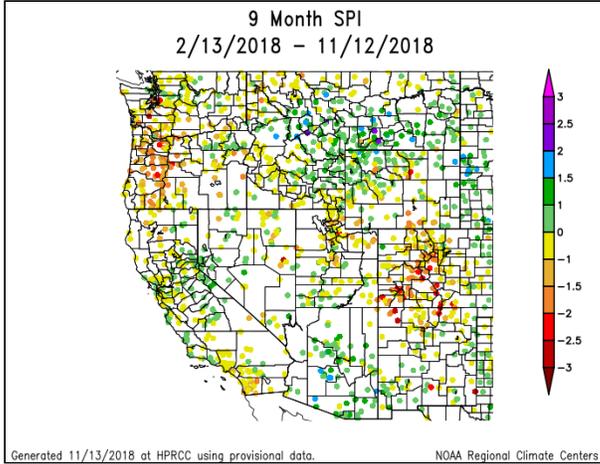
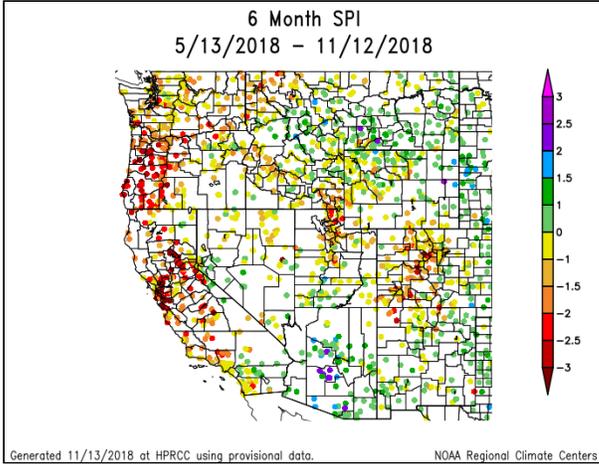
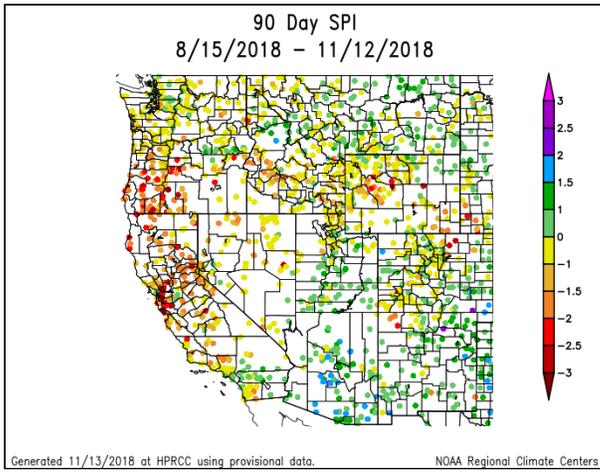
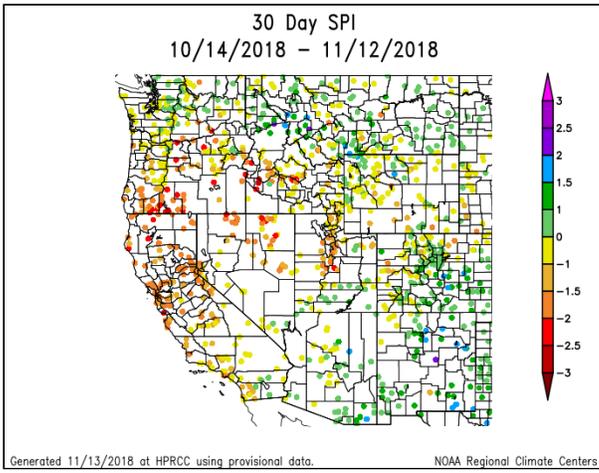
NIDIS Intermountain West Drought Early Warning System November 13, 2018

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.

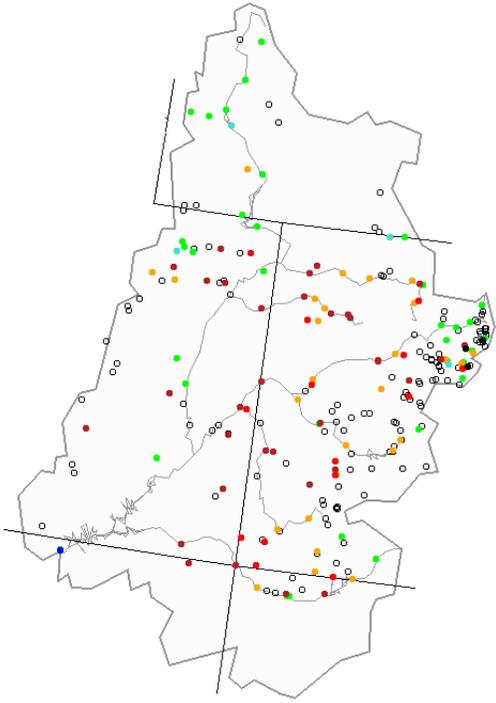
Standardized Precipitation Index



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

Monday, November 12, 2018

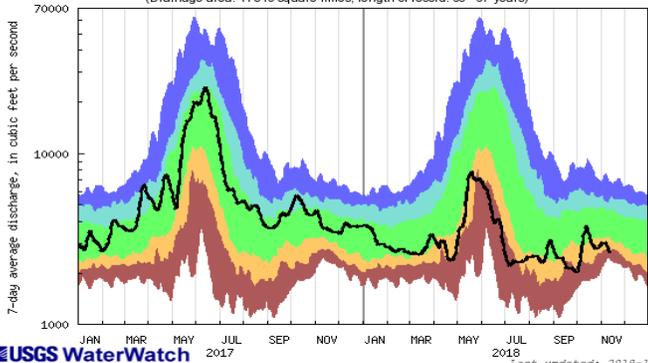


Explanation - Percentile classes

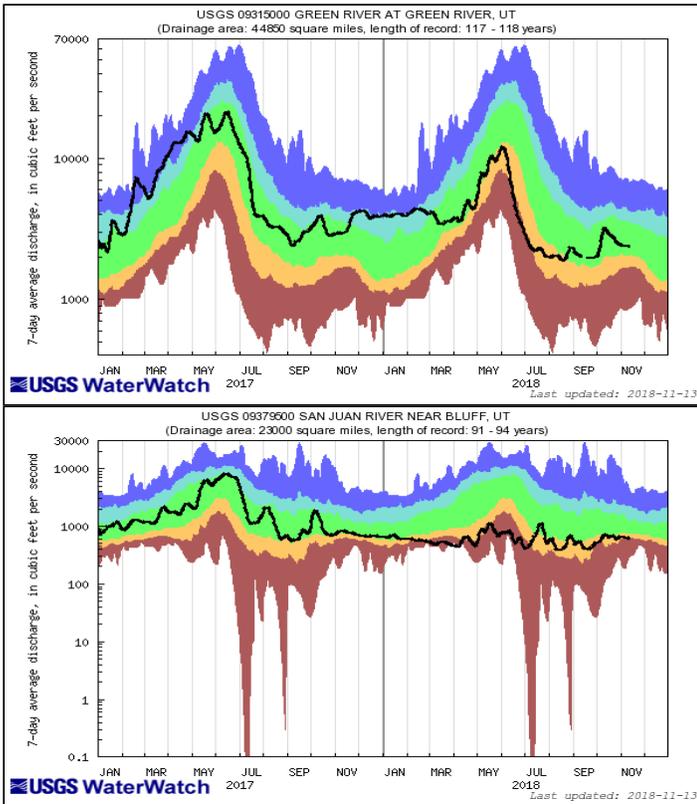
●	●	●	●	●	●	○
Low	<10	10-24	25-75	76-90	>90	High
	Much below normal	Below normal	Normal	Above normal	Much above normal	Not-ranked



USGS 09163500 COLORADO RIVER NEAR COLORADO-UTAH STATE LINE
(Drainage area: 17849 square miles, length of record: 66 - 67 years)

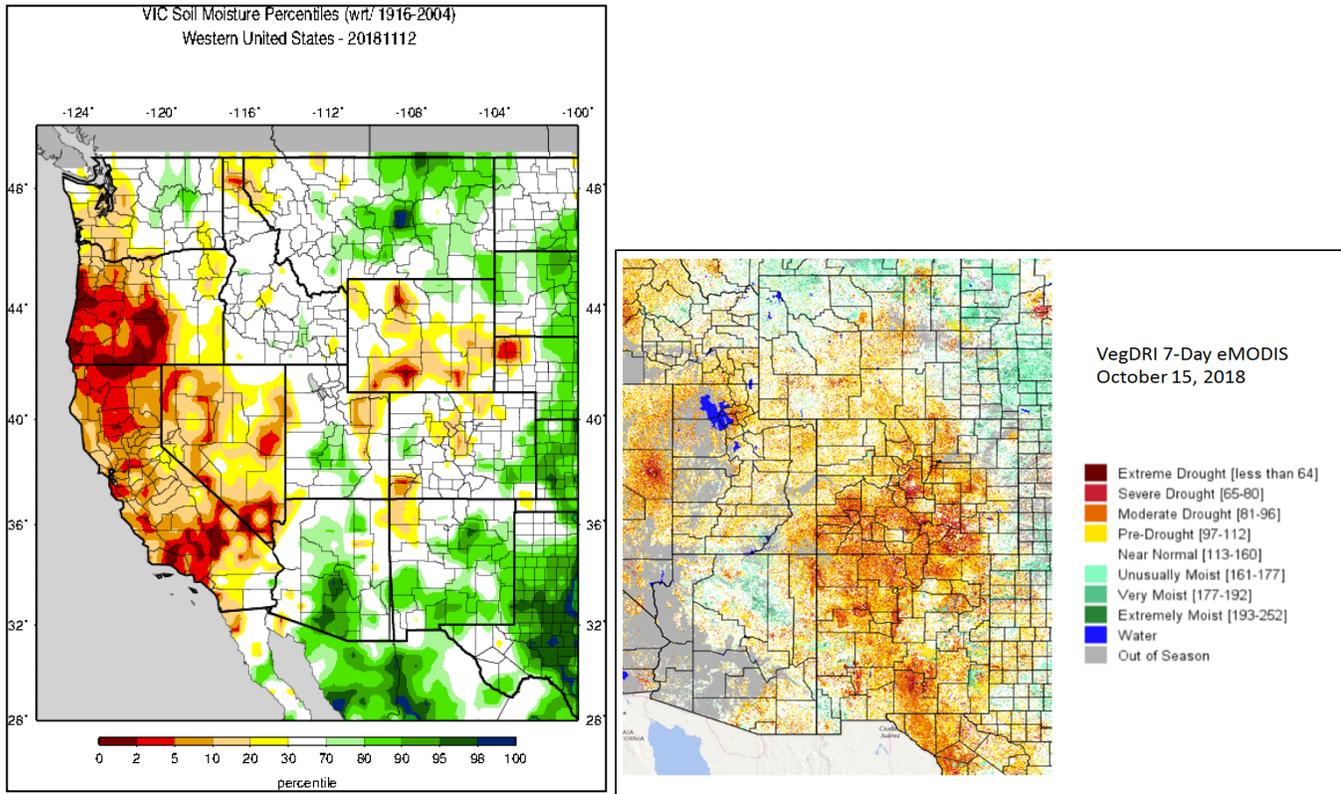


Last updated: 2018-11-13



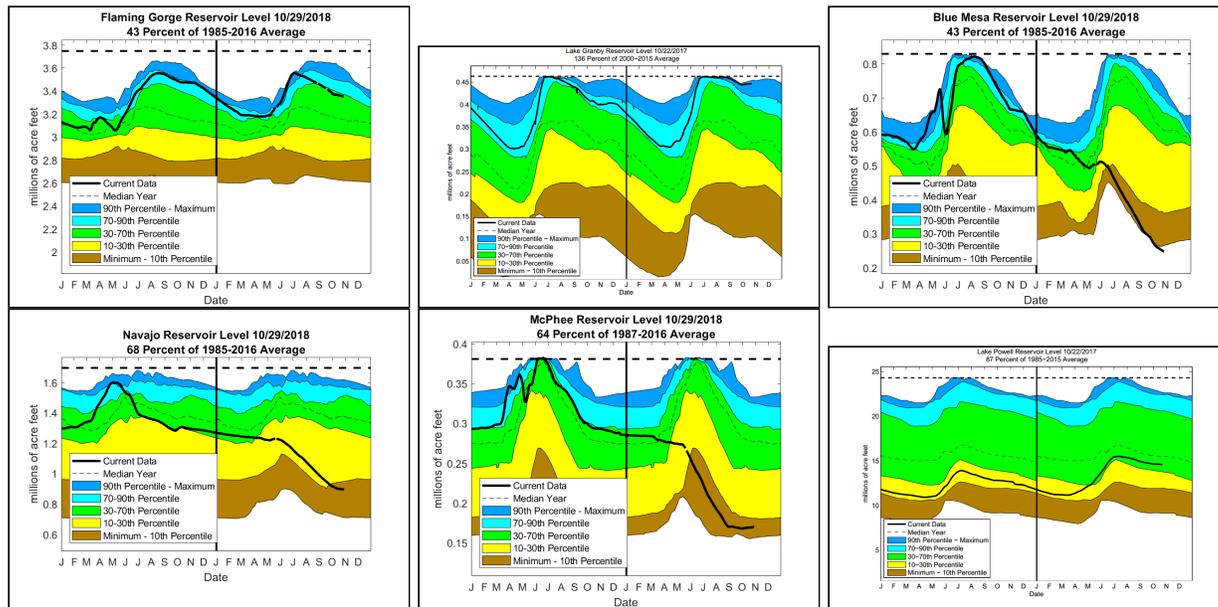
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

Surface Water

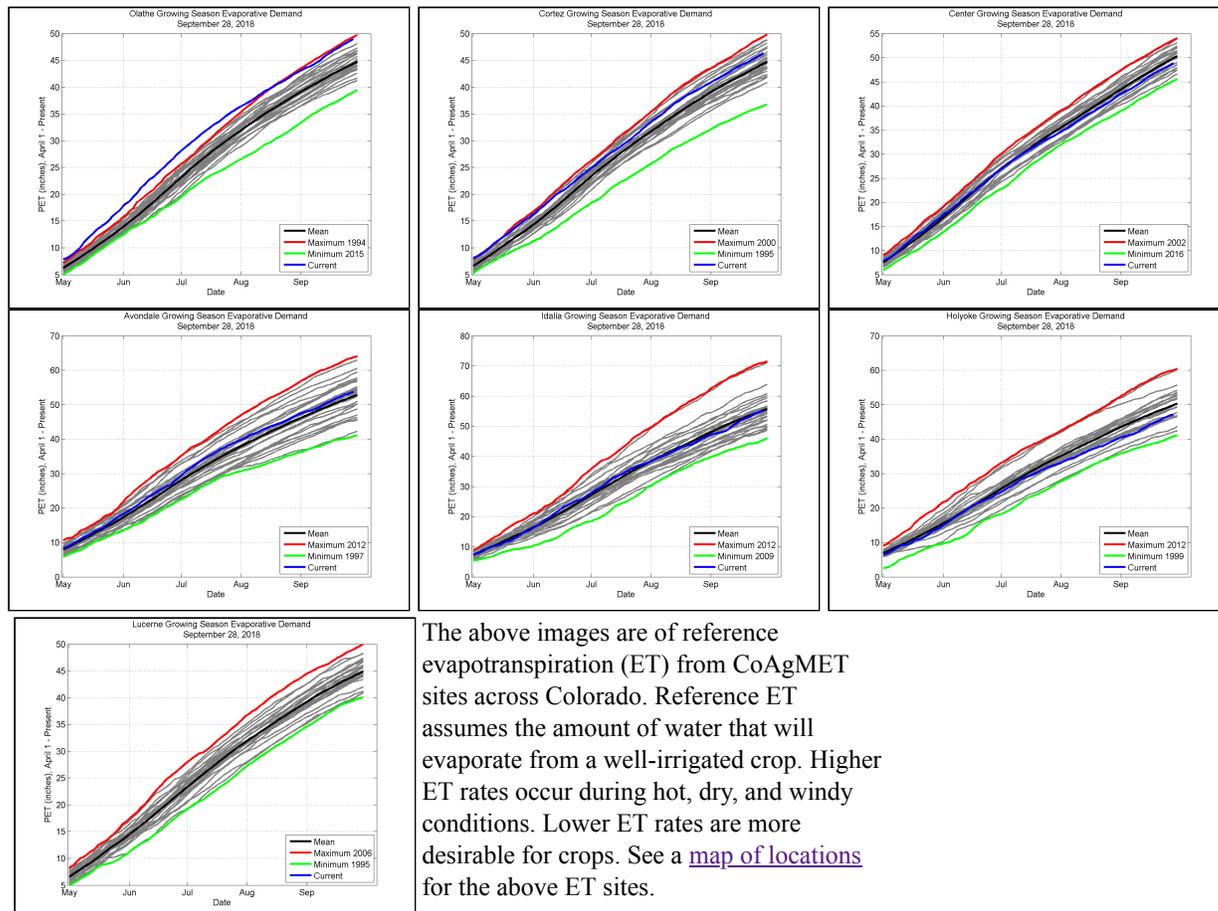


The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

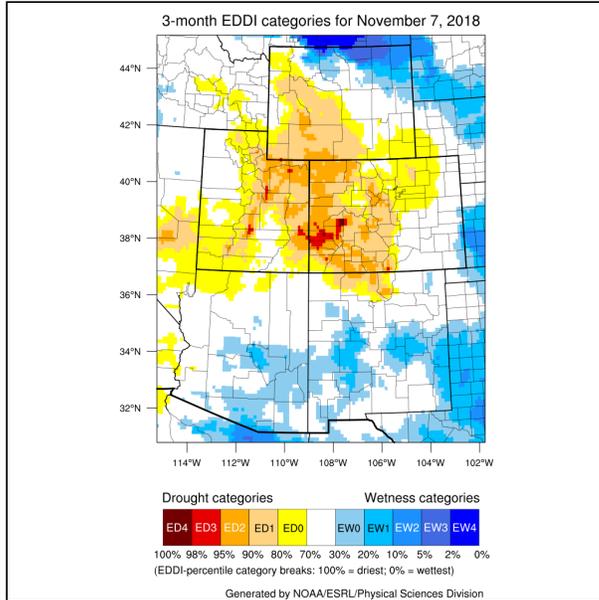
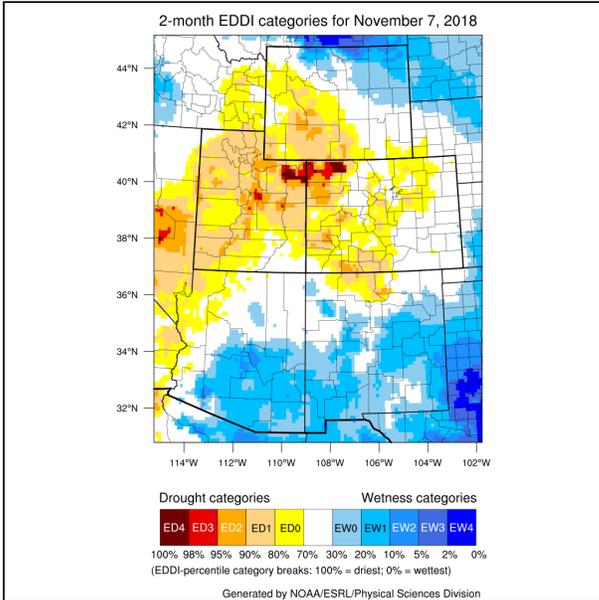
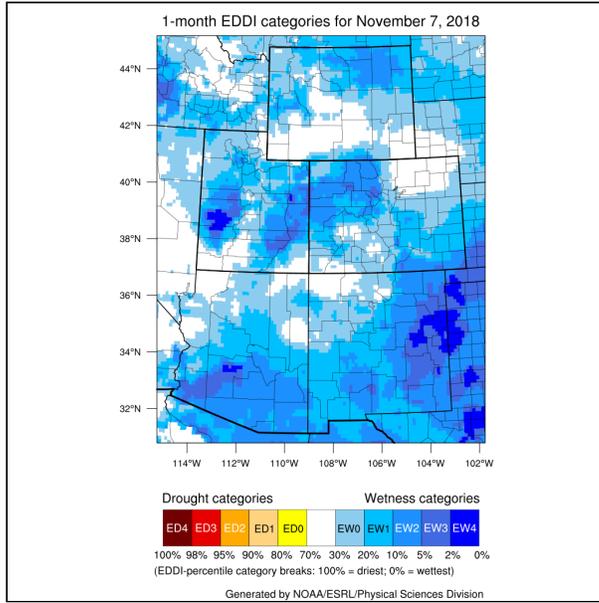
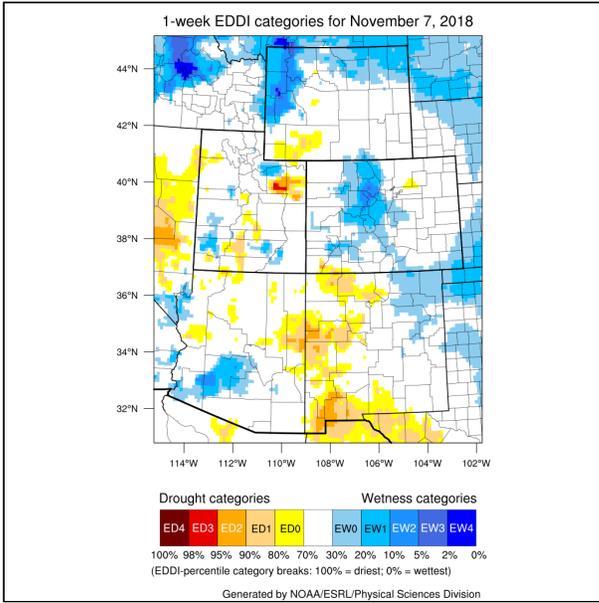
The graphs shown below are plots of reservoir volumes over the past full year and current year to date (black). The dashed line at the top of each graphic indicates the reservoir's capacity, and the background color-coded shading provides context for the range of reservoir levels observed over the past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



Evaporative Demand

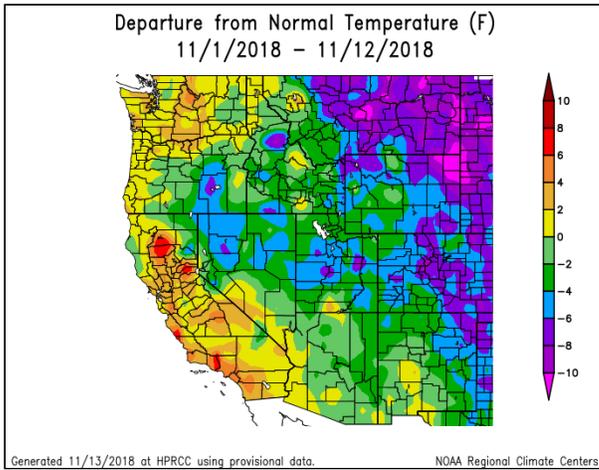
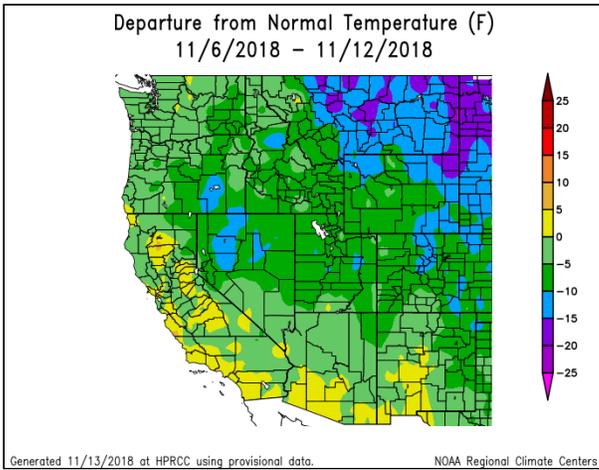


The above images are of reference evapotranspiration (ET) from CoAgMET sites across Colorado. Reference ET assumes the amount of water that will evaporate from a well-irrigated crop. Higher ET rates occur during hot, dry, and windy conditions. Lower ET rates are more desirable for crops. See a [map of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

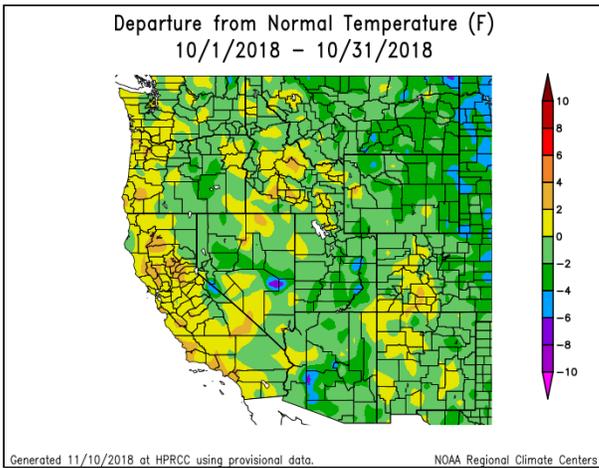


The above images are available courtesy of NOAA's Evaporative Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration accumulated over a given period of record with respect to a climatology of 1981-2010. The drought categories displayed are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

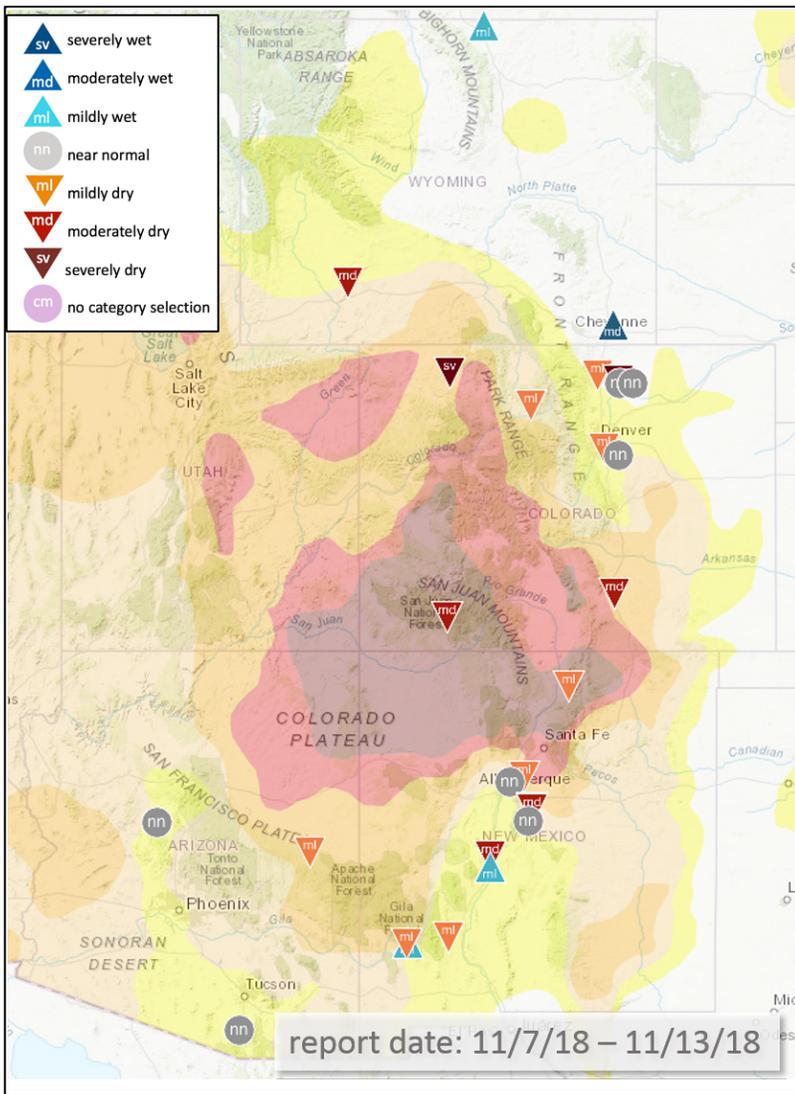
Temperature



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.



Condition Monitoring and Impacts



Map of current condition monitoring reports submitted to CoCoRaHS in the last week overlaid on the current U.S. Drought Monitor depiction. Specific impacts reports from local experts listed below.

USGS:

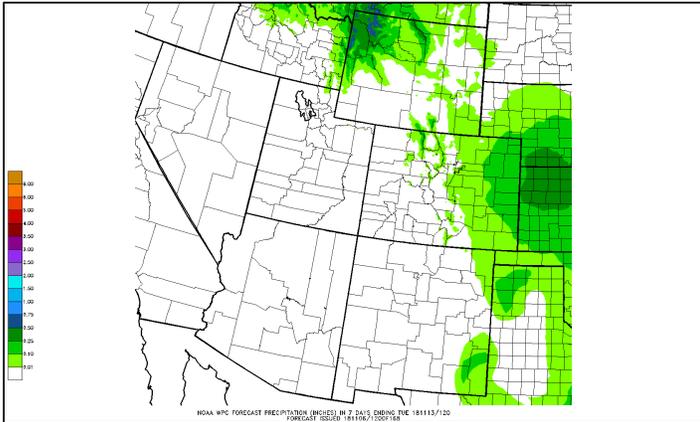
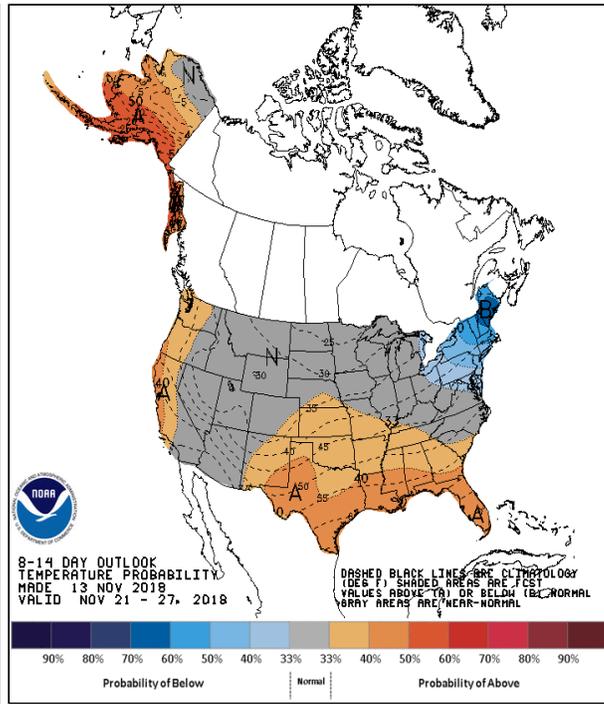
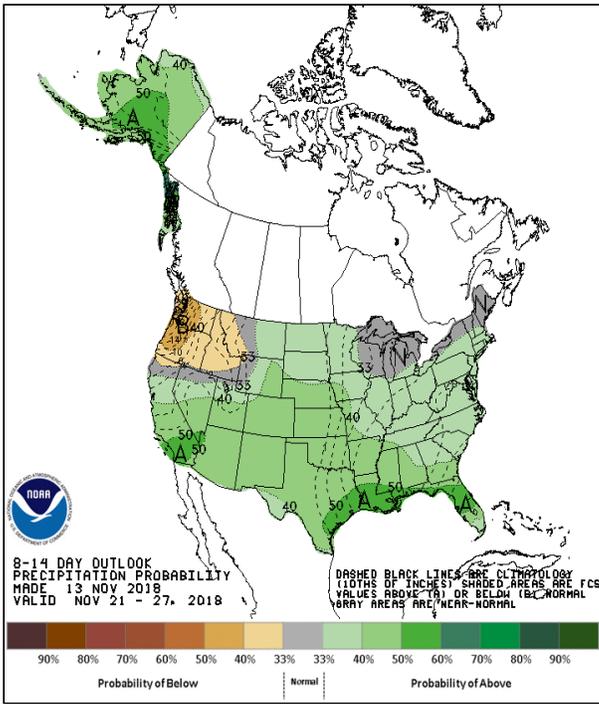
Updated rankings from the three key indicator gages of cumulative discharge for WY2018 are

- Colorado River near CO-UT State Line ranked 8th lowest in 67-year record
- Green River at Green River, UT ranked 25th lowest in 115-year record
- San Juan River near Bluff, UT ranked 1st lowest in 92-year record

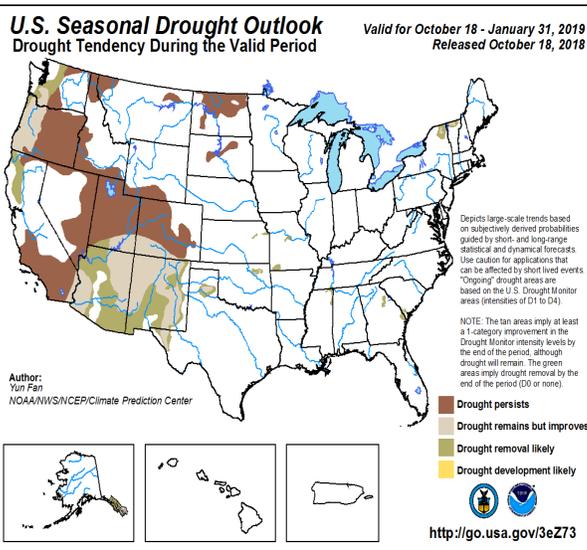
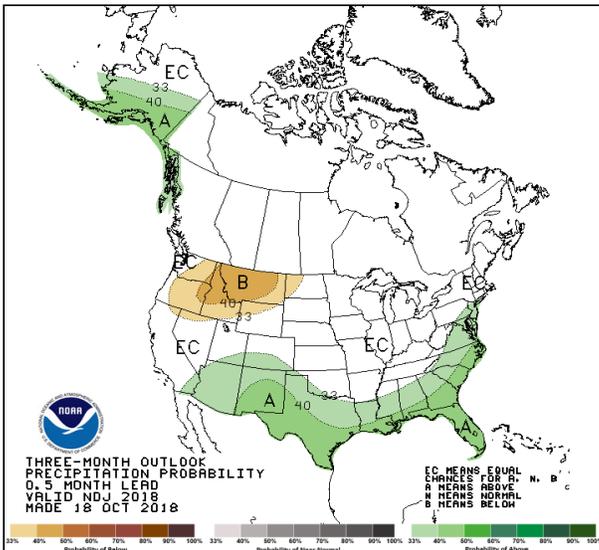
Crowley/Otero Counties, CO FSA

Everyone is happy with the start of the new water year. But the FSA office is starting to really see impacts from the last season. 30-40% losses in corn yields. Alfalfa fared better because the first cutting is the most important. 20-30% of normal production. Producers are paying close attention to the reservoir and snowpack maps this season, as a near-normal to decent snowpack year generally results in a near-normal to decent growing season and yield.

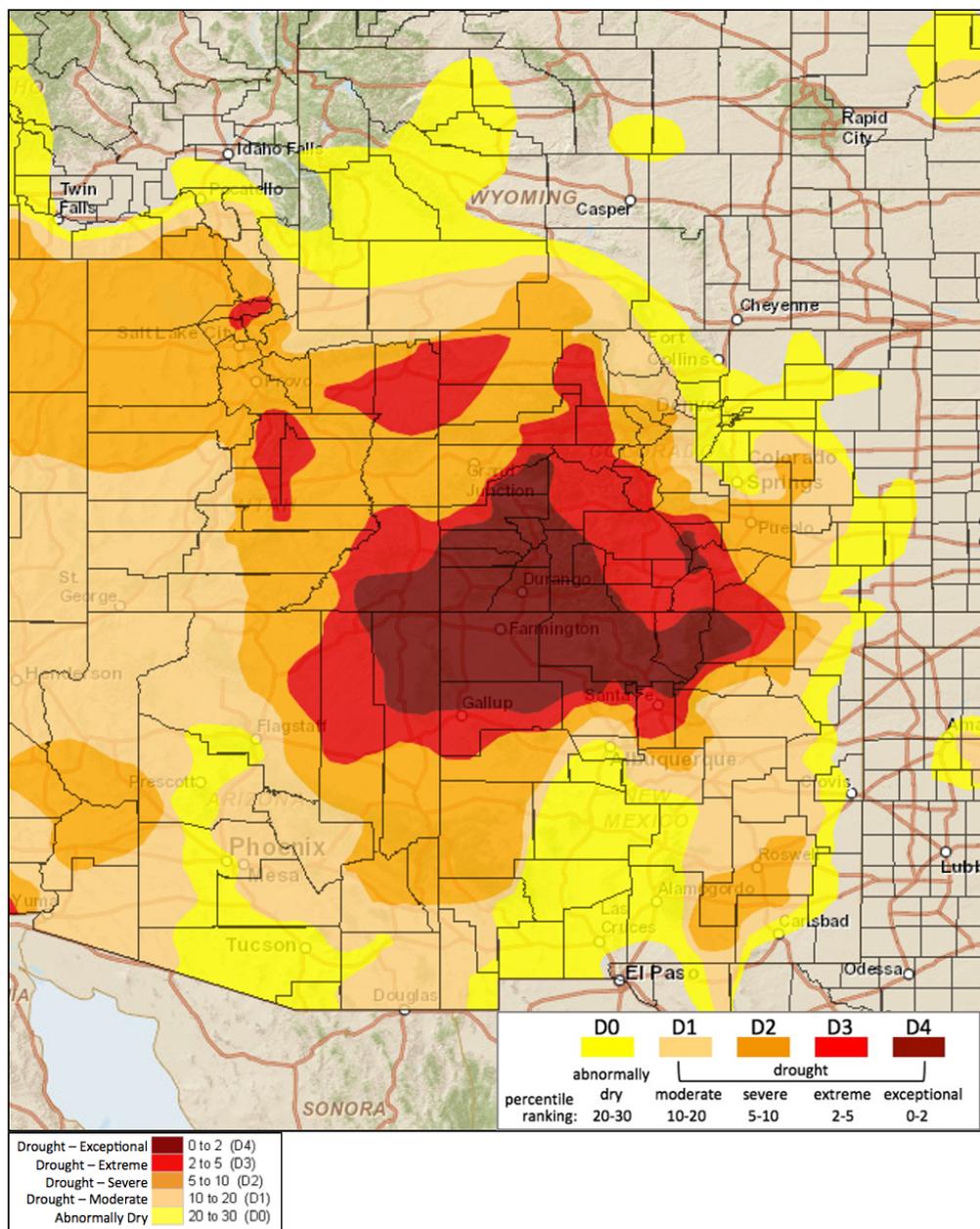
Outlook



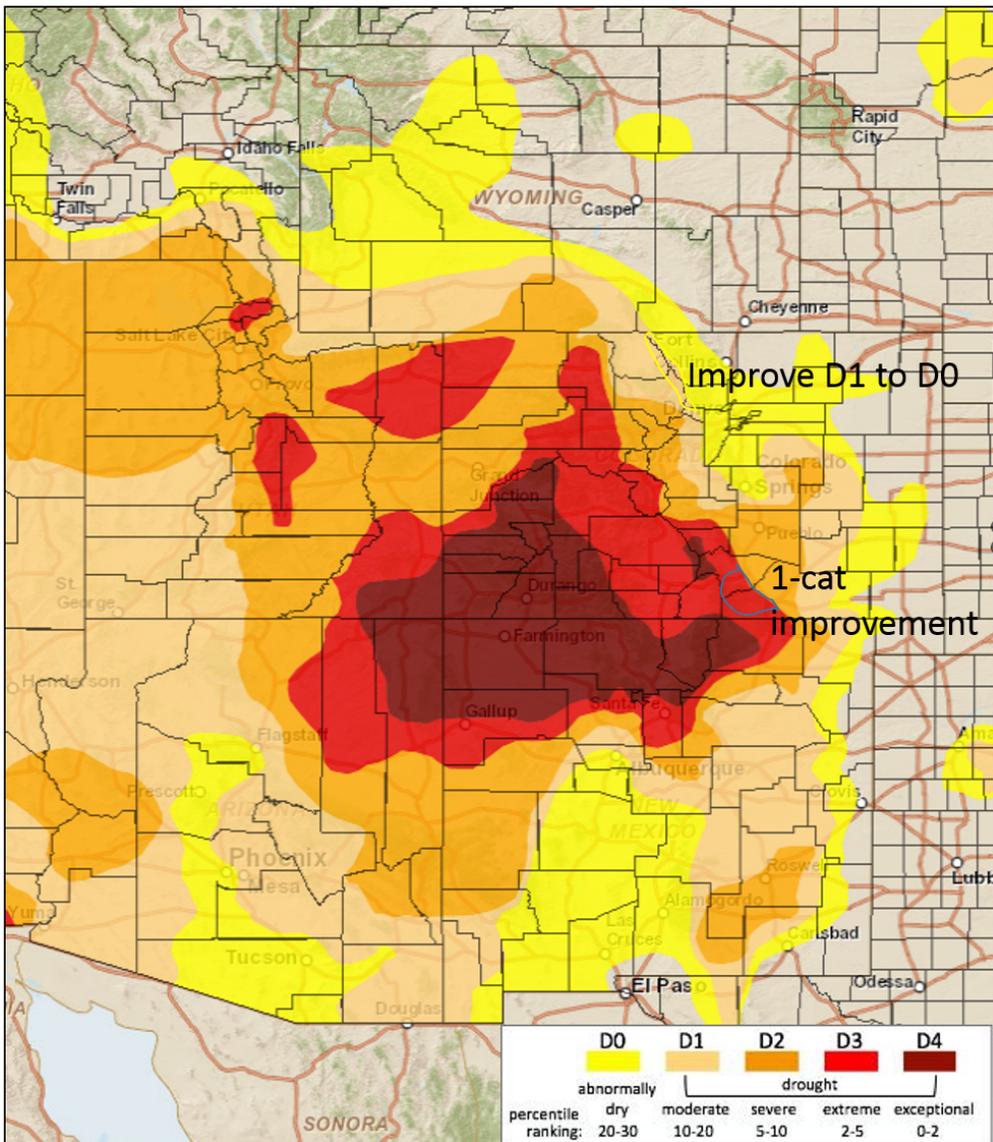
The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the Weather Prediction Center's Quantitative Precipitation Forecast accumulation for seven days. The bottom left image shows the 3-month precipitation outlook from Climate Prediction Center, and the bottom right image shows the Climate Prediction Center's most recent release of the U.S. Seasonal Drought Outlook.



Summary and Recommendations



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: November 13, 2018

It was a drier week through much of the Intermountain West region, particularly the UCRB, Arizona and western New Mexico. A nice upslope event brought some widespread snowfall to the Front Range from southern Wyoming down to central New Mexico. Precipitation amounts were mainly in the 0.25 to 0.50" range, however Boulder, Huerfano and Las Animas counties saw areas of up to and over an inch. North central New Mexico, particularly Taos County also saw over an inch of precipitation.

The higher elevations in Colorado, Wyoming and New Mexico have seen a good start to the snowpack season, while Utah has already fallen behind. It is early in the season and conditions can still go either way. The next week looks favorable for Wyoming and north central Colorado, however the 8-14 day outlook is showing favorable conditions for Colorado, Utah, New Mexico and Arizona.

Recommendations:

UCRB: Status quo. While snow fell in the higher elevations in Colorado, it wasn't enough to start making up deficits.

Front Range of CO: Recommending pushing the D1 along the Larimer/Jackson and Boulder/Grand county lines west thanks to decent snowfalls over the past 2 weeks.

We looked at improving Boulder County to D nada, however that would leave a very small odd pocket as the surrounding area is not quite ready to be improved. We will leave this up to the Drought Monitor Author this week.

Recommending a 1-category improvement from D3 to D2 in southern Huerfano and northern Las Animas counties. Last week saw the second decent precipitation event in the last 2-3 weeks, with at least 0.50" and up to 1.50" of precipitation and now up to 2" above normal over the past 30-days.

Eastern CO: Status quo.