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. Colors match the different drought categories with the U.S. Drought Monitor. 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.

http://climate.colostate.edu/~drought/current_assessment.php
Streamflow
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](http://climate.colostate.edu/~drought/current_assessment.php) 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

[Image of maps showing drought classifications]
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.

**Montezuma County Extension**

Although June is normally a dry month, there's been virtually no precipitation since early June. People are anxiously awaiting the start of the monsoon. But even with monsoon, rains could be spotty and bring the risk of lightning. Current lack of moisture leads to an impact of people requiring supplemental water for irrigating. Irrigated crops are still looking really good and the first cutting of alfalfa was really good. Due to winter snowpack and spring moisture, weeds and dryland grasses have grown like crazy. Extra growth of cheatgrass and recent dryness increases fire concerns. There has been some prescribed burning, and so far there are no fire bans in the county.

Overall the short term dryness and lack of monsoon moisture to this point is a concern. Things in this area can get bad very quickly, despite excellent spring moisture.

**Central Utah FSA**

Streamflows and soil moisture are still pretty good, but July has been very dry. With spring moisture leading to significant vegetation growth, fire officials are warning public land users of fire danger. While this can be a typically dry time of year, there is concern with the delay in monsoon moisture. Most are hopeful that it will
still come. Areas with limited water storage are running below capacity and soil moisture is drying out and in need of monsoon moisture.

**July 16, 2019 Webinar:**

**Walsenburg, southern CO**

Conditions have become "pretty crunchy" over the last 10-14 days. It's been dry, windy, and hot from central Las Animas County and north toward Walsenburg (and to the foothills). There's been movement in grazing because growth has stopped, and some people have begun hauling water for the livestock. Something to keep an eye on.

**Kiowa County, CO FSA**

Conditions lately have been drying out, but Eads did get about .2" last Monday night. The western half of Kiowa County is drier. Wheat harvest is in full swing and wheat yields are looking very good, with yield reports well above average this year.

**Outlook**

![Outlook Maps](http://climate.colostate.edu/~drought/current_assessment.php)
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: July 23, 2019

For the month of July so far, widespread precipitation has mainly been restricted to areas east of the Continental Divide for the Intermountain West (IMW). Most of the Upper Colorado River Basin (especially lower elevations) and western Utah and western Arizona have received less than .10" of moisture for the month. Onset of monsoon precipitation is off to a struggling start and not making a strong showing yet. While long-term SPIs are still in good shape, 30-day SPIs are showing dryness throughout most of the IMW.

Following a long and cool start to summer, July has warmed up, and the heat really turned up last week. With the exception of Wyoming, the IMW saw above average temperatures over the last week. New Mexico temperature anomalies ranged from 2-10° above average. For a lot of the IMW evaporative losses have stayed lower. But the 1-week EDDI is showing increased evaporative demand over parts of Wyoming and Utah. Colorado's CoAgMET sites still show below average accumulated ET for the growing
season.

Thanks to the strong winter snowpack and spring moisture, surface water conditions (soil moisture, reservoirs, streamflows) are still looking good. But some areas are starting to show some short-term stress. The outlooks over the next couple of weeks do show a consistent push of moisture into the region that could help relieve areas that have dried out a lot over the past month.

**Recommendations:**

**UCRB:** An expansion at the Four Corners is recommended. D0 can be extended northward from AZ/NM into southeast UT and southwest CO. Despite excellent winter snowpack and spring moisture, conditions can change quite quickly and it has gotten very dry. The area has not had a decent accumulating rain event since early June. Short term dryness has resulted in extra fire concerns due to drying out of the extra vegetative growth in the spring.

It is also recommended that two areas of D0 be introduced in central Utah (can also consider connecting them in Sanpete County in the middle), with similar concerns observed there as with the Four Corners. Areas of D0 were defined based on June precipitation % of average, July month-to-date % of average, 1-week EDDI, and QuickDRI depictions.

**Eastern CO:** Status quo is recommended. Areas of concern from previous weeks received over an inch of moisture in the past week. Flash flooding was an issue in southern CO last night from the Spring Creek Fire burn scar and heavy rains. Corn growth throughout eastern CO is behind schedule, which could be a concern if there is an early freeze. Otherwise, it's coming along. Winter wheat harvest yields have been very good.