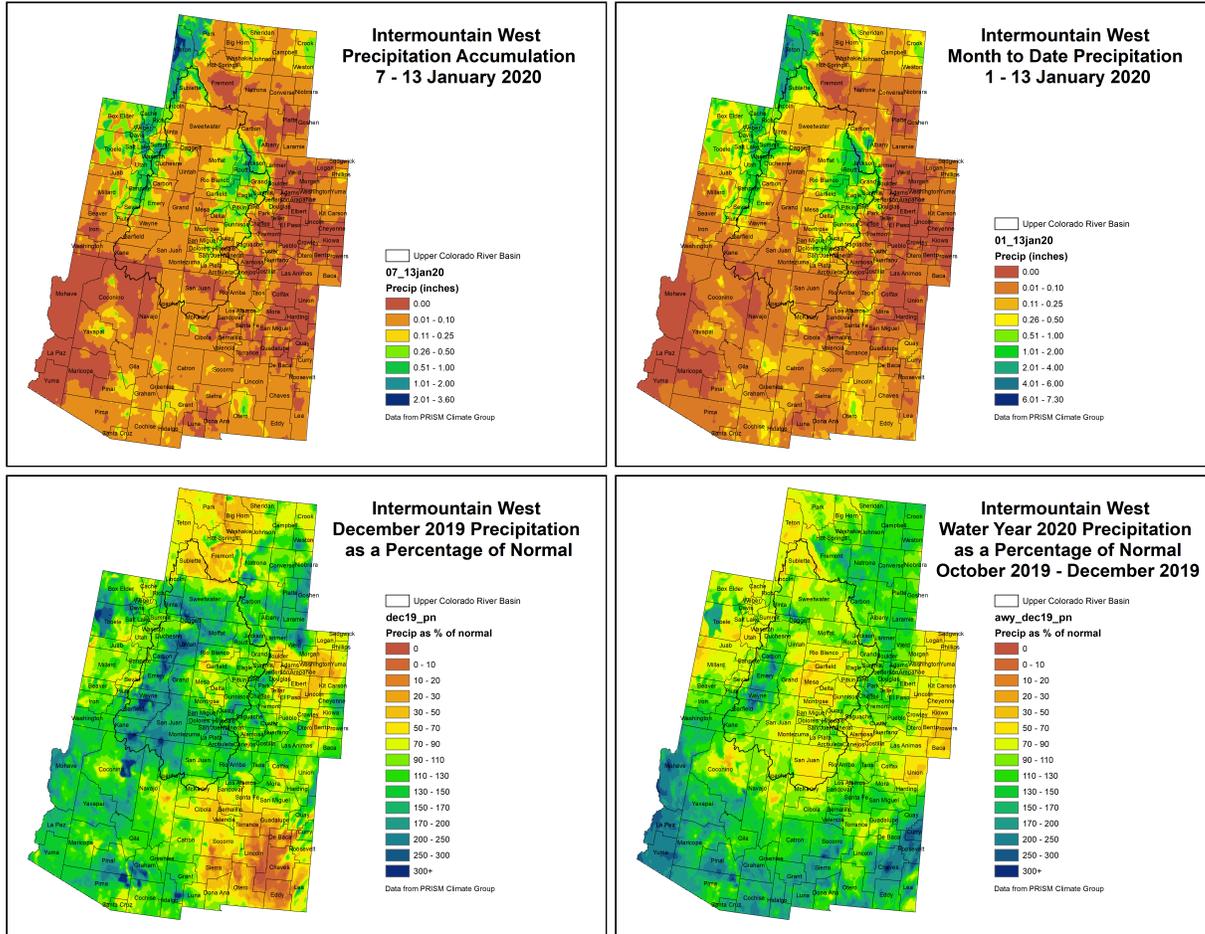


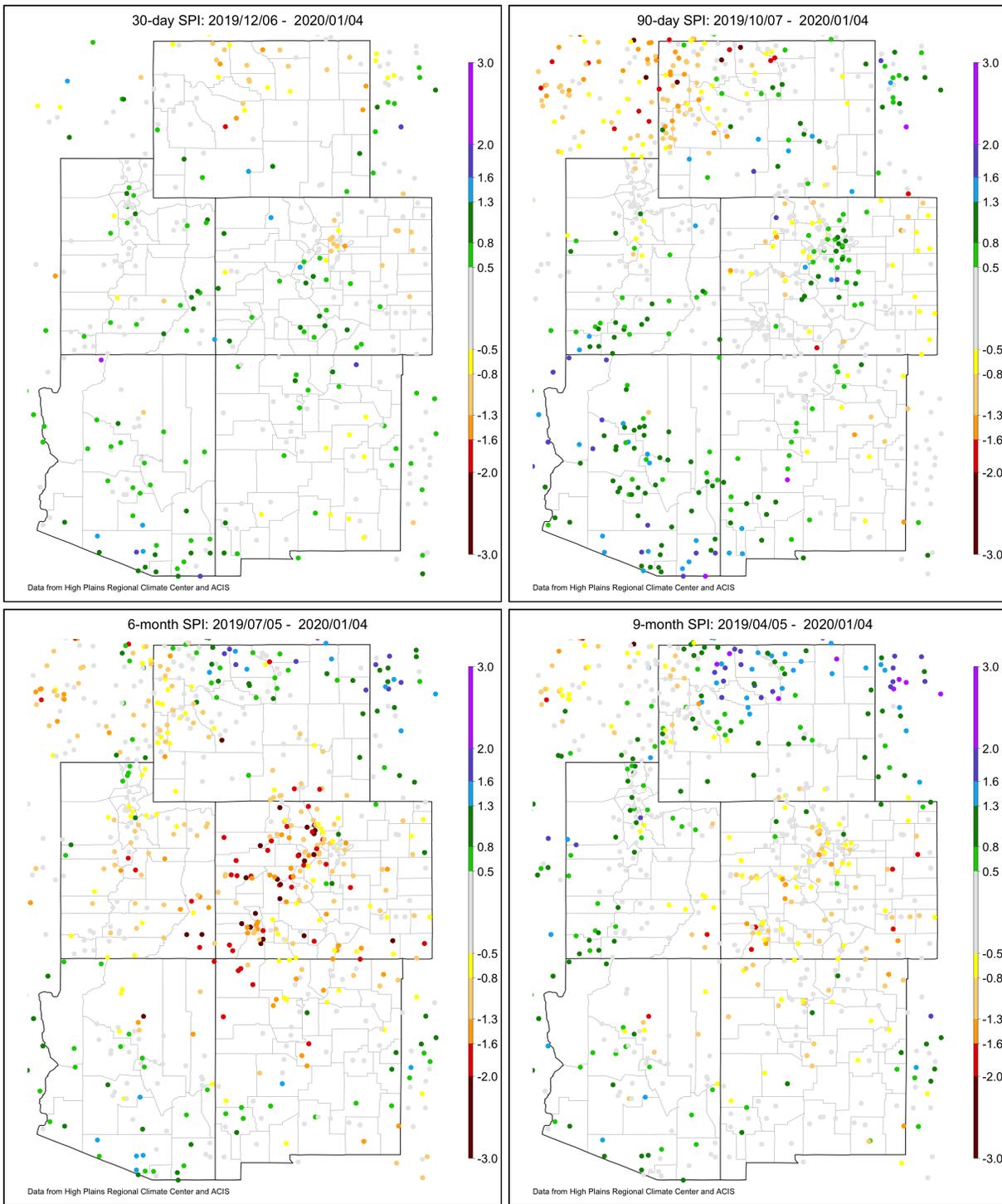
# NIDIS Intermountain West Drought Early Warning System January 14, 2020

## Precipitation



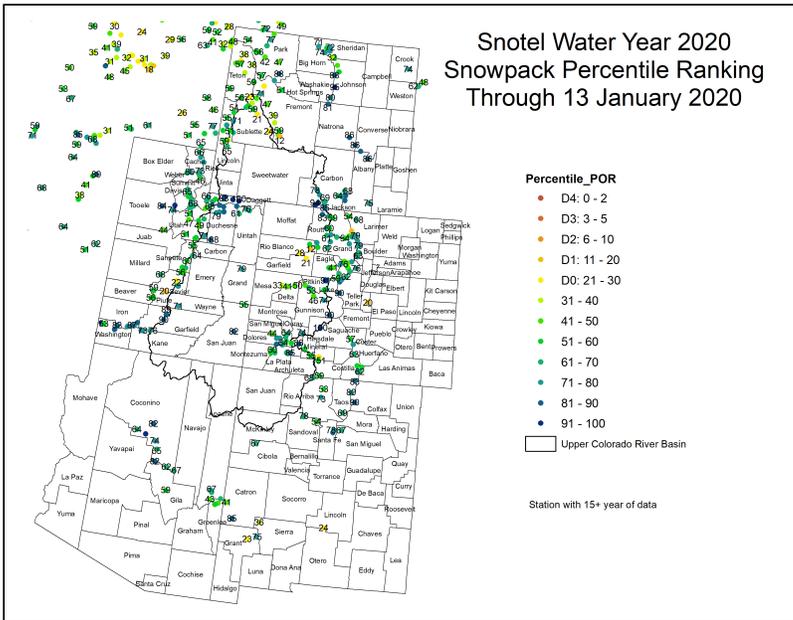
The images above use daily precipitation statistics from NWS COOP, CoCoRaHS, and CoAgMet stations. From top to bottom, and left to right: most recent 7-days of accumulated precipitation in inches; current month-to-date accumulated precipitation in inches; last month's precipitation as a percent of average; water-year-to-date precipitation as a percent of average.

## Standardized Precipitation Index

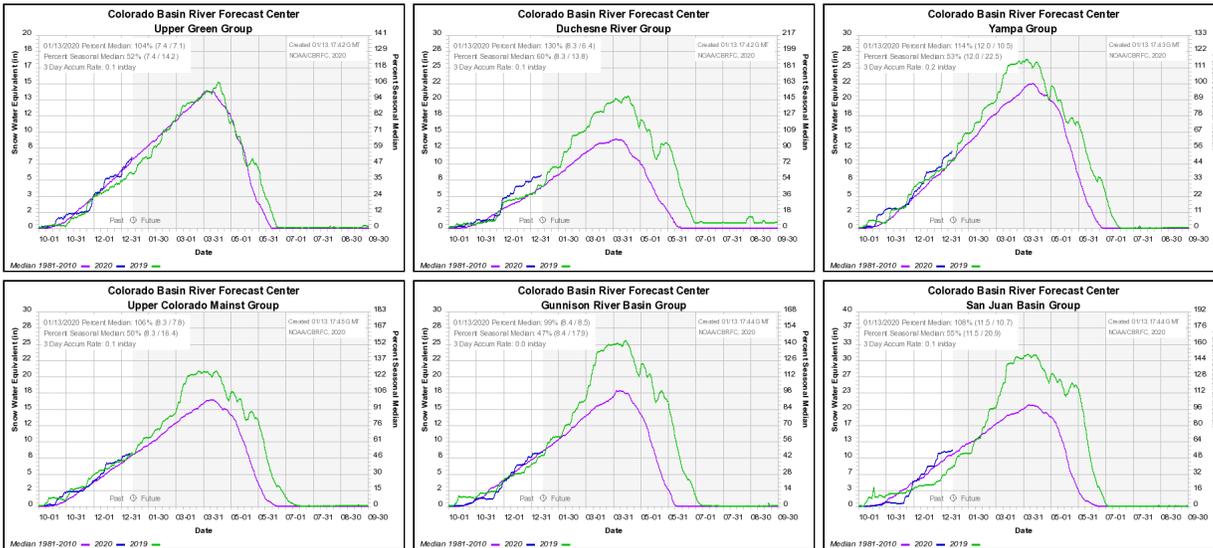


Standardized Precipitation Index standardizes precipitation accumulations for a specified time period into percentile rankings. Colors match the different drought categories with the U.S. Drought Monitor. 30- and 60-day SPIs focus on short-term conditions while 6- and 9-month SPIs focus on long-term conditions. SPI data provided by High Plains Regional Climate Center.

## Snotel and Snowpack

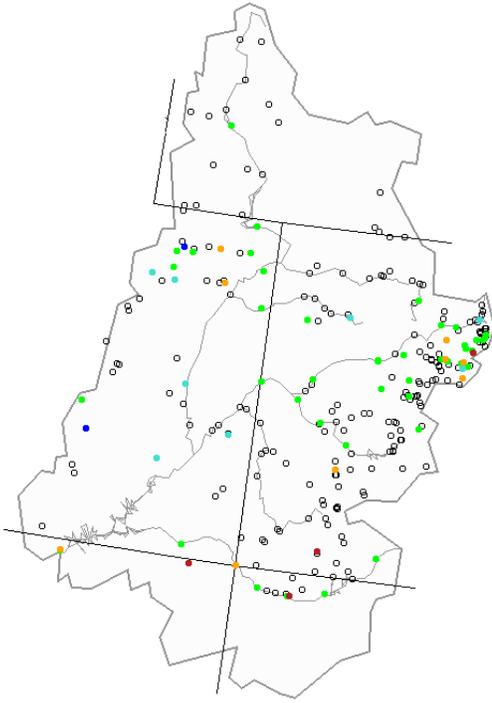


The above image shows SNOTEL snowpack percentiles for each SNOTEL site in the Intermountain West. The images below show accumulated snow water equivalent in inches (green) compared to average (blue) and last year (red) for several different sub-basins across the UCRB (and were created by the Colorado Basin River Forecast Center).



## Streamflow

Monday, January 13, 2020

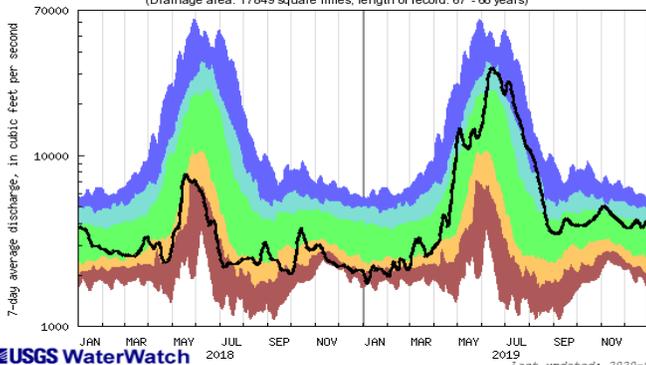


Explanation - Percentile classes

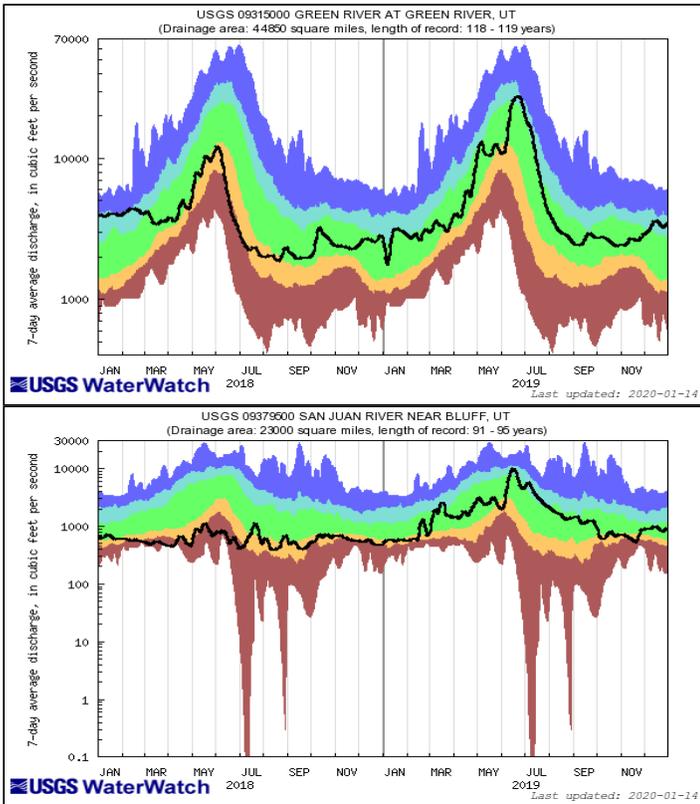
|                                    |                                       |                                      |                                     |                                     |                                      |                                     |
|------------------------------------|---------------------------------------|--------------------------------------|-------------------------------------|-------------------------------------|--------------------------------------|-------------------------------------|
| <span style="color: red;">●</span> | <span style="color: orange;">●</span> | <span style="color: green;">●</span> | <span style="color: cyan;">●</span> | <span style="color: blue;">●</span> | <span style="color: black;">●</span> | <span style="color: grey;">○</span> |
| 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: 67 - 68 years)

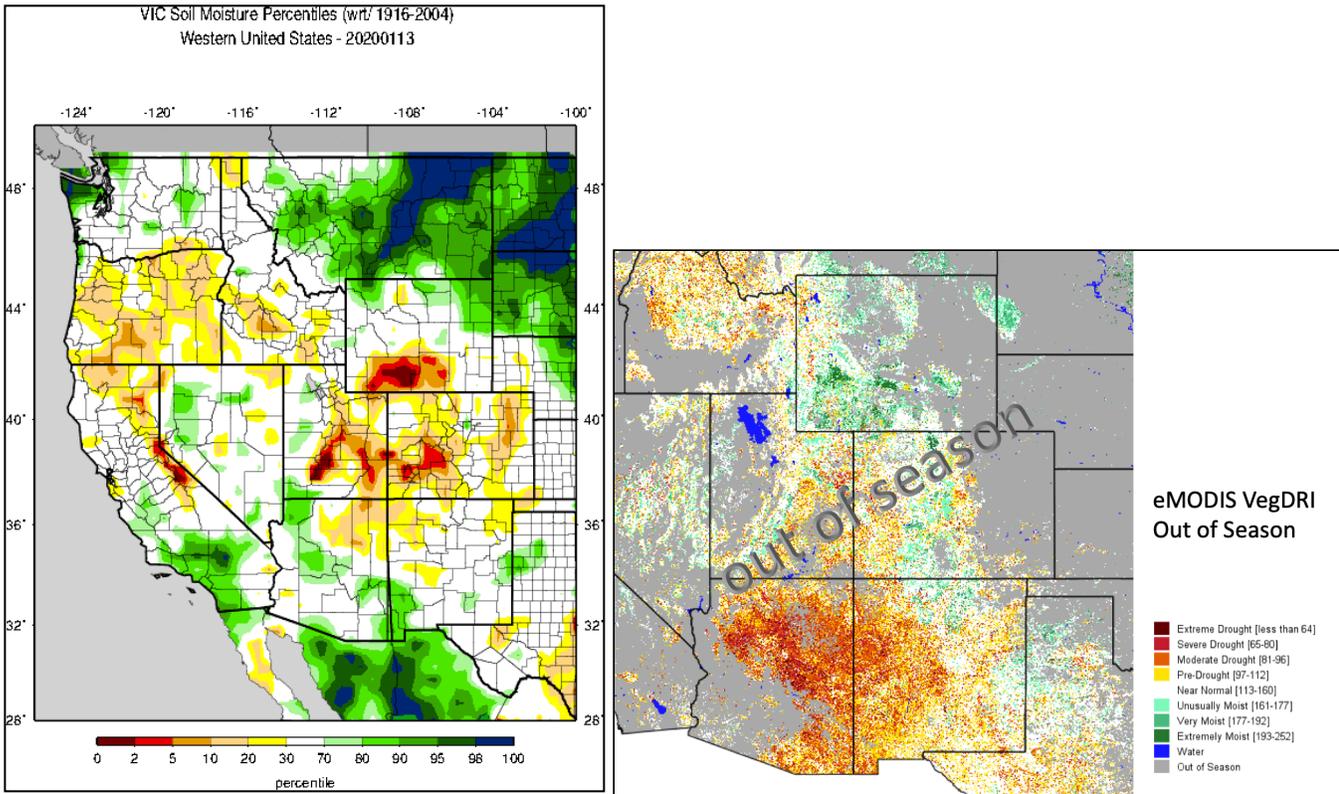


Last updated: 2020-01-14



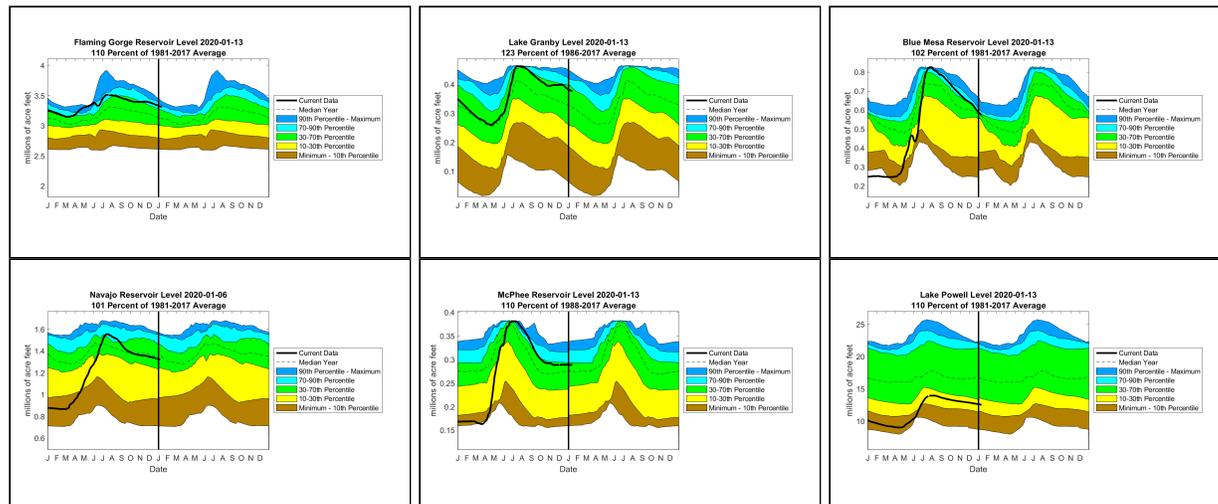
The top left image shows 7-day averaged streamflows as a percentile ranking across the UCRB. The top right image shows 7-day averaged discharge over time at three key sites around the UCRB: The Colorado River at the CO-UT state line; the Green River at Green River, UT; and the San Juan River near Bluff,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

## Surface Water

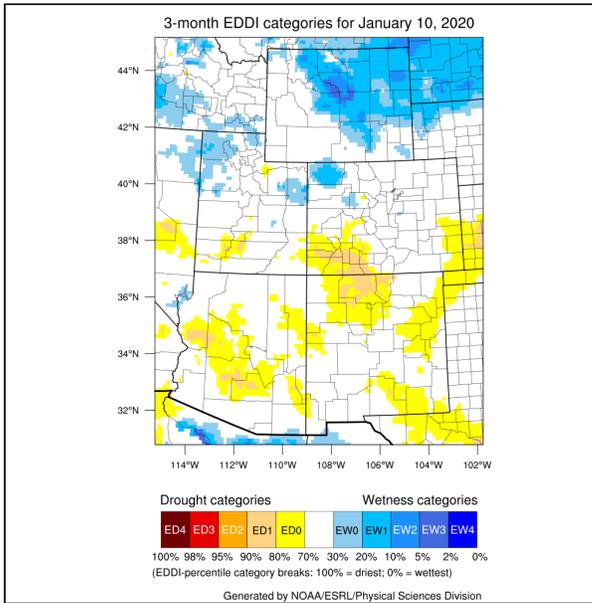
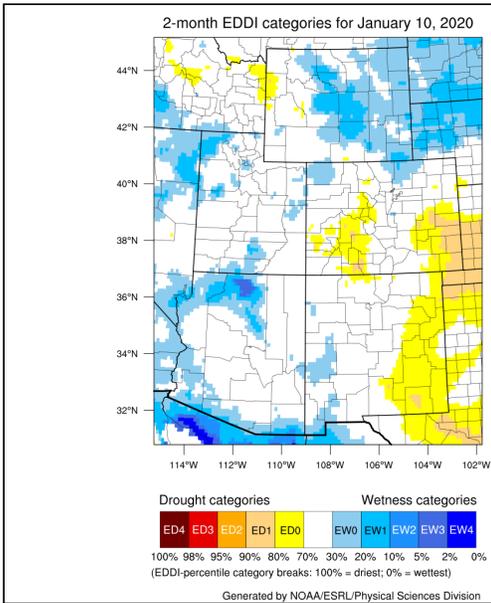
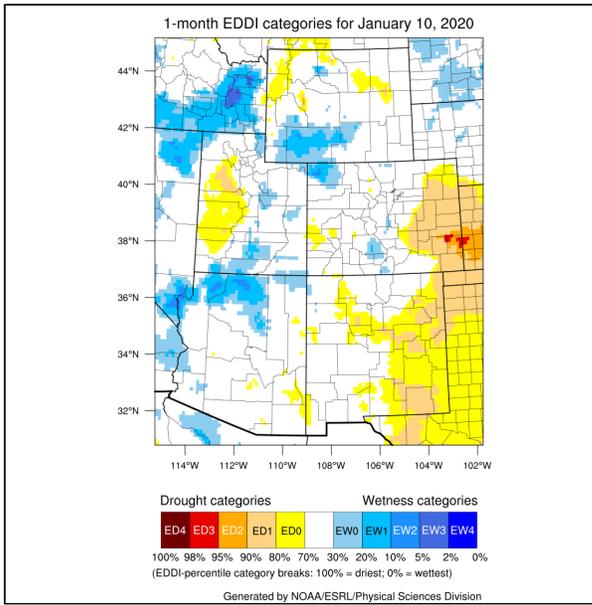
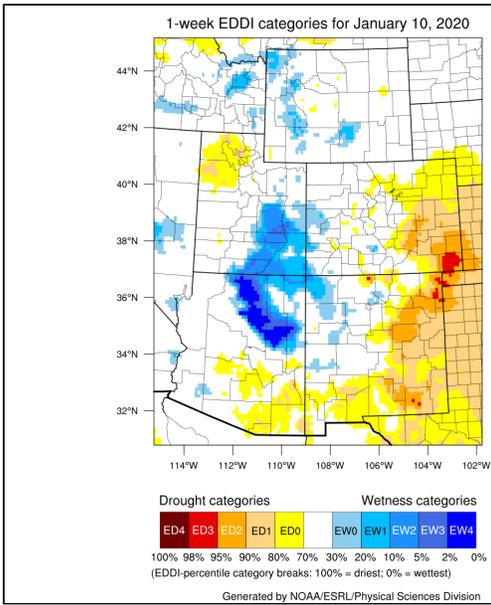


The top left image shows VIC modeled soil moisture as a percentile ranking. The top right image shows satellite-derived vegetation from the VegDRI product (which updates on Mondays).

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.

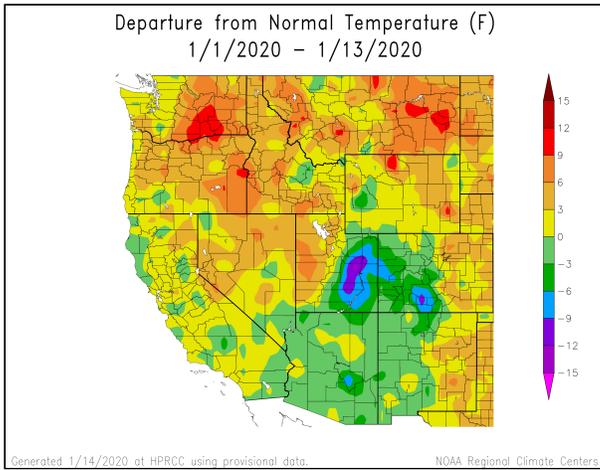
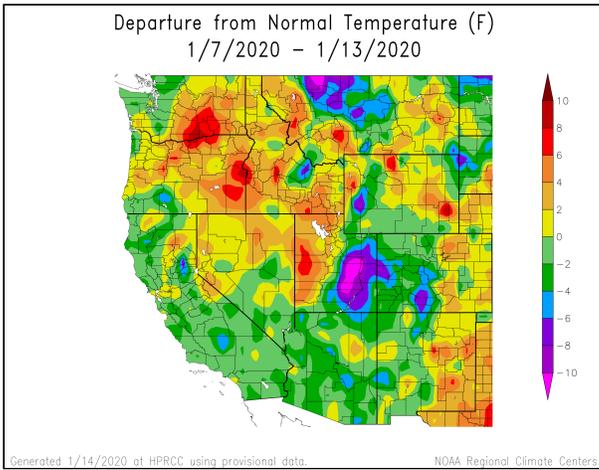


## Evaporative Demand

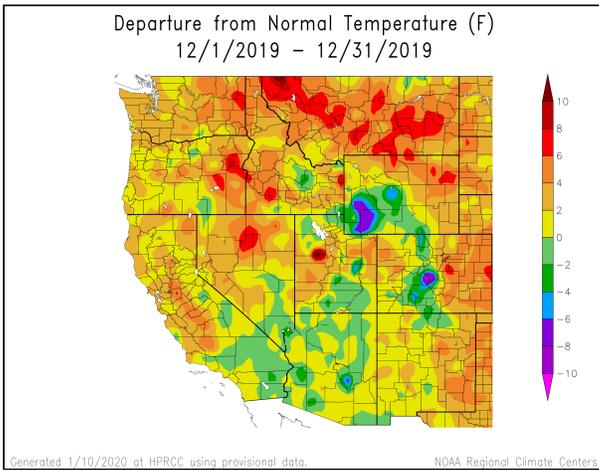


The above images are available courtesy of NOAA's Evaporative Demand Drought Index (EDDI). Drought classification listed is a function of the depth of reference evapotranspiration accumulated over a given period of record with respect to a climatology of 1981-2010. The drought categories displayed are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

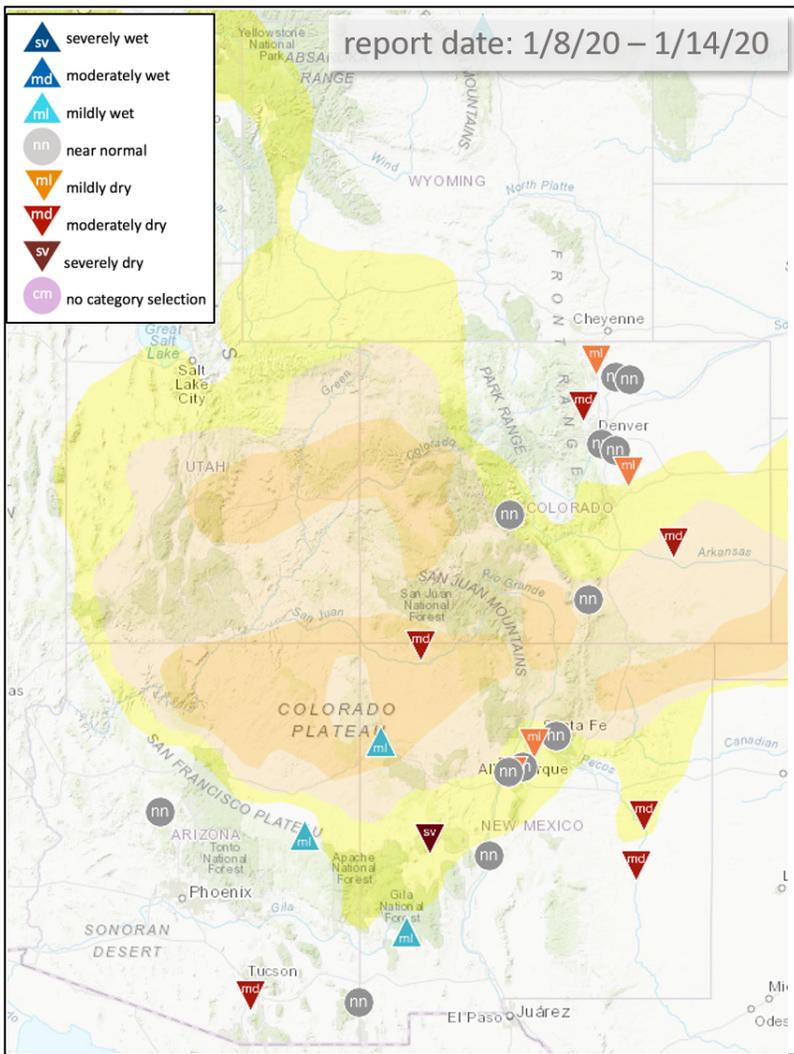
## Temperature



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



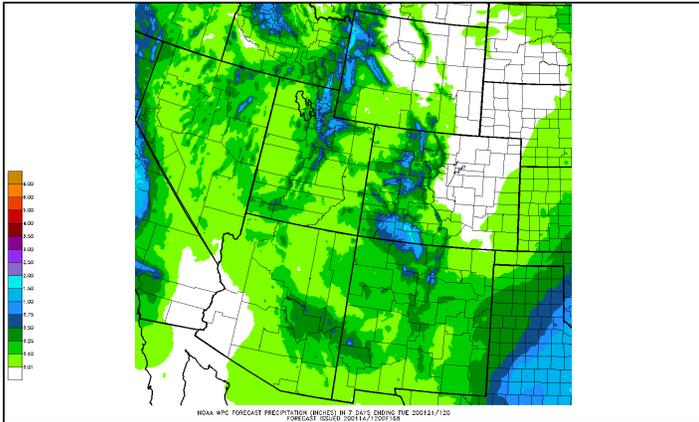
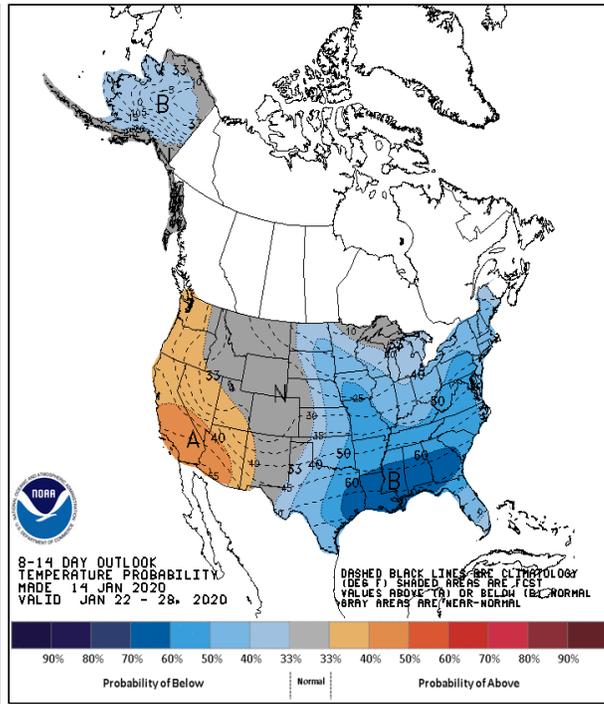
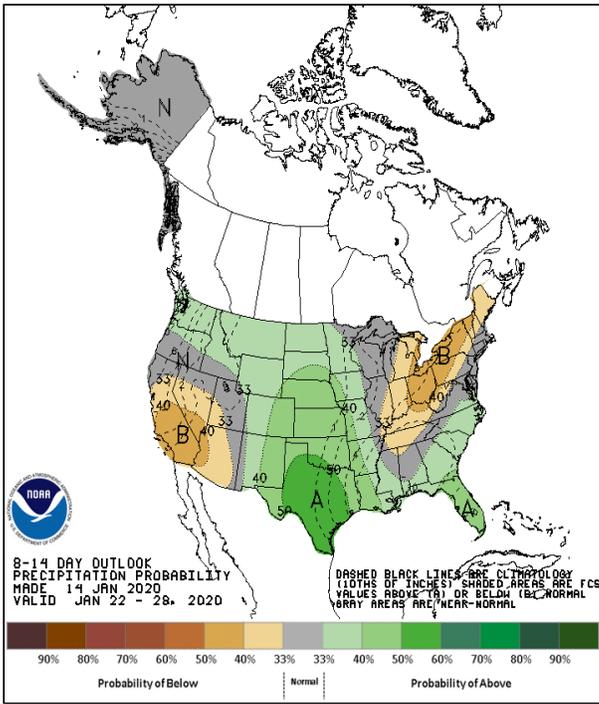
Map of current condition monitoring reports submitted to CoCoRaHS in the last week overlaid on the current U.S. Drought Monitor depiction. Specific impacts reports from local experts listed below.

### Utah Reports:

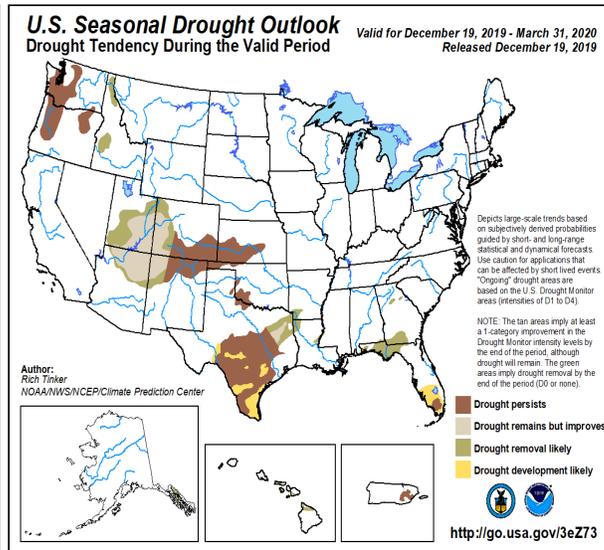
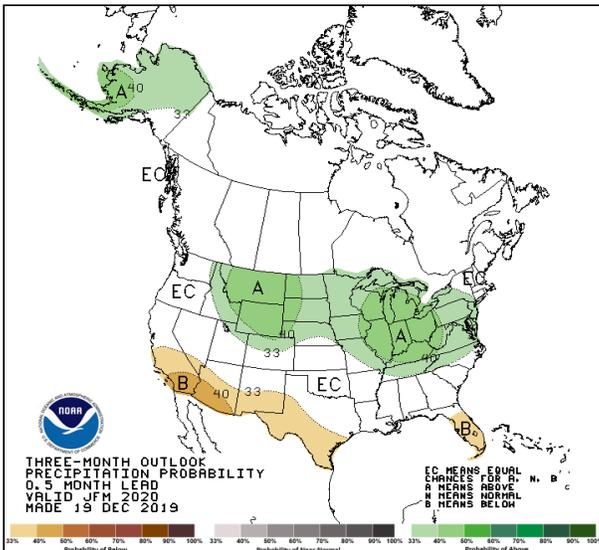
Things in southeast UT seem to be improving, there is lots of snowpack. Snowpack isn't quite as good in northern UT. Abnormally dry may still be the correct designation right now. Soil moisture should be taken into account too.

NWS GJT: Difficult to assess because of data sparsity in the eastern UT counties. Short-term SPIs are looking good, particularly where improvement from D2 to D1 has happened in the Four Corners. The Colorado Grand Valley has not be quite as wet as further south, which could also be the case as the Grand Valley extends into UT.

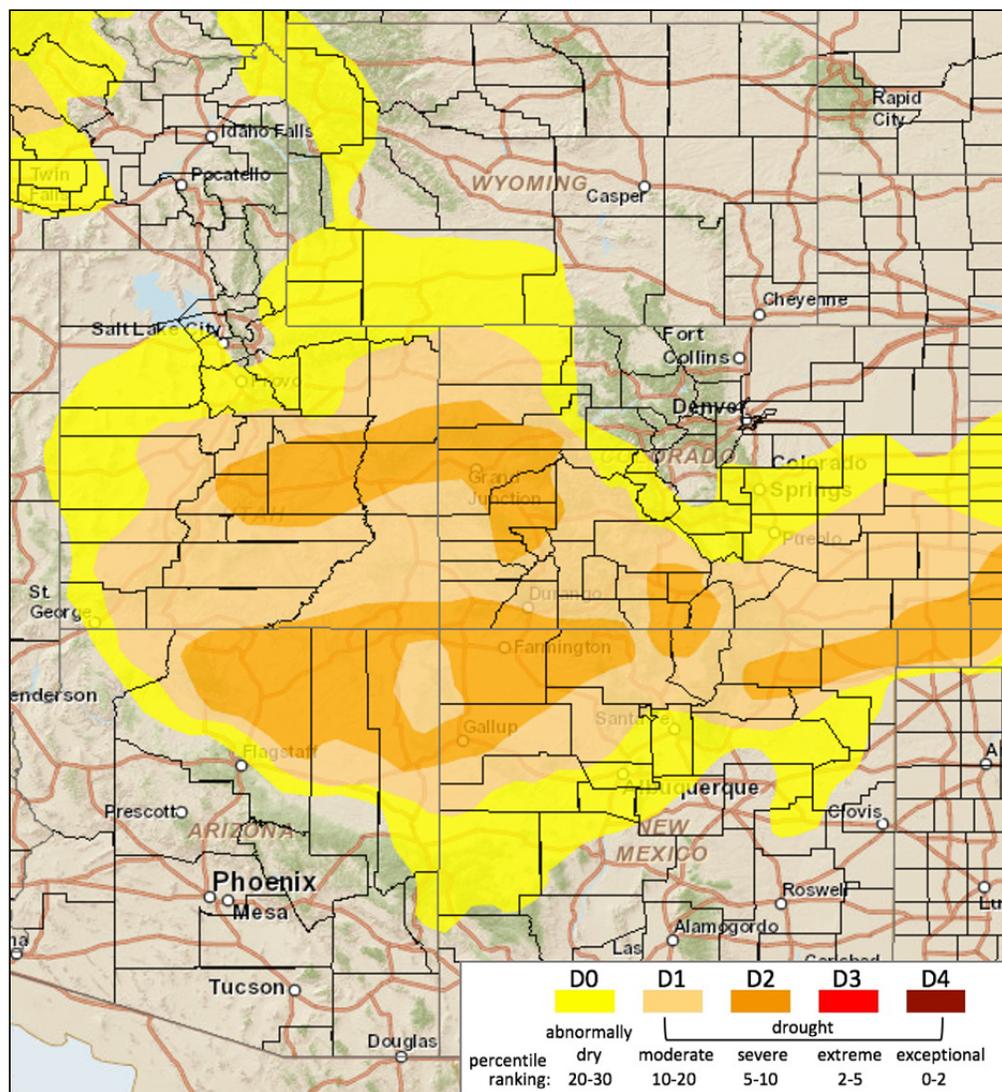
## Outlook



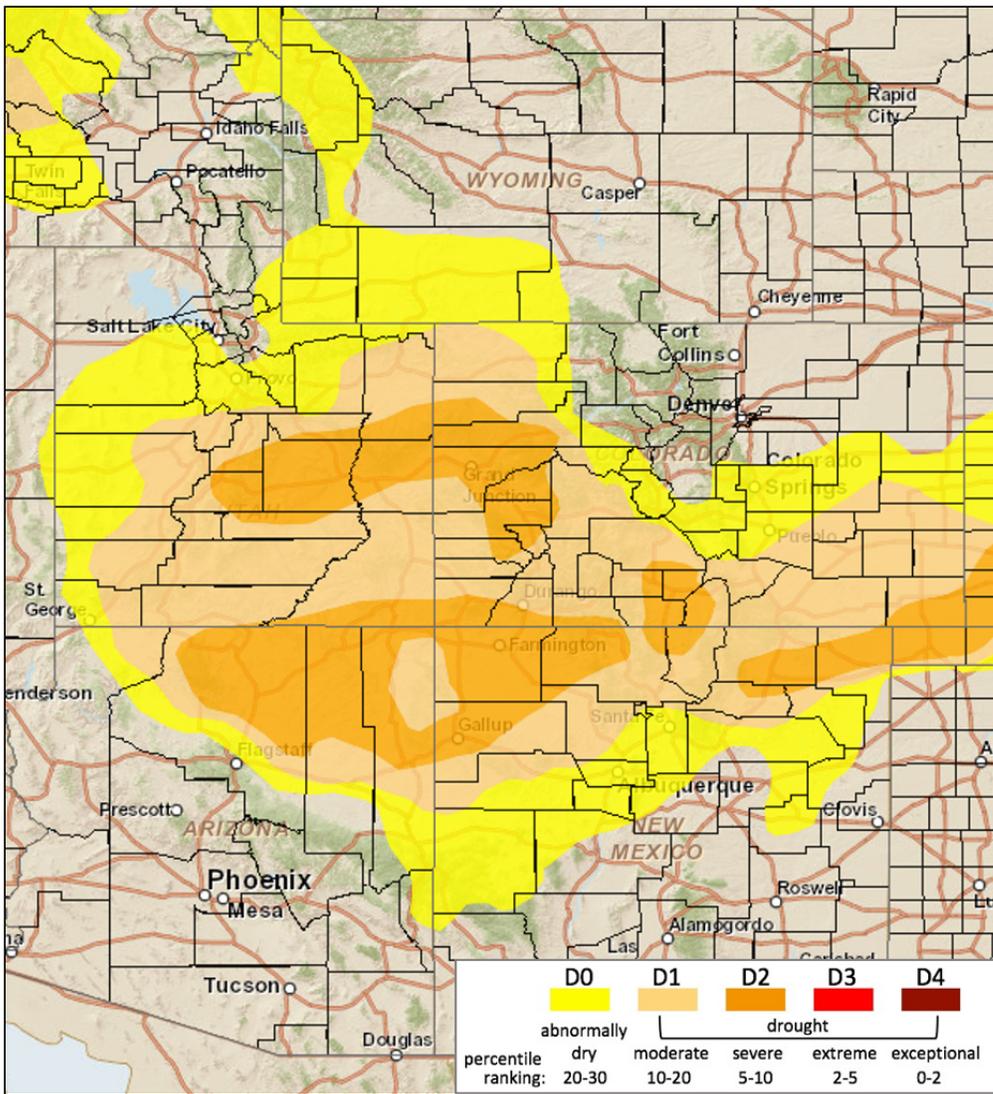
The top two images show Climate Prediction Center's Precipitation and Temperature outlooks for 8 - 14 days. The middle image shows the Weather Prediction Center's Quantitative Precipitation Forecast accumulation for seven days. The bottom left image shows the 3-month precipitation outlook from Climate 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: January 14, 2020

It was a quiet week in the Intermountain West, with most of the region seeing little to no precipitation. The Tetons in northwest Wyoming and the Wasatch range in Utah saw the best precipitation totals with 0.50 - 2.00". The northern mountains in Colorado saw between 0.5 to 1.00". Less than 0.10" through the rest of the region.

January to date has seen the same pattern we saw last week with dryness through most of the region with some precipitation in the Tetons and the northern mountains in Colorado. Precipitation that has fallen this month has been a bit below normal. This is showing up on the short-term SPI with below normal numbers for much of our region.

Snowpack is still above normal for the region and thanks to near to below normal temperatures, the snowpack is sticking around as it should this time of year, even with lower precipitation amounts the first two weeks of 2020.

Temperatures in eastern Colorado have been above normal and with the dry conditions, producers are starting to get nervous about their winter wheat. This is an area we will keep a close eye on over the coming weeks and months. The 7-day outlook does not give much hope for eastern Colorado, with less than 0.10" expected, however, the 8-14 day forecast is calling for chances of above normal precipitation. Fingers crossed the outlook is right.

The 7-day outlook for the rest of the IMW region shows a typical January pattern, with precipitation expected in the mountains and little to no expected in the lower elevations.

**Recommendations:**

**UCRB:** Status quo for the UCRB. The improvements of D2 last week stayed farther north than what we were asking for, but we are OK with the current depiction.

**Eastern Colorado:** Status quo for now. As mentioned in the summary, we are watching eastern Colorado more closely for degrading conditions, but are happy with the depiction. Producers are getting nervous and if precipitation doesn't start falling and recharging the soil moisture, winter wheat will have a tough go in the spring when it comes out of dormancy.